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Editorial

Journal of Social and Development Sciences (JSDS) is a scholarly journal deals with the disciplines of social and development sciences. JSDS publishes research work that meaningfully contributes towards theoretical bases of contemporary developments in society, business and related disciplines. The work submitted for publication consideration in JSDS should address empirical and theoretical contributions in the subjects related to scope of the journal in particular and allied theories and practices in general. Scope of JSDS includes: sociology, psychology, anthropology, economics, political science, international relations, linguistics, history, public relations, hospitality & tourism and project management. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JSDS. It is JSDS policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of JSDS consists of papers of scholars from Tunisia, Nigeria, Indonesia, Uganda and Zimbabwe. Role of corporate social responsibility (CSR) in the telecommunications industry, does financial integration exist in ECOWAS, potential impact of regional comprehensive economic partnership, conservation agriculture & climate change and nuclear proliferation deterrence are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed, by the editorial team for relevance and originality of the work and blindly peer reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. Current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

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PAPERS

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The Role of Corporate Social Responsibility (CSR) in the Telecommunications Industry : An Overview of the Case of "Orange Tunisie" Operator

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***Abstract**:* The aim of this paper is to present new orientations for research in the field of information systems in the context of CSR. It offers an original conceptual analysis that integrates the CSR approach, which enables decision making, governance and strategic alignment of the Information and Communication Technologies (ICT), business and sustainability. In the actual context of the changing environment, a consensus regarding the need to change the pattern of development and growth comes to light. The CSR emerges as a new paradigm for economics. Its alliance with other economic concepts seems to become a necessity that aims at an approach for a global and sustainable performance for the company. As long as the firms' IT departments are energy consumers, it is of paramount importance to reconcile the new technologies and the CSR. Hence, in order for the company to stand out and increase its competitiveness, it has to think in terms of global, economic, social and environmental performance that would ensure a sustainable growth. The importance of the small and medium-sized enterprises in the Maghreb's economies and the challenges of the CSR implementation in such institutions should prompt us to wonder about the incentives and the engagement factors of managers in favor of the CSR while incorporating the ICT. It seems interesting, then, to discover the way_to combine the ICT and the social practices, in order to ensure a sustainable performance for the company. An illustration of the case of "Orange Tunisie" operator will be advanced.

Keywords: *CSR, ICT, performance, Governance, sustainable development*

1. Introduction

The adoption of Information and Communication Technologies (ICT) is growing constantly. It characterizes our professional and personal environment. The use of ICT makes firms more competitive through reducing both production and transaction costs, and improving business coordination (Litan and Rivling, 2001; Brynjolfsson and Hitt, 2000). The employees are, to different degrees, users of these techniques and a source of improvement and development for the company. In fact, we are witnessing a general electronization wave of the company's functions. Today's numerous research projects confirm that the increasing networking in the organizations overwhelms the traditional managerial approaches. All jobs are affected by the spread of these technologies. However, these positive economic effects must be mitigated by the environmental impact of these technologies throughout their life cycle. Despite the potential contributions of ICT's to reduce the company's environmental impact, the use of technologies also has a negative influence on the environment because it consumes resources for production of energy in use, and generates end-of-life waste (Ait-Daoud et al., 2012). Thus, technologies are seen as both sources of problems and solutions (Fuchs, 2008). In an environmental context marked by global warming and the scarcity of non-renewable resources, the pressure exerted by the stakeholders on companies on this subject, is intensifying and as a result they are increasingly attentive to the impact of their activities on the environment (Melville, 2010).

The present article is meant to help understand the social appropriations of the new technologies in the company, and to suggest methods that can make the usage of these tools, by today and tomorrow's companies, efficient and acceptable. The major issue is to enable the orientation of the practices towards considering the social responsibility of the company in order to ensure the sustainability of the firm and its continuous development. As a first step, the article examines the extent to which ICT contributes in the improvement of the company's performance. As a second step, it tempts to explain the way this impact is dependent on the company's awareness of its social responsibility in the technological changes.

2. The direct Relationship between ICT and Performance

Numerous works have been interested in the study of the investments on ICT and their impact on the companies' performance. Thus, Matmati (2001) qualifies the ICT as technological solutions bringing potential and important increase of the effectiveness of people and organizations. In fact, the ICT affect the working habits and methods, relationships within the company and even the structure of this latter. This can be seen through the improvement of the communication within the company and of the decision-making-process. The ICT's contribution can also be analyzed as a development of a specific capacity to the firm that offers the possibility to develop a competitive advantage over its competitors (Liang et al., 2010). At the organizational level, information technologies are widely known in literature for their contribution in the process innovation, because they lead to organization transformation (Besson and Rowe, 2011). The performance remains a complex notion; its understanding depends on many elements (intern and extern) that present a strong interdependence. In this direction, Matmati (2002) distinguishes between two branches that study the performance sources; the first belongs to the school of strategists and economists, and it explains the performance through external factors. The second is based on the organizations theory stipulating that the performance shall result in intern factors of the organization. The effectiveness improvement the ICT not only saves energy, but also leads to substantial profits. In fact, the majority of the available empirical researches shows that the effect of the ICT on productivity is positive and significant (Cardona et al., 2013). It is necessary to be aware that the emergence of new technological uses and the application of the new technologies make a challenge to enterprises. The link between ICT and performance is, then, very frequent even though it is not systematic.

ICT, Risk and Performance Influence: Because of the usage of the ICT, many consequences may come out. A significant increase of the amount of data may negatively influence the quality of work, the humane and relational environment as well as the economic performance. The implementation of technologies in an enterprise can accentuate the differences between generations, education level, and personal experiences with technological tools. In fact, according to their levels, ages or experiences, people would have contrasted forms of appropriation. This is why it is very important to make them aware of this and make them feel responsible. Hence, with the use of ICT, the enterprise may face the risk of its fragmentation into groups of people having different temporalities and rituals. The ICT accelerates this phenomenon for because of the un-territorializing (working at home, in one's car, etc) and the extra-temporality (working in the evening or at weekends) that it causes, it can weaken the power of the colleagues' shared-workplace and time. This fosters the emergence of different networks of heterogeneous people. This way, the ICT reveals and accentuates a risk for the cohesion and coherence of the enterprises' systems of organization (Silva and Hugon, 2009). Accordingly, accompanying measures and social responsibility efforts become a necessity to ensure a positive and a sustainable effect on the productivity of the enterprise and, thus, on its performance.

ICT and Group Performance: In front of the challenges of the new context that is characterized by novel requirements in terms of autonomy and reactivity, companies find it necessary to search for a new efficiency framework. This comes through the cooperation and coordination of the efforts in order to face the environmental conditions, particularly in the case of sophisticated and extensive organizations. In order to meet this requirement, it is crucial to exercise new technologies. In fact, the ICT enable the development of new group work models. Thanks to networking, a new coordination is established between individuals and organizations. The example of tele-working makes one of the working organization's forms with which one can contribute in the usage of technology to help in the performance enhancement.

ICT and Individual Performance: The application of ICT in companies can also contribute in the reinforcement of the employees' autonomy, and can provide easy access to all types to data. In fact, according to (Pichault and Nizet, 2008), the computerization of the structures decentralizes the decision-making process, and which leads to the reduction of the role of intermediates that is often played by managers. Hence, the employees' sense of autonomy is accentuated. This leads us to the notion of the "personalization" of the work relationship. As the study focuses on the individual, one can affirm that the introduction of ICT affects the different performance levels. In fact, the individual is in the centre of technological success of the organization. Performance, then, is promoted through internal factors, especially a good work atmosphere and adequate social conditions. On the other hand, the study of the role and the characteristics of the information systems

within small companies have shown that the relationship with computer science is not evident with small organizations (Poulin and Tran, 2010; Deltour et al., 2014). This link between ICT and performance is sometimes influenced by certain factors particularly the ICT's applications number, complexity, the way they are implemented and their users' competence and conduct.

3. The Renovated Relationship between ICT and Performance: The necessity of Accompanying measures and the Awareness about the CSR

A number of previous works (Folacci and Lemoncini, 2003; Folacci, 2004) have focused on the existence of certain factors that can influence the diffusion and the practice of the ICT in a company in addition to its impact on the company's performance. Among these factors, one can cite the computerization of companies, their sizes, activity sectors and management modes. Even though this study of the determinants of the technology's users and diffusion is in favor of a contextualized approach of the process, it is still insufficient for the performance study (Folacci and Lemoncini, 2003). In fact, the introduction of information and communication technologies represents not only a financial constraint, but also behavioral one. The innovation theory stipulates that the principal challenge to all innovations is the change in behavior. No matter how strong is the willpower in the project, the usage of the ICT in the company provokes uncertainty to employees and overwhelms the working environment. Accordingly, Monod (2002) believes that the influence mechanism of the ICT on the companies' performance can be brought into focus through an indirect relationship that particularly motivates the individuals' behavior.

The qualitative and contextual Analyses of the relationship Between ICT and Performance: This work, then, considers the different qualitative and contextual dimensions of the ICT-performance relationship. This latter, can be determined and influenced by the behavior of the employees in a company when it comes to the use of ICT. This fact, hence, leads this analysis to shed light particularly on the CSR, which refers to the notion of social performance not only to the economic or financial one. The involvement of the executive and the employees as well, in this process, makes the appreciation of the ICT-performance relationship more sensible. One possible way to facilitate the achievement of this goal lies in the increase of the employees' motivation. This should make them improve and develop their performance. The focus, thus, is on divers' mediators whose enhancement makes it possible for the ICT to act positively on the company's performance. In this light, Brynjolfsson and Yang (1996); Grover et al. (1998) consider that the impact of the ICT is indirect and comes through the improvement of the process and the abilities that represent, what is referred to as the intangible intermediary profits. The introduction of ICT fosters also the freedom of communication, rapidity and the effectiveness in the information circulation in addition to the increase in the workers' autonomy and accountability.

The Role of Social Responsibility in the Use of ICT: Further measures for the application of ICT in companies are also needed. In fact, one can notice a change in the individuals' behavior. The reaction of the users (employees) to this technology determines the success of the ICT's integration in a company. This latter, then, has to create an organizational climate appropriate to the good reception of technologies (Klein et al., 1996). Accordingly, the future of the technological project is very dependent on the company's responsibility that has to create an encouraging climate for the adoption of ICT, and the employees should be at the center of focus. Their accountability should be in two ways. On the one hand, the utility of this technology perceived by the workers reflects the strength of their belief in its impact on the performance. On the second hand, comes the degree of their conviction in the technology's usage easiness. Discussing the contribution of this technology also seems crucial, especially that the implantation of ICT in an enterprise is often seen as a means of reinforcement of the supervision of the employees.

Green IT and CSR integrated approach's example : With Environmental requirements, Companies are encouraged to design, adopt and use Information Technologies (IT) known as "Green IT"[1] or "eco-information

[1] : « Green IT is an organization's ability to systematically apply environmental sustainability criteria (such as pollution prevention, product stewardship, use of clean technologies) to the design, production, sourcing, use and disposal of the IT technical infrastructure as well as within the human and managerial components of the IT infrastructure. »

technologies", abbreviated "eco-ICT (Molla et al., 2009). Hba et al. (2016) proposed a theoretical model of new generation management, consisting of a conceptual model of governance and strategic alignment of ICT based on the concepts of Green IT, CSR and stakeholder theory. In the same way, an innovative approach to ICT management is developped by Hba and El Manouar (2017) which is based on a simple principle aimed at the application of the basic concepts of sustainable development. They presented the enhanced model of ecostrategy, which is described as a new generation management model. It has been redesigned according to an integrated approach of Green IT and CSR. This approach provides companies with tools for the development of coherent and sustainable managerial strategies capable of enhancing overall performance and to explore new levels of transition towards renewed management modes to ensure a sustainable development. In other words, the model presented is considered as a Framework of managerial strategy for the governance and strategic alignment of ICT in a sustainable development approach.

In order to optimize the technological project, the company has to undertake certain accompanying measures; it is a question of setting up a steering committee that aims at ensuring a continuous assistance and maintenance. The involvement of workers in the process of the ICT integration makes another important measure. In fact, this involvement is for their accountability while fostering a positive perception of ICT, and this reduces the rejection risk. It seems, then, that in order to make the integration of ICT in a company successful, this latter has to face a major challenge: awareness management. In fact, awareness leads to create attitudes that determine behavior. According to Porter and Kramer (2006), CSR may be included in the company's strategy and eventually generate competitive advantage. For these authors, socially responsible corporations can be a source of mutual gains between business and society.

4. Illustration of the case of "Orange Tunisie" operator

Nowadays, in order to stand out and increase its competitiveness, the internationalized enterprise thinks in terms of a global performance (economic, social and environmental) that will assure a sustainable growth. This latter can be achieved through a long term approach for continuous progress, relying on shared practices within the company. This approach is to conciliate the following requirements: an economic development that takes into consideration the social (and societal) expectations of the stakeholders and that respects the environment. How about the case of the enterprises of the Maghreb and particularly of Tunisia after the revolution? An illustration of the case of "Orange Tunisie" operator is presented in the following section:

A Presentation of the "Orange Tunisie" Operator: Orange Tunisia is a Tunisian private communication operator. It is the fruit of an alliance between Orange SA (49 %) and Investec (51 %), property Mabrouk group. It is the second private telecommunication operator that has obtained a mobile telephony license in Tunisia and that has been launched in 2010. Like the other markets where Orange is present, the operator suggests a number of offering services related to Internet and telephony via Internet.

The CSR Integration in the Strategy of "Orange Tunisie" Operator: The operator relies in its approach on France Telecom Orange group, whose experience since nearly fifteen years consists in integrating the sustainable development's and the CSR's challenges in his corporation strategy. This is explained by the fact that the CSR represents an important vehicle for value creation for both of the stakeholders and the enterprise. Throughout time the company has been committed to numerous international deals aiming at strengthening the CSR's principles in its strategic approach. In 1996, it signed the charter environment of the ETNO (European Telecommunications Network Operators). In 2000, it adhered to the global UN Pact. CSR projects have been launched in the global framework of the access strategy to communication and to fight the digital divide in addition to reducing the energy consumption. One can cite as an example, the creation and the animation of the program of the young developers of mobile applications having as a principal objective to boost this employment sector, or the example of the campaign to raise the awareness of the staff towards everyday green actions (Bel Haj Ali, 2012). In the Tunisian digital company, Orange Tunisie assumes its responsibility to consolidate the social link and to bring the maximum number of the novel technologies' benefits. According to the company's managers, the CSR's integration in the strategic approach of the company makes an essential condition for its success and continuity (Jaidane and Beschaouch, 2013). These authors affirm that the CSR approach of the company goes beyond the citizens' engagement to move on to the adhesion of the top management and the different employees. They also assert that their motivation lies in

the strong conviction that the CSR is a vehicle of innovation and of value creation for all the stakeholders of the company.

In order to make of this approach a success, accompanying measures seem to be necessary. It is all about recognizing and accompanying their employees, ensuring transparency, quality and security to customers, de facilitating the accessibility to benefits of the digital world, and finally innovating for the sake of a new eco-citizenship. The ultimate objective of "Orange Tunisie" is to become the reference for the CSR in Tunisia in the long term. It aims at ensuring that all stakeholders collaborate together, starting from the top management to all employees to arrive at the final customer. This goal makes it possible for this operator to participate in the economic development of the country and to be an innovation agent by its suggested services. The CSR notion, which has been developed these later years as a consequence of globalization, is concerned with all types of companies, all at the same degree. It represents the actions carried out by a company to achieve sustainable performances while taking into consideration the social and environmental impacts of its activity, and while ensuring the respect of the human rights, principles of the good governance and transparency. Having a CSR dimension, leads to speaking about a responsible and value creator employer, who has the ability to solve certain problems. It is about a long term work on the preservation not only of the peace and the social stability of the company itself, but also on ensuring the eco-citizenship awareness-raising of the employees and customers (Bel Haj Ali, 2012).

In other words, the responsible insists on the fact that the CSR approach within Orange Tunisie operator makes it possible, as well, to prevent the environmental and social thanks to a best management of risks, and thanks to training plans that consider the employees' profiles, and to a good management of abilities. In the Annual Report of Orange group (2015) about Social Responsibility, it is affirmed that the adhesion of "Orange Tunisie" to the global Pact of the United Nations has put it in a one-way path to the social responsibility of the company. By joining the 8.000 members spread on more than 135 countries, The Tunisian version of mobile operators is committed to respect and promote the ten fundamental principles of the global pact in the field of human rights, labor rights environmental protection and the fight against corruption. In this sense, Orange Tunisia continued to initiate projects related to the optimization of scarce natural resources and the respect for the environment, and this, in both CSR and Green IT approaches. After the e-pay sheet for its employees, Orange Tunisia implies its clients in its approach Environment, with the digital (Dematerialization of the paper invoice), made available in PDF format on their dedicated digital space (platform "Selfcare") via the internet. This green approach aims at promoting the culture of "zero paper" within Orange Tunisia and its Stakeholders but also at reducing paper consumption.

A Responsible-Governance-Based Approach: In their annual report of 2015, which is about the continuous development and the social responsibility, the directors of the Operator Orange look for providing a fair and balanced vision for the global performance of the group. The aim is to reconcile economic and social performance to customer service and to the benefit of all partners. In fact, the process of the elaboration of the report of social responsibility of 2015 respects the three principles (inclusion, materiality and reactivity) of the norm AA1000APS (2008), which is referential for the social responsibility of the enterprises based on the respect of the stakeholders' expectations. In order to apply its strategy of CSR and to be seen as a reliable operator by its stakeholders, Orange uses a structured approach and clear governance principles. These principles give special attention to the issues of corruption prevention and human rights' respect. The CSR approach of Orange enjoys an organization that involves all the co-workers or stakeholders. With the governance committee and the CSR, and attached to the executive board of the operator, Orange uses an organization that ensures the application of the CSR.

In order to be able to have an external angle of vision for its approach, every year Orange answers the questionnaire of non-financial rating agencies and maintains a regular dialogue with financial analysts and socially responsible investors. Thus, the CSR's activism in the telecommunications operator Orange addresses not only issues related to sustainable development, but mainly to corporate governance renewal issues. In this logic, it is clear from its reports and communiqué that a strong willingness to secure the specific human capital of employees and external partners. It's particularly about the sensitization of team members on a sense of belonging to the same entity in order to override the collective interest over individual interests.

5. Conclusion

In a context marked, on one hand, by the increasing adoption of CSR practices and, on the other, by the increasing use of technology, we have advanced that the use of ICT does help in the enhancement of the company's performance but only when it is accompanied by other investments and actions such as organizational changes or social accountability of the different stakeholders. In fact, enterprises face two major challenges: on the one hand, it is the capacity of managers to appropriate new tools and to reinforce their teams. On the other hand, it is their ability to integrate new generations which are bringing new expectations (best balance between the private and the professional life, respect of diversity and integration of disabled people, ethical redefinition of corporate cultures, reduction of the ecological impact of the enterprises' activities while using the ICT, etc). Nevertheless, certain studies have focused on the positive as well as negative effects of the ICT on the company's performance. The present research study aims at developing a conceptual framework to show that the ICT's contribution to the performance of SMEs cannot be done through a direct relationship. This contribution highlighted the necessity to complete the simplistic dimension of the ICT with a section relating to CSR's mechanisms. This leads us to the conclusion that technologies have to be thought about by enterprises not only at the technical level, but also at the organizational, humane and even social levels. The challenge is to enable practices to be oriented towards the awareness of the social responsibility of the enterprise. The case of "Orange Tunisie" examined above is a significant example to the study conducted in this work. It shows the importance of the social dimension in the explanation of the relationship between ICT and performance. This should lead us to discuss the issue of responsible governance.

We indicate that the CSR is voluntarily used by the companies to support employment relationships and optimize the wealth-creating technological tool. In order to sustain relationships and get the best of the company's critical resources, the Orange Operator makes of CSR a priority to guarantee and valorize the interpersonal relationships, and this would be in logic of respect for loyalty principles and a team-spirit promotion. This would result in co-specializing efficiently the human capital of workers thanks to a reciprocal learning of these latter's. The company applies the same promotion principles of durable relationships with its external partners. It would be interesting to find a methodology that associates modeling with performance indicators and cultural evolution. The reinforcement of the workers' competences goes through a development and a strengthening of the social training that the companies' executives have to support because of the challenges related to technologies of information on the medium and long term. The articulation of ICT and CSR is related to the issue of the enterprises' governance; it has to integrate the stakeholders in the decision process. Thus, CSR is used by companies to overcome the failures of shareholder governance. An empirical study on the motivation of managers adopting a sustainable and a responsible behavior can be enriching for the enlargement the analysis' scope.

Recommandations: The aim of our analysis is to contribute to the perception of an ICT responsible management, in order to provide a roadmap for the companies to create new models of green business, thought on sustainable resources. Although they do not make great part of a highly-polluting sector, telecommunication operators bear witness to the broadening of the scope of CSR to issues of corporate governance. In order to achieve the primary objective of CSR, which is the creation of value for all partners in the company (shareholders, employees, customers, suppliers and civil society); there must be the adoption of the materiality principle, which arbitrates between the various stakeholder interests and prioritizing CSR priorities. It is also about strengthening instrumental CSR in the service of a collective alignment of stakeholder interests with those of the firm. As such, it is a question of combining traditional considerations in terms of incentives and control of original reflections on effective and sustainable forms of mobilization of specific assets, in particular human assets. Within this framework, formal and informal mechanisms must be put in place within the company in order to "complement" the disciplinary shareholder governance mechanisms, which are now insufficient.

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Does Financial Integration Exist in ECOWAS?

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Abstract: Free movement of goods, capital, and persons have been the long-term strategic goals of the Economic Community of West Africa States (ECOWAS) since its establishment. Notwithstanding, financial integration has become more important in deepening political integration in the region than ever. Assessing how far the Regional Economic Community (REC) has achieved her objective of free movement of capital among the member states. Therefore, this study investigated the existence of financial integration in ECOWAS by employing savings-investment equality, popularly known as Feldstein-Horioka Criterion; a panel data for all the 15 member states was fitted into the specified model. The study found that there is the existence of financial integration in the REC, and that language inhibits financial integration and that the coefficient of language dummy stands at -4.8 percent. However, it found that language inhibition of the financial integration in the REC will gradually disappear over time, as the interactive coefficient of language and time stands at -0.12 percent. This study concludes that a level of financial integration is in existence in the REC. Therefore, the REC is prepared for monetary unification assuming that there will be more substantial trade among the member states.

Keywords: *Model with Panel Data, Financial Integration, Regional Economic Activity, Capital, ECOWAS*

1. Introduction

Savings and investment are prominent variables of interest to the economists due to their utmost relevance in enhancing economic growth and development. Little wonder that researchers (independent inclusive) and policymakers show a keen interest in the study of savings and investment. Simply, saving is the excess of income over consumption. It is noted as well that expenditure on investment is financed through saving; both variables play a key role in financial integration under economic integration process. In a very simplistic term, economic integration creates an openness to encourage factor-price equalization. Economic integration is of various degrees or types: Trade Integration, Customs Union, Factor Integration, Policy Integration and Total Integration. Prominent among the various objectives of economic integration are a reduction of the external vulnerability of the participants; the resultant enlarged market and lower unit cost, which stimulate demand and consumption and finally lead to increased investments and economic growth; polarization effect and job creation. As a matter of fact, it is economic integration scope that brought about Economic Community of West Africa States (ECOWAS), a multi-objectives organization. It aims at the abolition of obstacles to free movement of persons, services, and capital between member states among other objectives[2] (ECOWAS, 1976).Free movement of capital is one of the 'free movements' that the community permits. As such this has been part of the objectives of the community, there is need to assess the financial integration in the region thereby determining the extent at which the available capital has been moving in the region.

The question now is whether ECOWAS for the past four decades has been able to achieve her overall objective of accelerated and sustainable economic development of the member states; and the creation of homogeneous society, leading to the unity of the countries of West Africa for the sole aim of eliminating all types of obstacles to the free movement of goods, capital and persons?[3] Focusing on the movement of the investible funds; has the organization been able to mobilise investible fund effectively within the Regional Economic Community (REC)? Knowing that each member states has expended a lot of financial resource in keeping up with the membership of the organization, in which case members expect economic benefits in whatever form, in return to justify their contribution to every side. This is a fact that needs answer with a sustained momentum. Recently, one of the member countries at her national parliament initiated discussion

[2] See Chapter 1; Article 2 Sub-section 2b of ECOWAS TREATY.
[3] See second to the last paragraph under the ECOWAS Treaty preamble.

on the likelihood of pulling out of the REC. However, the discussion was doused for the fact that it may inhibit the unity of the region. Though, this study is not holistic about the contribution of the REC to the economic growth and development of the member states, and how this has translated to the indigent population of the member states. Nevertheless, it worth investigating, as this study only limits to the level of financial integration in the REC. The extent of financial integration would serve as a pointer towards possible monetary union, and fairness of the trade. Ultimately, as a measurement of the REC's free movement of the capital objective. Unfortunately, very few referral studies point in this direction. This study points out the extent of financial integration concerning investible funds in terms of physical capital mobility, which could equally serve as a measure of financial integration to the REC, and scholars that have an interest in the study of RECs. Also, on what should be the decision of the REC with respect to customs tariff and a commercial policy towards third countries?[4]

2. Literature Review

ECOWAS as REC is economically integrated in the sense that the REC has diminishing trade barriers, allows for free movement of the factors of production and having considerable tariffs. However, monetary union in the REC has not been achieved. According to one of the reports published by International Labour Organization, there is an abiding hope if not an expectation that economic integration will promote growth in its entirety and provides the means of escaping poverty (Robert, 2004, p. 4). The emergence of higher levels of integration in a society, which is a means to the higher level of organization in the sense of converting many small geographical units into one large unit has been highlighted to result in growth rates surge to new and high levels (Spengler, 1949). Meanwhile, Balassa (1961) identified some areas in which economic welfare will be affected, in an instance of integration. The areas[5] are a change in the quantity of commodities produced; a change in the degree of discrimination between domestic and foreign goods; a redistribution of income between the nationals of different countries; and income redistribution within individual countries.

The treaty that established ECOWAS was signed in the year 1975 and the organization came into being in the year 1978. Fifteen countries in the continent made up the organization (ECOWAS, 1976). There is a readiness on the part of the Community to integrate trade. This development leads the REC into the establishment of Business Information System (Ecobiz), and ECOWAS Common Trade Policy which is supported by both the German Cooperation (GTZ) and World Trade Organization (ECOWAS, 2012). Notwithstanding, the consequences of integration depends on the satisfaction of some preconditions as stated as follows (Agbonkhese & Adekola, 2014):

- Substantiality of trade incidence: percentage of total trade among members should be greater than what is obtainable with a non-member.
- Competitiveness of the productive structure of member countries: this would enable efficient producers to capture a larger market, and further stressed cooperation of trade among member countries.
- The extent of income, geographical and demographic structures: the larger these factors, the more possibility of expanding market and productivity.

Integration of two or more markets is usually an ability to obtain the law of one price (Kenen, 1976). Regional integration is the process of removing hurdles to open economy, that the multiple units which are trying to make a unit may enjoy law of one price as a means of market equalization. The law of one price is not an imposition of constitutional law but as a result of the interplay of demand and supply of capital in case of financial integration. However, member states would have rules and regulations guiding capital movement from one country to another in the region but not a stringent law that would restrict the movement in the actual sense. According to Lombaerde and Van Langenhove (2006:9), 'regional integration is the process of complex social transformations characterized by the intensification of relations between independent sovereign states.' Regional integration is the way of converting different units with autonomy in a particular area or within the same strata of geographical location into a unit. The coming of the multiple units into a unit

[4] See Chapter 1; Article 2 Sub-section 2c of ECOWAS TREATY.

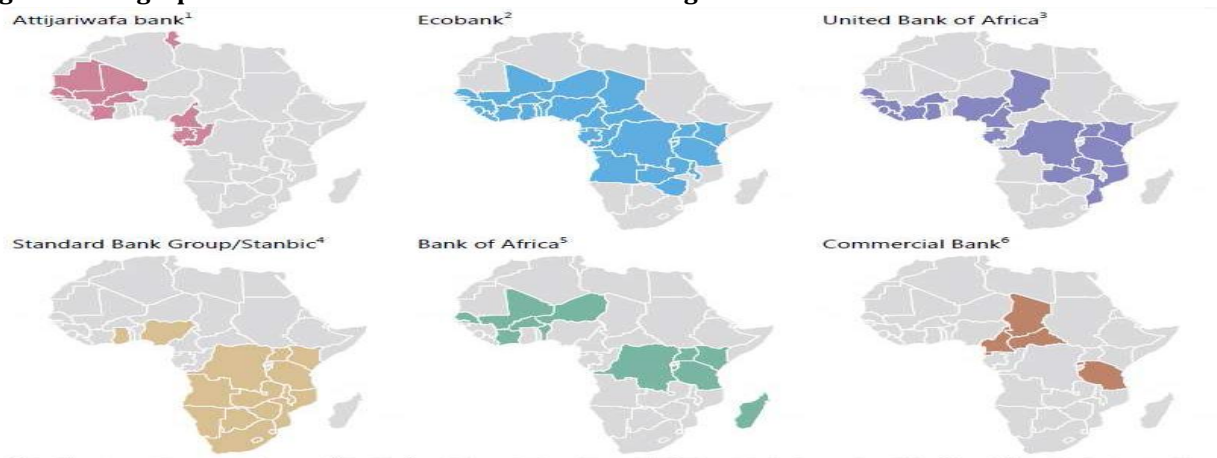
[5] Balassa (1961) explains the precedent to these points as related to Welfare Economics, under the sub-heading of economic integration and welfare (See it to enjoy the explanation for grounded insight).

does not imply lost autonomy in the area of common interest but the common administration of common laws in the REC would hold. The regional integration is a process usually from one stage into another. It could exist as any or all of the following: diplomacy, security, culture, policy, and politics as well.

Mostly, regional integration focuses more on trade and economy, as largely observed in regional communities' treaties. The development had prompted studies on the impact of regional integration. Ideally, it is clear that exchange of physical goods and services are not the only commodities involved in regional integration but physical capital as well. Kleimeier and Sander (2000) as cited in Fratianni (2006) provides evidence that financial integration is primarily a regional phenomenon as found in the analysis of six core EU countries. The study found that physical capital mobility is higher within the regions of the same country than among countries. The free mobility of physical capital within the region is true for financial capital, but financial capital is more mobile than the physical capital (Fratianni, 2006). Fratinnia (2006) observed that national borders add three types of potential friction: formal trade barriers in the form of tariff and non-tariff protection, informal trade barriers, and exchange rates. However, it is noted that financial integration goes beyond the level of high capital mobility, even though, macroeconomic literature may deem capital mobility as international financial integration (Fratianni, 2006). But, it is noted that high capital mobility is not a sufficient condition for international financial integration, though, it is a necessary condition. According to Kenen (1976) that the argument was a revelation of Logue, Salant, and Sweeney when they observed that coordinated movements in interest rates can occur without capital movements and may prevent the need for such movements. Although, the line of argument of Logue, Salant, and Sweeney was not based on any systematic study of data but on observation of covariance of interest rates (Kenen, 1976). Fratinnia (2006) furthers that it takes more than removing restrictions to the flows of capital and foreign exchange transactions to achieve financial integration. Meanwhile, some of these barriers would be broken with the introduction of the regional economic community.

Therefore, the facilitation of financial integration becomes pragmatic in the regional economic community. To buttress this, Asian Development Bank (2013) and Khan et al. (2013) asserts that there are threshold conditions necessary for integration and these are; well-developed financial markets, high-quality institutions, good governance, sound macroeconomic policies, and trade integration. Meanwhile, trade integration is cardinal for this study because the existence of trade in the integration without precluding financial movement necessitate this study, as a point of emphasis. Financial integration can be achieved through regional integration agreement (Alhindi et al., 2013). This is possible through the elimination of cross-border restriction of financial openness. It is equally noted in the macroeconomics that financial integration could also come through the existence of foreign banks in the domestic economy and/or vice versa. ECOWAS has interlinking of banking institutions in member states. See the figure on the geographical distribution of pan-African banking as cited in Sy (2014).

Figure 1: Geographical Distribution of Pan-African Banking



[1] Burkina-Faso, Cameroon, Congo, Côte d'Ivoire, Gabon, Guinea-Bissau, Mali, Mauritania, Senegal and Tunisia. [2] Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Malawi, Mali, Niger, Nigeria, Republic of Congo, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Zambia, Zimbabwe. [3] Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Guinea, Kenya, Liberia, Mozambique, Nigeria, Senegal, Sierra Leone, Tanzania, Uganda and Zambia. [4] Angola, Botswana, Democratic Republic of Congo, Ghana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. [5] Benin, Burkina Faso, Burundi, Côte d'Ivoire, Democratic Republic of Congo, Mali, Niger, Kenya, Madagascar, Senegal, Tanzania and Uganda. [6] Cameroon, Central African Republic, Chad, Equatorial Guinea, Rwanda, São Tomé and Príncipe and Tanzania.

Sources: IMF, *Regional Economic Outlook*, April 2011; Attijariwafa bank website.

However, financial integration is not without some benefits. According to Agenor (2003), financial integration could be beneficial in domestic smoothing consumption; supplementing domestic investment towards economic growth; enhancing macroeconomic discipline, and increasing banking system efficiency and financial stability. As such investment can be financed more cheaply in a developing country with a high return on domestic capital by borrowing from abroad than out of domestic saving alone. As well, investors from other countries can earn a higher return on their saving by investing in the developing/emerging market than they could domestically. Thus both countries involve benefit from the opportunity to smooth disturbances and diversify away from their risks. Despite the benefits of financial integration, there are barriers to it. According to Kenen (1976), the following could serve as barriers to integration:
Items list of capital controls has implication for the balance of payments or monetary reasons. That is, the government of any country may not allow individuals to hold a claim on foreigners, or some kind of claims or claims dominated in foreign currencies, perhaps, due to a shortage of hard currencies in the custody of a country. Most third world countries experience this when it becomes difficult for them to maintain the promising monetary policy. In Nigeria, a number of items have been banned, so that, an individual cannot lay claim to them in any way because of hard currencies involved in their respective transactions. Among the forty items banned in Nigeria for benefitting from official forex, the window is Eurobond/purchasing of shares.

Also, Ghana who is the 9th largest trade partner to Nigeria equally made a move and banned some importations from Nigeria and some other countries. Both countries are a member of ECOWAS, and some others are affected (Nnabugwu, 2016).Dollarization of ECOWAS member countries asserted maximum impact on financial integration in the REC because the inflow of the United States of America Dollars (USD) into the REC depends on their supplies (mainly, primary or raw materials) to other countries. Therefore, scarcity of USD leads to the high exchange rate, which discourages trade and financial integration. Inhibiting specialized financial institutions such as pension funds and insurance companies in holding claims dominated in foreign currencies. A Larger share of the pension funds is to be invested domestically in the case of Nigeria. A similar situation might be applicable in other member states because generally African countries are bewildered with inadequate investible funds. Tax structure: the levies imposed on transactions and claims dominated in foreign currencies are usually on the high side, especially, before the popularization of online banking and other universal means of money transfer without involving the third party (financial institution) directly. Also, the imposition of income taxes as it happened in Eastern countries – Western countries of the world, in which the Eastern government imposes an income tax on all interest incomes earned by its own residents (Kenen, 1976).

Effect of Apex bank overview functions on commercial banks market dealings. Since Apex bank cannot control its total liabilities but reacts to prevent the exchange rate depreciation. A number of actions in achieving this will finally pave way for capital outflows (See kenen, 1976:27). This study adopts Harrod-Domar economic growth-model. The two variables of interest are key in explanations of the classic economic growth theories, of which one will be reviewed. From the Harrod-Domar Growth Model perspective, every economy must save a certain proportion of its national income, if only to take care of the wear and tear (depreciation) of its productive assets. However, the model pointed to the fact that new investment is imperative, and if this is actually important, then saving to spur new investment is as well important (Todaro & Smith, 2011). According to Todaro and Smith (2011) Harrod-Domar views the simple model thus:
Saving (S) is some proportion, s, of national income (Y) such that we have the simple equation

$$S = sY \qquad (1)$$

Net investment (I) is defined as the change in the capital stock, K, and can be represented by ΔK such that

$$I = \Delta K \qquad (2)$$

But because the total capital stock, K, bears a direct relationship to total national income or output, Y, as expressed by the capital-output ratio, k, it follows that

$$\frac{K}{Y} = k \qquad (3)$$

Or, finally,

$$\Delta K = k\Delta Y$$

Finally, net national savings, S, equal net investment, I, we can write this equality as

$$S = I \qquad (4)$$

Equation 4 shows equality of saving to investment. It is expected that excess saving in any member countries will find its way to the country where it is needed for investment. The transnational trade would actually help in facilitating this, because of its financial involvement. The onerous task of critical strategies and logical policies implementation with respect to the integration would help in avoiding the error of inappropriateness in the integration as pointed out by Balassa (1961).Economic integration aims at increasing trade between states of economic unions towards Gross Domestic Products (GDP) of its members as well as better welfare for the citizens.

Saving-Investment Correlations: Feldstein and Horioka [FH] (1980) correlate saving and investment to measure the extent of capital mobility; the study used cross-section data to regress the specified model below:

$$(I/Y)_i = \alpha + \beta(S/Y)_i$$

Having the ratio of investment to income on the left-hand side of the equation and the ratio of saving to income on the right-hand side of the equation. The beta sign in the equation measures correlation degree between the two main variables in the equation. They are of the opinion that with the perfect capital mobility in the international market, saving and investment would be uncorrelated that is the coefficient of beta will equal to zero (0). If a beta-coefficient close to or equal to one would imply a low degree of capital mobility. In the opinion of FH, if domestic saving were added to a world saving pool and domestic investment competed for funds in that same world saving pool, there would be no correlation between a nation's saving rate and its rate of investment (Feldstein & Bacchetta, 'National saving and international investment.' In national saving and economic performance, 1991). Some extant literature, which had studied one or more variables as it relates to this study are: Agudelo and Davidson (2006) measure changes in the degree of regionalization and globalization for the G7 countries (Canada, France, Germany, Italy, Japan, the UK, and the U.S.) between 1980 and 1997 using gravity equation. The study found that on average the group G7 traded 58 percent more with the similar-language countries than with dissimilar-language countries and that the common language effect reduces by 0.98 percent on yearly basis. Also, that distance decrease trade by 45.5 percent among other findings.

Fratianni (2006) studies effects of borders on integration using a linear form of gravity equation, and pooling of 97,803 observations. The study found that population growth retards bilateral trade flows. More so, trading costs, proxied by distance, and common land borders raise the total variation of independent variables on the dependent variable. Also, that country with common currency trade more than countries with common-border but without a common currency. Among some other findings, the study found countries with border sharing trade 79 percent more than other countries. Agudelo, Benitez, and Davidson (2006) work on evidence of increasing regionalization of international trade among 10 South American countries, ranging from 1980 to 2001 annualized data. The study adopted gravity equation and linearized the same to estimate the timing effects. The study found a positive effect between common language and trade. Also, that common language increases trade over time in the region, among other findings. Fratianni and Kang, (2006) investigate the effect of terrorism on bilateral trade flows. However, the study included some control variables which are of interest to this study as well. The study employed gravity equation. They found that common language still has a positive effect on trade in the face of terrorism, disasters, and institutional quality, and even when financial crises were included. Gidigbi (2016) investigates the impact of savings and investment on economic growth in Africa, using annualized data of 35 years period ranging from 1980 – 2014, and a cross-sectional feature of 30. The study adopted Panel EGLS method ranging from pooled, fixed and random effects to estimate the impact. The study found that capital is mobile on the African continent, and found saving-investment coefficient to be 0.36 for the continent. It concluded by advocating for more mobilization of savings in the continent.

3. Methodology

Basically, integration is measured by averages of differences between market prices and other more sophisticated indexes of convergence or dispersion (Kenen, 1976).Cheung, Chinn, and Fujii (2007) and, Baele, Ferrando, Hordahi, Krylova, and Monnet (2004) review the economic integration measurement and classified

the measures into two broad categories thus: quantity-based measures and price-based measures. Trade and financial market integration, output comovement, the Feldstein-Horioka criterion, and correlation of national consumption are the quantity-based measures. Among all the methods stated, this study prefers to use saving-investment correlation, which is referred to as the Feldstein-Horioka criterion. Even though, some scholars established that equality of saving-investment is necessary but it is not a sufficient condition for financial integration. Thereby, saving-investment equality only measures physical capital mobility. Meanwhile, the necessary conditions for test of financial integration base on the law of one price, the covered interest rate parity (CIRP) (Fratianni, 2006)

$$i - i^* - fp = (i - i^*) + (i^{*o} - i^*) + (i^o - i^{*o} - fp)$$

Where:
i = yield on domestic assets;
i* = yield on the comparable foreign asset;
fp = forward premium of the foreign currency (spot and forward rates are measured as units of domestic currency per unit of foreign currency); and
"o" = offshore location.
FH Criterion modelled thus:

$$(I/Y)_i = \alpha + \beta(S/Y)_i$$

It is expected that β=0 because it is expected that a shock to saving will only affect current account balance, and leave investment unchanged in a small open economy. But in a larger economy, opposite side is expected. More so, since a country can neither permanently lend nor borrow, the equality of slope is expected to be zero.
For physical capital, the relevant law of one price is real interest rate parity, which can be expressed as follows (Fratianni, 2006)

$$r - r^* = (i - i^* - fp) + (fp - \Delta e) + (\Delta e - \pi - \pi^*) = 0$$

Where:
r = the ex-ante real rate of interest;
Δe = the expected depreciation of the home currency; and
π =the expected rate of inflation.
The real interest rate parity failed when it was put to test, and the development supported FH Criterion (Fratianni, 2006). This study used FH Criterion for the assessment, since, the expected zero value of the slope did not hold.

Model Specification: This study used saving-investment model (FH Criterion) to measure the financial integration in the community (ECOWAS) as rightly put forward in Cheung, Chinn, and Fujii (2007). The model specification followed the work of Feldstein and Horioka (1980), and Feldstein and Bacchetta, (1991).

$$\left({}^{GDI}/_{GDP}\right)_{i,t} = \delta_0 + \delta_1\left({}^{GDS}/_{GDP}\right)_{i,t} + \vartheta_{i,t} \quad (1)$$

$$\left({}^{GDI}/_{GDP}\right)_{i,t} = \delta_0 + \delta_1\left({}^{GDS}/_{GDP}\right)_{i,t} + \delta_2 DComLang_{i,t} + \vartheta_{i,t} \quad (2)$$

$$\left({}^{GDI}/_{GDP}\right)_{i,t} = \delta_0 + \delta_1\left({}^{GDS}/_{GDP}\right)_{i,t} + \delta_2 TDum_{i,t} + \vartheta_{i,t} \quad (3)$$

$$\left({}^{GDI}/_{GDP}\right)_{i,t} = \delta_0 + \delta_1\left({}^{GDS}/_{GDP}\right)_{i,t} + \delta_2 (DComLang^* TDum)_{i,t} + \vartheta_{i,t} \quad (4)$$

$$\left({}^{GDI}/_{GDP}\right)_{i,t} = \delta_0 + \delta_1\left({}^{GDS}/_{GDP}\right)_{i,t} + \delta_2 DComLang_{i,t} + \delta_3 TDum_{i,t} + \vartheta_{i,t} \quad (5)$$

Where:
$GDI = Gross\ Domestic\ Investment$
$GDS = Gross\ Domestic\ Savings$
$GDP = Gross\ Domestic\ Products$
$DComLang^*TDum = Interaction\ of\ common\ language\ and\ time\ variable$
$DComLang = Dummy\ of\ Official\ Language: English = 1;\ and\ \ otherwise = 0$
$TDum = Time\ Variable, starts\ counting\ from\ the\ year\ of\ creation, 5\ for\ 1980\ and\ so\ on$
$\vartheta = Error\ term.$
$t = time\ trend\ identifier\ (= 1, 2, \ldots, 35).$
$i = crosssectionaldimensionidentifier (= 1, 2, \ldots, 15).$
A priori expectations: All the slopes in the model are expected to exhibit positive relationship, that is, they are all expected to be factors of financial integration in the community.

The study used Levin, Lin and Chu's panel unit root test specification (Levin, Lin, & Chu, 2002) to test for the unit root property of the concerned variables:

$$\Delta X_{i,t} = a_i + \rho X_{i,t-1} + \sum_{m=1}^{n} \delta_m \Delta X_{i,t-m} + \gamma_i t + \theta_t + u_{i,t}$$

Whereby the null hypothesis of this test according to Asteriou and Hall, (2007) is:

$$H_o: \rho = 0$$
$$H_o: \rho < 0$$

The expectation about the variables used prior to the estimation as stated in the models was that it should be -1≤ ρ ≤ 1 in order to disprove the issue of non-stationary/random walk/unit root as it might be called; because the existence of unit root in the test would signify autoregressive model.

4. Results and Discussion

The descriptive statistics as shown in Table 1 reveal the status of the variables used in the analysis. The mean values of 0.153416 and 0.094561 are very close to the centre values which are 0.156481 and 0.080325 for the ratio of gross domestic investment and gross domestic product, and gross domestic savings and gross domestic product respectively. The dis-investing and dis-saving in some years, in some countries almost had the effect of statistical lies on the outputs. Even though the average value of the investment is greater than that of savings but savings at some points was higher than investment and the minimum value resides in investment. This is not out of range because it is reasonable to dis-save than to dis-invest. Deviation value of the investment is lower than that of saving. The broad essence of Skewness and kurtosis statistics are captured in Jarque-Bera statistic. Both investment and savings Jarque-Bera statistics of 11.4625 and 4422.896 respectively, and its probability values of 0.003243 and 0 respectively suggest the non-normal distribution of data. There is the tendency of committing type I or II error in working with t and/or F-tests if these data were not corrected (See Table 1 for all the statistic values as concerned).Although, it is assumed that the data used were approximately normally distributed in accordance with the Central Limit Theorem (CLT) since the observation is greater than 30. Notwithstanding, weight is applied in the panel regression analysis, as a means of correcting for the normality issue.

Table 1: Descriptive Statistics

Variable	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs.
$\left({}^{GDI}/_{GDP}\right)_{it}$	0.1534	0.1564	0.4839	-0.0242	0.0953	0.3346	3.2756	11.4625	0.003243	525
$\left({}^{GDS}/_{GDP}\right)_{it}$	0.0945	0.0803	0.9079	-0.2210	0.1105	2.4401	16.3556	4422.89	0	525

Source: *Authors' Computation using EViews 8.*

The panel unit-root tests carried out show that both variables are stationary at level. Common unit root process by Levin Lin and Chu t* with statistics -1.60897 and -1.97375, with probability values of 0.0538 and 0.0242 for both investment and savings respectively, indicate the stationarity of the series. Although, Im, Pesaran and Shin W-stat with a probability value of 0.1358 for the statistical value of -1.09947 for investment shows that it is not stationary. But with other two individual unit root process statistics of ADF-Fisher Chi-square and PP-Fisher Chi-square proving otherwise, together with the outcome of common unit root process discussed earlier on for the variable, it is believed that it is stationary at level.

Table 2: Unit-Root Tests

	Cross-Sections	Obs.	Common unit root process		Individual unit root process						Level of Integration
			Levin, Lin & Chu t*		Im, Pesaran and Shin W-stat		ADF-Fisher Chi-square		PP-Fisher Chi-square		
			Stat	Prob.	Stat	Prob.	Stat	Prob.	Stat	Prob.	
$\left({}^{GDI}/_{GDP}\right)_{it}$	15	445-476	-1.6089	0.0538	-1.0994	0.1358	43.8108	0.0290	107.881	0.0000	I(0)
$\left({}^{GDS}/_{GDP}\right)_{it}$	29	456-476	-1.9737	0.0242	-3.3486	0.0004	58.2553	0.0007	76.7827	0.0000	I(0)

Source: *Authors' Computation using EViews 8*.

This study does not report estimations based on pooled regression and effects pooled regression. Since the descriptive statistic outputs suggest applying of weight to correct for the possible case of heteroscedasticity, and weight does not go with fixed effect regression most times as a result of a technical issue which cannot but affect the way data was planned for the study. More so, the output from Estimated Generalized Least Squares (EGLS) usually better than that of random effects. In addition, since the unit-root tests for the two variables certified that they are both stationary at level; this study thereby proceeded to report of Panel Regression Estimations. Estimation results for all the specified models are reported in Table 3. All the estimations were based on Panel EGLS with cross-sectional SUR weight because data were stacked to make up its cross-sectional features. The output from Model 1, which is the based model shows that capital is mobile within the regional economic community (REC). Even though, the capital movement is high a bit compared to what is obtained in most developed economies of the world (Feldstein & Bacchetta, 1991). On average, this finding rarely differs from what was obtained for Africa as a continent in Gidigbi (2016). The independent coefficient of 0.3486 implies that only 34.86 percent was not actually mobile within the REC. The F-statistic of 559.16 with probability value less than one shows that the model is jointly significant at 1 percent significance level. More so, the regressor accounts for 51.67 percent variation in the regressand.

Model 2 is an improved model 1. Dummy of a common language was introduced to compliment the independent variable here. The common language reckoned with was the state official language. DComLang is equal to exponential (-0.050016) – 1 or -4.87 percent. This implies that common language decreases financial integration in the REC by 4.87 percent. However, this finding is contrary to the finding of Agudelo and Davidson (2006). The English Language is a common language for few member states, and the majority of states in the REC do not have the English Language as their official/working language. In this case, saving-investment retention increased to 37.90 percent, that is, the interplay of language as a negative impact factor further discourage integration in the REC. All coefficients discussed here are statistically significant at 1 percent significance level. The model was jointly significant at 1 percent significance level as shown by the F-statistic value of 385.0718 with probability value less than one.

Model 3 is a further improvement on Model 1, by introducing a time variable, which starts counting from REC active date. Time variable coefficient of 0.001638 equal to exponential (0.001638)-1 or 0.16 percent. Year of existence has a positive effect on the financial integration in the community. It aids financial integration in the community by 0.16 percent. This is statistically relevant at 1 percent significance level. Saving-investment retention decreased to 33.89 percent as well, this is statistically significant at 1 percent significance level as well. The explanatory variables in the model account for 57.59 percent of the total variation in the dependent variable. The model was jointly significant at 1 percent significance level as the F-statistic stands at 354.4211 with probability value less than one.

Model 4 still a further improvement on Model 1 by introducing interactive variable between dummy of common language and time variable. The interactive coefficient indicates that inhibition of common language towards financial integration diminishes over years. The interactive coefficient, which is equal to exponential (-0.001247) -1 =-0.12 percent. This finding was statistically significant at 1 percent significance level. The common language which stood at 4.87 in model 2, now with the interaction of time variable; it reduces to 0.12 percent. This implies that as the REC will continue to work harmoniously towards her ultimate goals as stated in her article, there is a good tendency that language would no longer inhibit her integration, from financial wise to other aspects of integration as targeted by the REC. The model's explanatory variables account for 54.71 percent of the total variation in the dependent variable. More so, the F-statistic of 315.3426 and its probability value less than one indicates the joint significance of the variables in the model. Model 5 is an improved model, and precisely in model 2. Even though, all the models built on model 1. Still, the coefficient of English language as a common language equals exponential (-0.049716) – 1 or -4.85 percent, and this inhibit the financial integration in the REC. This is statistically significant at 1 percent significance level. The coefficient of time variable equals exponential (0.001604) – 1 or 0.16 percent. This shows that REC's years of existence further financial integration by 0.16 percent. The coefficient, which is statistically significant at 1 percent as well. The explanatory variable in the model explained for 64.61 percent of total variation of the dependent variable. Also, the F-statistic of 317.1387 and its probability value less than one indicates the joint significance of the variables in the model.

Table 3: Model Estimations

	Method: Panel EGLS with				
Dependent Variable: $\left(GDI/_{GDP}\right)_{it}$					
Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
C	0.121781*** (0.002255) [53.99978]	0.135396*** (0.002044) [66.24625]	0.086708*** (0.004261) [20.35125]	0.128560*** (0.002160) [59.52673]	0.100980*** (0.003713) [27.19316]
$\left(GDS/_{GDP}\right)_{it}$	0.348669*** (0.014735) [23.66231]	0.379019*** (0.014811) [25.59074]	0.338926*** (0.014666) [23.10955]	0.373576*** (0.015006) [24.89483]	0.369470*** (0.014583) [25.33500]
$DComLang$	---	-0.050016*** (0.003455) [-14.47647]	---	---	-0.049716*** (0.003444) [-14.43466]
$TDum$		---	0.001638*** (0.000176) [9.281782]	---	0.001604*** (0.000151) [10.61526]
$DComLang^{*}TDum$			---	-0.001247*** (0.000152) [-8.188283]	---
	Weighted Statistics				
R-squared	0.516707	0.596020	0.575900	0.547144	0.646160
Adjusted R^2	0.515783	0.594472	0.574275	0.545409	0.644122
F-statistic	559.1601***	385.0718***	354.4211***	315.3426***	317.1387***
DW Stat	1.193379	1.238391	1.195809	1.210042	1.233701
	Unweighted Statistics				
R-squared	0.174699	0.236116	0.204040	0.198080	0.264265
Durbin-Watson stat	0.510289	0.536477	0.521754	0.521269	0.547509
Observations	525	525	525	525	525

Source: *Authors' Computation using Eviews 8*.
NB: The value in the bracket is Standard Error, and the t-statistic value is in the parenthesis.
*** Indicates that the p-value is statistically significant at 1 percent significance level.
** Indicates that the p-value is statistically significant at 5 percent significance level.
* Indicates that the p-value is statistically significant at 10 percent significance level.

5. Conclusion

The study concludes that financial integration exists in the REC. As a result of the free flow of capital within the community. Even though, the pointer as observed in the specified Model 1 for this study shows that the level of financial openness in the REC is almost the same with what was observed for Africa. Therefore, there is need to carry out a comparative study on the financial openness in the REC and the Africa as a continent, in order to ascertain whether there is the difference between the two. More so, the language in the REC inhibit financial openness as 8 member states are French speakers, 2 member states are Portuguese speakers, and 5 member-states speak the English language. However, financial openness inhibition by language diminishes over time. Language inhibition will totally become extinct as time goes on due to penetration of financial institution into member states, and rapid financial innovations currently experiencing in the REC and Africa in general. Also, computer ergonomics that facilitate usage of user preferred language, especially for the financial institution will further aid financial openness in the community since language serves as a

barrier.Low trade substantiality still inhibit financial integration, as most member states still have substantial trade with the developed and superpower countries. Therefore, there is need to speed up all common tariff policy by the REC towards trade substantiality among member states. Further, the existence of trade diversion would aid financial openness the more. The existence of financial openness would further the course of monetary union in the community but there is a need for more industrialization in order to enhance trade diversion for the absolute benefit of the integration to come up. As a point of emphasis, there is the existence of financial integration in the REC, and the REC has a basis for the introduction of the monetary union if so wish, but more can still be done in improving on the level of the existing financial integration. Trade diversion and common tariff policy should be among the cardinal focus of the REC. Also, member state should not withdrawal, so as to enjoy the long-run benefit of the REC. Objectively; it would be scholarly reasonable, if some other listed methods of testing for financial integration can be implemented to compare the results.

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APPENDIX

Model 1

Dependent Variable: GDI_GDP
Method: Panel EGLS (Cross-section SUR)
Date: 07/14/16 Time: 22:19
Sample: 1980 2014
Periods included: 35
Cross-sections included: 15
Total panel (balanced) observations: 525
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDS_GDP	0.348669	0.014735	23.66231	0.0000
C	0.121781	0.002255	53.99978	0.0000
	Weighted Statistics			
R-squared	0.516707	Mean dependent var		1.969134
Adjusted R-squared	0.515783	S.D. dependent var		3.312244
S.E. of regression	1.000666	Sum squared resid		523.6964
F-statistic	559.1601	Durbin-Watson stat		1.193379
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.174699	Mean dependent var		0.153416
Sum squared resid	3.931892	Durbin-Watson stat		0.510289

Model 2

Dependent Variable: GDI_GDP
Method: Panel EGLS (Cross-section SUR)
Date: 07/17/16 Time: 13:58
Sample: 1980 2014
Periods included: 35
Cross-sections included: 15
Total panel (balanced) observations: 525
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDS_GDP	0.379019	0.014811	25.59074	0.0000
COMLANG	-0.050016	0.003455	-14.47647	0.0000
C	0.135396	0.002044	66.24625	0.0000
	Weighted Statistics			
R-squared	0.596020	Mean dependent var		2.373821
Adjusted R-squared	0.594472	S.D. dependent var		4.189125
S.E. of regression	1.000787	Sum squared resid		522.8225
F-statistic	385.0718	Durbin-Watson stat		1.238391
Prob(F-statistic)	0.000000			
	Unweighted Statistics			

R-squared	0.236116	Mean dependent var	0.153416
Sum squared resid	3.639287	Durbin-Watson stat	0.536477

Model 3

Dependent Variable: GDI_GDP
Method: Panel EGLS (Cross-section SUR)
Date: 07/17/16 Time: 13:42
Sample: 1980 2014
Periods included: 35
Cross-sections included: 15
Total panel (balanced) observations: 525
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDS_GDP	0.338926	0.014666	23.10955	0.0000
TDUM	0.001638	0.000176	9.281782	0.0000
C	0.086708	0.004261	20.35125	0.0000
	Weighted Statistics			
R-squared	0.575900	Mean dependent var		2.513285
Adjusted R-squared	0.574275	S.D. dependent var		3.228049
S.E. of regression	1.001829	Sum squared resid		523.9112
F-statistic	354.4211	Durbin-Watson stat		1.195809
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.204040	Mean dependent var		0.153416
Sum squared resid	3.792106	Durbin-Watson stat		0.521754

Model 4

Dependent Variable: GDI_GDP
Method: Panel EGLS (Cross-section SUR)
Date: 07/17/16 Time: 14:10
Sample: 1980 2014
Periods included: 35
Cross-sections included: 15
Total panel (balanced) observations: 525
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDS_GDP	0.373576	0.015006	24.89483	0.0000
COMLANGTDUM	-0.001247	0.000152	-8.188283	0.0000
C	0.128560	0.002160	59.52673	0.0000
	Weighted Statistics			
R-squared	0.547144	Mean dependent var		1.994847
Adjusted R-squared	0.545409	S.D. dependent var		3.702359
S.E. of regression	1.000993	Sum squared resid		523.0368

F-statistic	315.3426	Durbin-Watson stat	1.210042
Prob(F-statistic)	0.000000		
	Unweighted Statistics		
R-squared	0.198080	Mean dependent var	0.153416
Sum squared resid	3.820500	Durbin-Watson stat	0.521269

Model 5

Dependent Variable: GDI_GDP
Method: Panel EGLS (Cross-section SUR)
Date: 07/20/16 Time: 08:25
Sample: 1980 2014
Periods included: 35
Cross-sections included: 15
Total panel (balanced) observations: 525
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDS_GDP	0.369470	0.014583	25.33500	0.0000
COMLANG	-0.049716	0.003444	-14.43466	0.0000
TDUM	0.001604	0.000151	10.61526	0.0000
C	0.100980	0.003713	27.19316	0.0000
	Weighted Statistics			
R-squared	0.646160	Mean dependent var		2.808615
Adjusted R-squared	0.644122	S.D. dependent var		4.273945
S.E. of regression	1.002063	Sum squared resid		523.1520
F-statistic	317.1387	Durbin-Watson stat		1.233701
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.264265	Mean dependent var		0.153416
Sum squared resid	3.505179	Durbin-Watson stat		0.547509

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Analysis of The Potential Impacts Regional Comprehensive Economic Partnership on the ASEAN Member Countries

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Abstract: This paper aims to analyze the potential impacts of the RCEP concept developed in the working group and the potential impact on market expansion. Based on the results achieved in the working group discussions, we used a qualitative approach. We put together a simulation of how the impact on trade and market development has been the goal of the establishment of RCEP. We concluded that the unification of the 16 countries in the RCEP expected to reduce the spaghetti bowl effect caused by a number of free trade agreements followed by a country. However, because RCEP does not eliminate regional free trade agreements that exist, RCEP tend to add to the chain's new spaghetti bowl. In addition, the opening of market access among partner countries in the ASEAN-expected results in increased trade intra-ASEAN partner countries so that the impact on economic growth in the region in general and ASEAN in particular.

Keyworld: *RCEP, RCA dynamic, competitiveness, trade, export-import*

1. Introduction

RCEP formation initiatives coming from Indonesia. The initiative has been made based on the response of ASEAN to maintain ASEAN centrality of the Chinese proposal regarding the establishment of the East Asia Free Trade Agreement (ASEAN + 3) and the Japanese proposal that wants Closer Economic Partnership in East Asia (ASEAN + 6) and the level of liberalization of trade in goods on trade cooperation ASEAN free (ATIGA) and ASEAN + 1 (AANZFTA, ACFTA, AIFTA, AJCEP, AKFTA) average about 90%. Thus to optimize trafficking in the region need to be made of the free trade agreements in the region. However, RCEP not negate free trade agreement ASEAN free trade (ATIGA) and ASEAN + 1 (AANZFTA, ACFTA, AIFTA, AJCEP, AKFTA) said existing. The RCEP concept was initially endorsed by ASEAN leaders in November 2011. At ASEAN's invitation officials from Australia and ASEAN's five other FTA partners - China, India, Japan, ROK and New Zealand - participated in preparatory discussions in the latter half of 2012 to develop *Guiding Principles and Objectives for Negotiating the RCEP*, which were considered by ministers in August 2012. At the 7th East Asia Summit on 20, November 2012, then Prime Minister Julia Gillard and then Minister for Trade and Competitiveness Dr. Emerson joined Leaders from ASEAN and ASEAN's FTA partners to officially launch the RCEP negotiations.

RCEP is a combined formula of ASEAN+3 in the East Asian Free Trade Area (EAFTA) and ASEAN+6 in the CHAPA (Comprehensive Economic Partnership in East Asia). The initiators of the RCEP concept were China and Japan that dominated the two forms of the formulas. However, the RCEP lengthen the list of issues in the free trade agreements in Asia, known as "noodle bowl of Asian trade agreements". While the objective of the partnership would expand ASEAN's role in coordinating regional trade, the RCEP's key purpose is to reconcile two long-standing proposals into a large region-wide trade agreement: the East Asian Free Trade Agreement, which included ASEAN, China, Japan and South Korea, and the Comprehensive Economic Partnership, which added Australia, India and New Zealand. The RCEP bridges the two proposals by adopting an open accession scheme. Negotiations among the 16 parties began in early 2013 and are scheduled to conclude by the end of 2015. Pomfret and Pontines (2013a) show that in various gravity model specifications, bilateral export is positively associated with the level of depreciation of the exchange rate and membership in regional trading arrangement (RTA), and negatively impact the volatility of exchange rates. This indicates that both effects of the exchange rates are larger when the two countries have trade agreements. This research was conducted at 16 East Asian countries (ASEAN+3, Hong Kong, China; Macau and Mongolia) in the period 1990-2010.

The above results are supported by Kawai and Vighnaraja (2013a) who show that a well-designed FTA can provide benefits. This is reflected in the significant expansion exports in South Korea, Thailand, Viet Nam, and Malaysia. Exports of the Republic of Korea in the period of 2008-2011 grew by 49%, and exports of Thailand

grew by 42%. Viet Nam and Malaysia also enjoy the sam benefits but on a lower scale. Vietnam and Malaysia export increase by 33% and 24%, respectively. A company survey conducted by Kawai and Vighnaraja (2013b) in mainland China, Japan, Republic of Korea, Malaysia, the Philippines, Singapore, and Thailand also shows the approximate use of FTA by companies at a higher level. About 32% of companies have leveraged the FTA and have created a better plan to do it. The survey also revealed that the FTA requires a relatively fixed cost. Big companies are more able to collect financial and human resources than small and medium enterprises (SMEs). RCEP is expected to be a high-quality and beneficial economic partnership agreement, aiming to broaden and deepen the current FTA engagements. Since the RCEP negotiating members already have an FTA structure in place the main goal will be to integrate these FTAs into a regional economic framework. RCEP is expected to be a high-quality and beneficial economic partnership agreement, aiming to broaden and deepen the current FTA engagements. Since the RCEP negotiating members already have an FTA structure in place the main goal will be to integrate these FTAs into a regional economic framework (Çelikkol, 2013). The RCEP negotiation framework can give ASEAN a source of additional bargaining power toward a higher target which is not valid under *bilateral* negotiations (Fukunaga and Isono, 2013). Through the RCEP is expected to create an integrated market which covers more than 3.3 billion population with gross domestic product (GDP) combined share of more than $ 19.7 trillion. Thus, it can be controlled almost 50 percent of global trade.

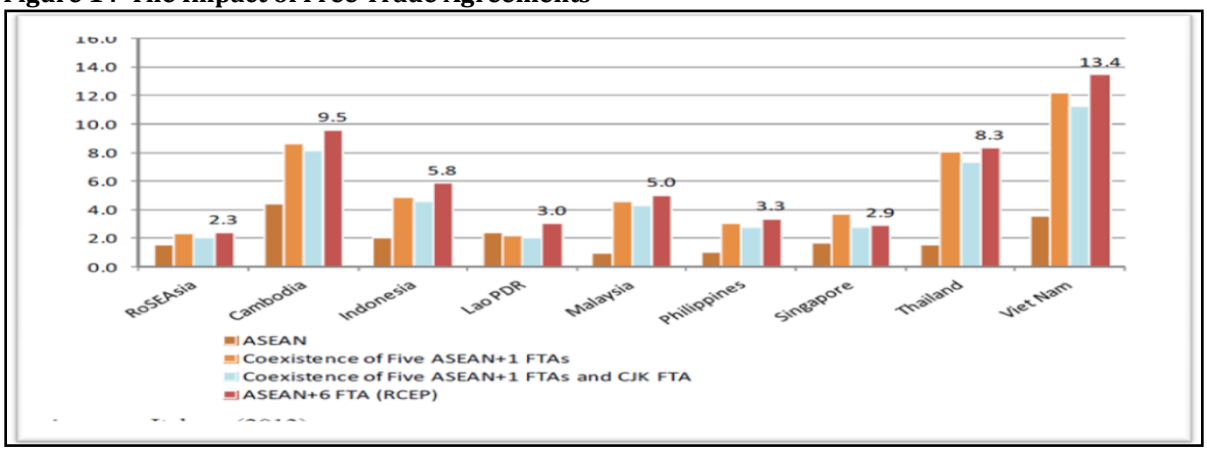
The RCEP faces some key challenges if it is to live up to its potential. Based on RCEP's Guiding Principles is that it will add to, rather than replace, existing ASEAN+1 FTAs, while at the same time introducing 'significant improvements' over these agreements. There is, however, an important qualifier in the dreaded 'flexibility' clause: 'RCEP will include appropriate forms of flexibility including provision for special and differential treatment, plus the additional flexibility to the least-developed ASEAN Member States'. On the one hand, RCEP trying to achieve a modern and comprehensive trade agreement among members. The negotiation agenda includes trade in goods and services, investment, economic and technical cooperation and dispute settlement. This cooperation will support the deployment of global production networks, and reduce the inefficiencies of some Asian trade agreements that currently exist. But on the other hand, RCEP will potentially bring different impacts of the ASEAN member countries, because of differences in product preference. This paper aims to analyze the potential impacts of the RCEP concept developed in the working group and the potential Impact on market expansion.

Research Method: The discussion in the Working Group on Trade in Goods (WG-TIG) on RCEP still focuses on the discussion of request and offer. Access to new markets in the RCEP will only be obtained by each of the ASEAN partner countries in other ASEAN partner countries. This led to the RCEP negotiations being essentially negotiations between ASEAN partner countries. Since some partner countries do not yet have free trade cooperation, negotiations are slow. To speed up the negotiations, there is a Basic Concept of Initial Offer (BCIO). The paper was prepared using a qualitative approach. Based on the results achieved in the working group discussions, we put together a simulation of how the impact on trade and market development has been the goal of the establishment of RCEP.

2. Literature Review

Generally, RCEP will have a positive impact on economic growth. The impact analysis based on the world CGE model by Ezaki and Nguyen (2007) indicates that the East Asian FTA or East Asian Community generally has positive effects on growth, improves income distribution, and results in poverty reduction, though the impacts on China are a little bit exceptional. The results indicate positive potential or long-run positive effects of the East Asian Community, but its requirement of structural adjustment is the actual problem to be overcome in the short run. Research by Itakura (2013), using GTAP dynamic model for the period 2011-2015, showed the different results. He proved that RCEP will give benefit to all involved countries, except for Laos. Vietnam, Cambodia, and Thailand are the countries, who gain the most benefit with GDP growth about 13,4%, 9,5%, and 8,3% over the baseline. Indonesia will get next rank with GDP growth about 5,8% (see figure 1).

Figure 1 : The Impact of Free Trade Agreements



Source: K. Itakura, "Impact of Liberalization and Improved Connectivity and Facilitation in ASEAN for the ASEAN Economic Community", *ERIA Discussion Paper 2013-01*, 2013

Meanwhile, Heagney (2013) which is viewed from the side of the Lao PDR interest by using the GTAP approach. GTAP estimates indicate that the benefits to Lao PDR from association with the RCEP, on the basis of the liberalization being as wide ranging as possible, are strongly positive. By 2015, GDP growth will be 3% above the baseline predicted trend path. Welfare will improve 2.49%; exports, imports, and investments are all predicted to increase 5.7%, 9.1%. 9.1% respectively. Ownership of foreign capital does decline but foreign ownership of capital increases; -1.7% and 7% respectively. Indonesia's Government supports the RCEP as the Government believes on its benefits for Indonesia. A large volume of trade within the RCEP is regarded as the opportunity to increase exports and make Indonesia as a production base. It is predicted that RCEP would make the trade balance increases. The size of the ASEAN economy is expected to rise from a USD3 trillion to USD22 billion (Syadullah and Hakim, 2016). By joining with RCEP, Indonesia can improve its welfare. A research by the Ministry of Commerce showed that in 2013, RECP will increase the welfare by USD1.516.3 million. If Indonesia joins the ASEAN+3, its GDP will increase by USD 487.74 million. If Indonesia joins AFTA, its welfare will increase by USD188,05 million.

Trade liberalization is supposed to make the increasing of Indonesia's GDP happen, including the rise of investment and household welfare. For instance, AFTA creates more trade creation than trade diversion. However, Indonesia has the benefit of the trade liberation relatively smaller than other ASEAN countries. The result of simulation for full liberalization of the ASEAN region showed a positive impact on the increase in the volume of Indonesian trade, both exports, and imports. However, the percentage of the import increasing is higher than the percentage of the exports increasing and as the result, it had a negative effect on the trade balance of Indonesia (Syadullah and Ardiansyah, 2014). A company survey conducted by Kawai and Vighnaraja (2013b) in mainland China, Japan, Republic of Korea, Malaysia, the Philippines, Singapore, and Thailand also shows the approximate use of FTA by companies at a higher level. About 32% of companies have leveraged the FTA and have created a better plan to do it. The survey also revealed that the FTA requires a relatively fixed cost. Big companies are more able to collect financial and human resources than small and medium enterprises (SMEs). Although the FTA has been operating in Asia for more than a decade, the results of empirical studies conducted by Menon (2013) shows that the FTA has no effect on the industrial sector. There are at least three reasons that can be provided. First, most of the tradings have are already been taking place at zero or low tariffs due to The International Technology Agreement. Second, the majority of international trades are unlikely to benefit from concessions in the FTA for the difficulties to comply with rules of origin due to the limitations of adding value. Third, almost all FTAS involving countries of Asia are still constrained by various non-tariff barriers that affect trade flows.

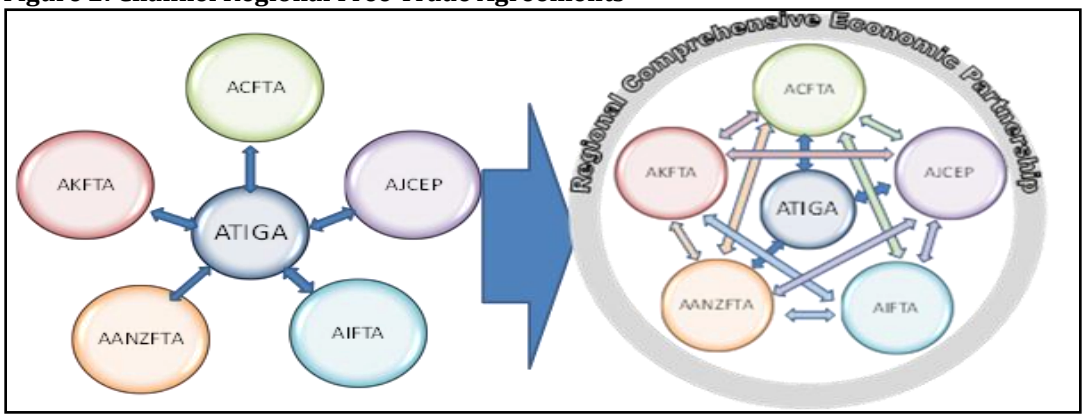
Chiang (2013) explores the economic calculations behind the recent initiatives for the Free Trade Agreement (FTA) between the Governments of China, Japan, and South Korea (CJK) and clarifies the implications for future regional economic integration. One result showed that China active involvement in regional economic integration will push the three countries to go forward towards greater economic cooperation. However, it

will take longer for China-led RCEP. Therefore, the conclusion of CJK FTA will be an important boost for the further progress of RCEP. It will also be an important stabilizer for the trilateral political relations in the future. Meanwhile, in the Malaysian context, the results Devadason (2014) show that there are indications of commercial ties between China and Malaysia. Both countries should innovate new forms of bilateral cooperation, beyond trade to enhance their strategic partnership. As the potentials to trade between China and Malaysia reduce (or even become exhausted) under the expanded relations of RCEP, the need to inject a fresh momentum in areas such as education, tourism, science, and technology, becomes even more pressing to sustain and balance bilateral cooperation between China and Malaysia. From the Malaysian side, it is even more critical to cultivate ties with China in these diverse areas, as China has many suitors. Further, the asymmetrical investment links between both parties bring to the fore the current gaps in bilateral cooperation. Malaysia's outward investment to China is six times that of the Chinese investments in Malaysia.

3. RCEP Impact Analysis

Concept RCEP: The unification of the 16 countries in the RCEP expected to reduce the spaghetti bowl effect caused by a number of free trade agreements followed by a country. However, because RCEP does not eliminate regional free trade agreements that exist, RCEP is likely to add a new chain of spaghetti. Figure 2 shows the flow of additional complexity in regional free trade agreements. In addition, RCEP basically at an increase in new markets in the ASEAN region. The new markets are created only occur between ASEAN partner countries (Australia, China, India, Japan, Korea, and New Zealand) as shown by the increase in the arrow to the right image.

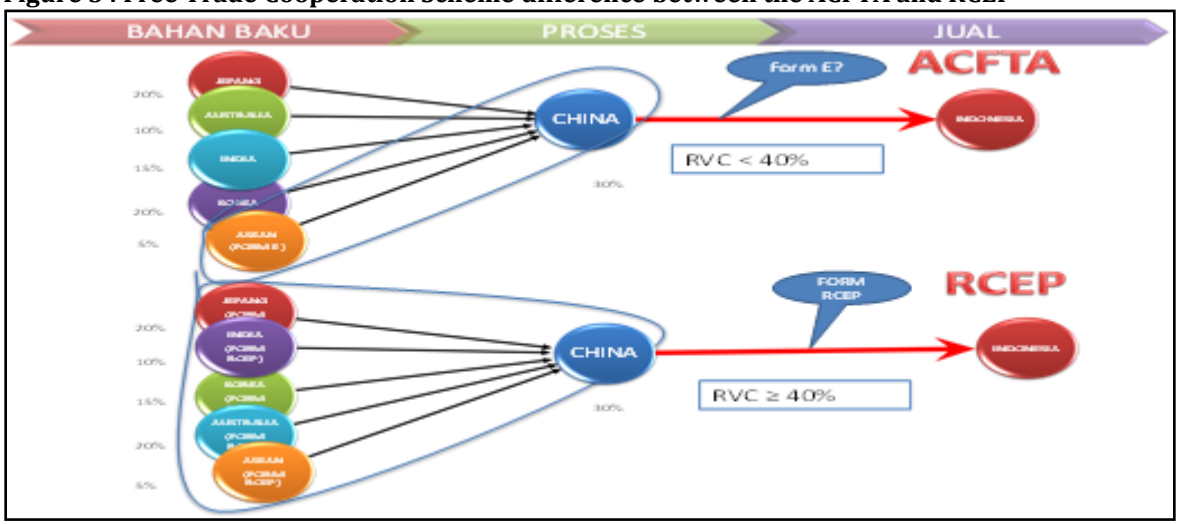
Figure 2: Channel Regional Free Trade Agreements



Source: Illustration by author

The opening of market access among ASEAN partner countries is expected to boost intra-ASEAN partner countries thus affect the economic growth of the region in general and ASEAN in particular. Other benefits expected from the merger of 16 countries in the RCEP is their convenience for RCEP member countries to obtain supplies of raw materials. The opening of market access among ASEAN partner countries is expected to boost intra-ASEAN partner countries thus affect the economic growth of the region in general and ASEAN in particular. Other benefits expected from the merger of 16 countries in the RCEP is their convenience for RCEP member countries to obtain supplies of raw materials. In the free trade agreements contained provisions to the criteria of the product as a product so that when the member countries exported to other member states, can obtain preferential tariffs in destination countries. This provision is called Rules of Origin (ROO). One of the provisions of the ROO, namely Regional Value Content (RVC). RVC is a provision regarding the minimum limit of regional content in a product manufactured in a member country. The content can be any regional material content, production costs, and profit from a product. In most of the free regional cooperation trafficking followed by ASEAN, RVC provisions generally is 40%. RCEP will make it easier for member countries to obtain supplies of raw materials to be accumulated in order to meet all provisions for RVC 40%. Illustrations can be seen in Figure 3.

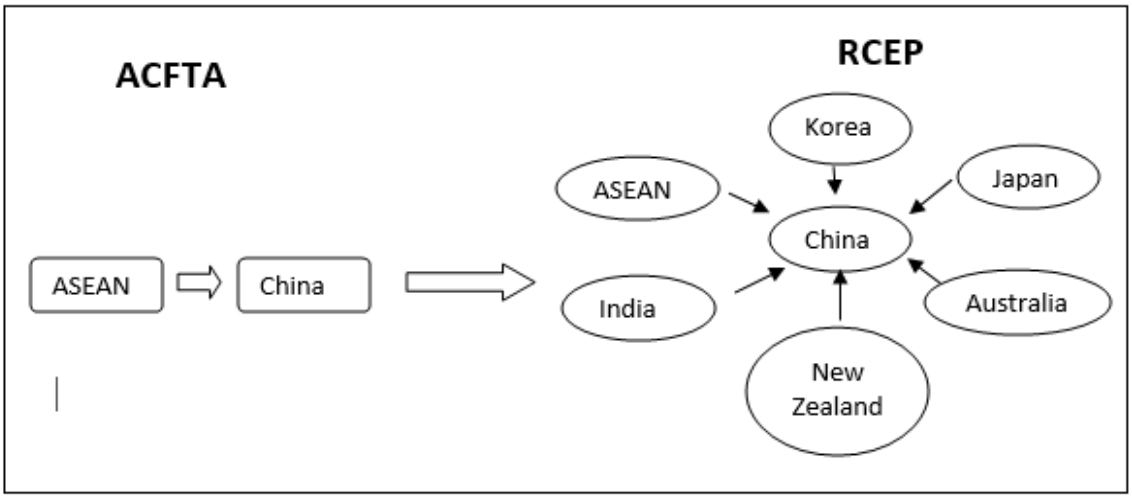
Figure 3 : Free Trade Cooperation Scheme difference between the ACFTA and RCEP



Source: Illustration by author

As an illustration, the image above compares the two schemes, namely free trade agreements and RCEP ACFTA. ACFTA on free trade agreements, regional content that can be taken into account in RVC only raw materials from ASEAN countries and the added value that is happening in China. While in RCEP, regional content can be conducted on all imported raw materials and value-added in China. This is expected to increase intra-trade RCEP member countries. As an illustration, the image above compares the two schemes, namely free trade agreements and RCEP ACFTA. ACFTA on free trade agreements, regional content that can be taken into account in RVC only raw materials from ASEAN countries and the added value that is happening in China. While in RCEP, regional content can be conducted on all imported raw materials and value-added in China. This is expected to increase intra-trade RCEP member countries.

Figure 4 : Impact of RCEP on Product Preferences in ASEAN Countries

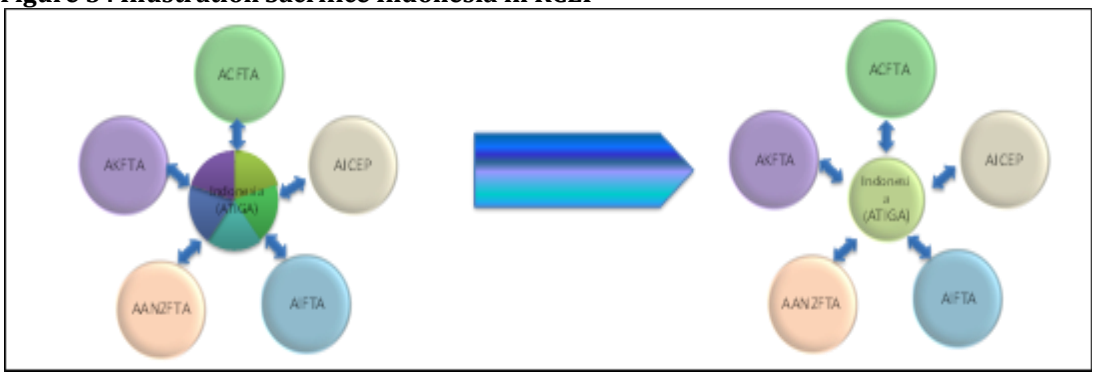


Source: Illustration by author

The easing of RCEP member states to comply with ROO will be enjoyed by many member countries that produce and export manufactured products that require a long supply chain. Countries that still depend on commodity-based exports of natural resources will get minimal benefit from the establishment of RCEP. Other threats that need to be considered by the other member countries of ASEAN is export preferential erosion. RCEP will lead to preferences that had been enjoyed by the member countries of ASEAN in the partner countries will also be enjoyed by the other ASEAN partner countries. Figure 4 shows the preferences

of ASEAN products in China were acquired through ACFTA will be reduced because other ASEAN partner countries will also get preference in China through RCEP. For example, Indonesian exports that previously obtained the preferential rate of China will compete with Australia, India, Japan, Korea, and New Zealand in the Chinese market with the same level of preference. ASEAN member countries have been involved in lots of six regional free trade agreement that is ATIGA, AANZFTA, ACFTA, AIFTA, AJCEP, and AKFTA. In each agreement has a Schedule of Commitment different because of the sensitivity of the product each ASEAN member country of the individual partner countries also differs. However, because the main principles RCEP is doing Single Schedule of Commitment to each member state RCEP, then in each ASEAN member country will likely be no products sacrificed in the preparation of the Single Schedule of Commitment.

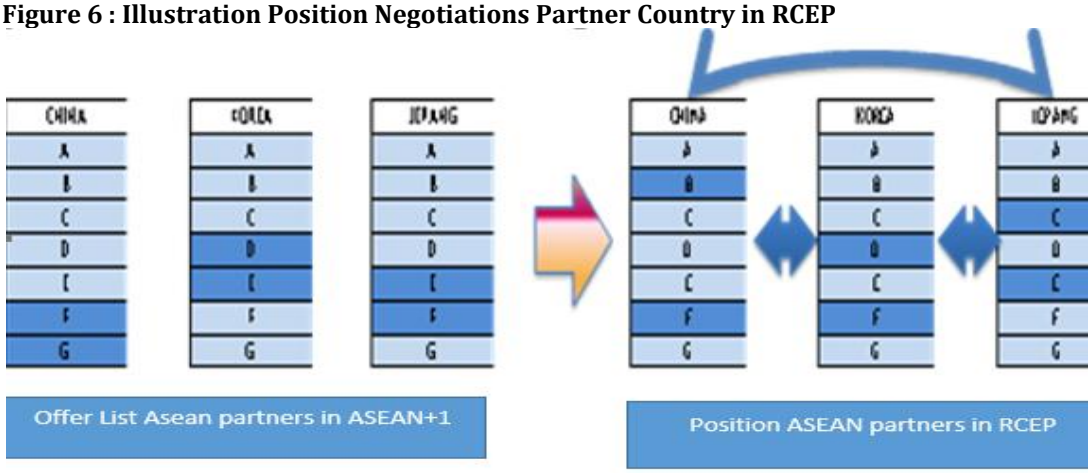
Figure 5 : Illustration Sacrifice Indonesia in RCEP



Source: Illustration author

This sacrifice will be even greater because of the commitment in RCEP expected better from ASEAN free trade agreements (ATIGA) and ASEAN + 1 (AANZFTA, ACFTA, AIFTA, AJCEP, AKFTA) were on average approximately 90%. Figure 5 illustrates the sacrifices made by Indonesian in RCEP. The different colors indicate differences in the sensitivity of Indonesian in any free trade agreements that have been there but to meet singles Schedule of Commitment in RCEP, Indonesian must choose one color (single sensitivity). This causes many sensitive commodities are still enjoying tariff protection in the existing regional cooperation should be liberalized more quickly through RCEP.

Figure 6 : Illustration Position Negotiations Partner Country in RCEP



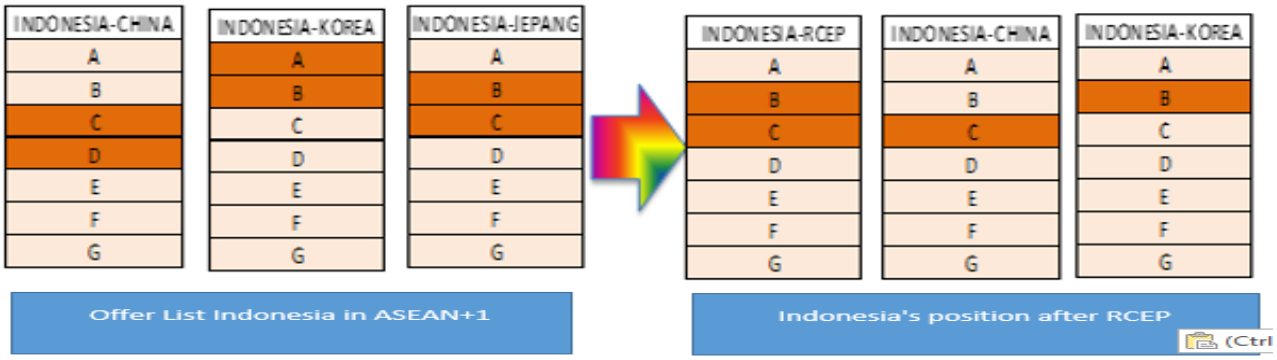
Source: Illustration by author

Potential Impact on Market Expansion: Basically RCEP not at an increase in new markets in the region for the member countries of ASEAN. The new markets are created only occur between ASEAN partner countries (Australia, China, India, Japan, Korea, and New Zealand). However, the competition between the partner country the potential to provide new market access for ASEAN. Figure 6 illustrates the position negotiator in the partner countries RCEP represented by the three partner countries. Assumed all commodities contracted

grouped into seven major groups (A to G). The dark blue color depicts the sensitive products category while the light blue color depicts products liberalized. In the picture to the left is assumed modalities countries China, Japan, and Korea in their respective regional cooperation with ASEAN (ACFTA, AKFTA, AJCEP). Because these countries feel the competition among them is heavier than the ASEAN countries, these countries have changed the categories of products in RCEP be like in the picture to the left. The impact of these changes, ASEAN will gain additional market access of the partner country. For example, in the ACFTA, product group F and G in the category of sensitive by China. In RCEP, China liberalizes product and make sensitive G product B in RCEP. ASEAN will gain additional market access G products in China through RCEP however, can not take advantage of market access to products and through RCEP. Each partner country will gain access to new markets from other partner countries in proportion to the liberalization conducted between partner countries.

However, if the partner countries that do offer their products in RCEP as they do in regional free trade agreements with ASEAN, ASEAN will not get additional market access at all in RCEP as illustrated in Figure 6. However, if the partner countries that do offer their products in RCEP as they do in regional free trade agreements with ASEAN, ASEAN will not get additional market access at all in RCEP as illustrated in Figure 6. Negotiating position of ASEAN member countries, in general, is much weaker compared to the AFP. Figure 7 shows the simulated negotiations ASEAN member countries in RCEP (Indonesia for example). Position offer Indonesia in the ACFTA, AKFTA, and AJCEP, as shown in Figure 7, left. To meet the single list in the RCEP, assumed the position as Indonesia did offer Indonesia in AJCEP. By choosing the modalities of the AJCEP, then Indonesia will accelerate the liberalization of commodity and commodity ACFTA D in An in AKFTA. This happens because of the sensitivity of the member countries of ASEAN cooperation in each ASEAN + 1 is different, so the products are carried liberalization will also be different for each partnership.

Figure 7: Negotiations Simulation ASEAN Member Countries in RCEP



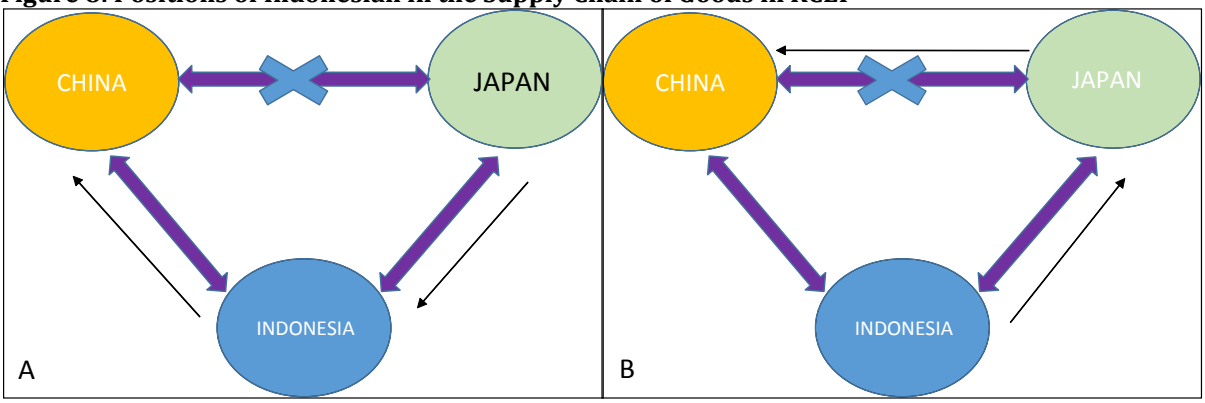
Source: Illustration by author

Tier Mechanism to Request and Offer: The discussions in Working Group on Trade in Goods (WG-TIG) is still focused on the discussion of the request and offer. As shown in Figure 1, the new market access in RCEP only is obtained by the respective partner countries of ASEAN in other ASEAN partner countries. This led to negotiations RCEP is basically negotiating partner among ASEAN countries. Because among several partner countries do not have free trade agreements, negotiations become insidious. To accelerate the negotiations, it was agreed on the Basic Concept of the Initial Offer (BCIO). BCIO contains among others: (i) liberalization of the target is 85%, and (ii) partner countries obtain facilities in developing products that will be liberalized in RCEP through 3 tier, namely: tier 1 is the most liberal and aimed for ASEAN countries, o Tier 2 less liberal and aimed at fellow partner countries who have had a bilateral trade agreement, and o Tier 3 most conservative and geared to fellow partner countries that do not have free-trade agreements.

Indonesian has expressed its objections since the tier mechanism applies only to ASEAN countries, while partners have to deliver Single Schedule of Commitment. With Single Schedule of Commitment, ASEAN must be accelerated liberalization of the category of sensitive products in the existing regional trade cooperation. In addition, the presence tier mechanism is not in accordance with the Principles agreed at the time of negotiations RCEP formation and inhibit increased trade intro RCEP member countries. The biggest benefit of

RCEP is the ease of access to raw materials in order to fulfill the RVC. Tier mechanism causing these benefits leak can optimally be utilized by ASEAN. Figure 8 illustrates two possible positions of Indonesian in the supply chain of goods in RCEP.

Figure 8: Positions of Indonesian in the Supply Chain of Goods in RCEP



Source: Illustration by author

The existence tier mechanism could lead to China's commitment to Japan is different from China's commitment to the ASEAN member countries (eg in Indonesia). If for example, China does not open vehicle products motor with Japan but opening the product in Indonesia, then the chances of that happening are as follows:

- In figure A, Japan to export products in the motor vehicle knocked down condition to Indonesia and then assembled. Products car so then exported by Indonesia to China. This scenario will benefit Indonesia if Indonesia is located on the downstream side of the supply chain and allowed their cumulative biodegradable motor vehicle imported from Japan Indonesia with the added value that occurred in Indonesia.
- In figure B, if Indonesia became a supplier of automotive components for the motor vehicle industry in Japan, then Indonesia will not get any additional demand from Japan for the Japanese market access to China for a motor vehicle closed.

Position Offer a List of the Member States of ASEAN and Partner Countries: The partner countries, in general, has given an initial offer to ASEAN in tier 1 according to the provisions BCIO, but because the offer list given to ASEAN countries is still below the level of liberalization in trade cooperation, ASEAN + 1, virtually no additional market access to ASEAN countries in the listed product delivered in tier 1. the additional opening of market access by the ASEAN partner countries are as follows: (i) RRT just add three (3) categories of tariff heading SL / HSL in the ACFTA; (ii) India only add two (2) categories of tariff heading SL/HSL in AIFTA; (iii) Japan only add 28 categories of tariff heading SL / HSL in AJCEP; (iv) Korea did not add any of their commitment to AKFTA. Because the entire postal rates in Australia and New Zealand AANZFTA will be 0% by 2020, Additional tariff lines two partner countries are deemed insignificant impact on ASEAN. Another thing that makes the concern is the opening of market access sensitive products trade cooperation partner countries in ASEAN + 1 to the other partner countries, but not given to ASEAN. In addition, some countries expressed partners offer list is not transparent, making it difficult to study the ASEAN countries offer their list. Some partner countries only submit a list of tariff lines and modalities reduction tariffs but not willing to give the book a complete classification. While India conveyed offer lists in Microsoft Word format, making it hard to do the analysis.

Rules of Origin: Sub-Working Group on Rules of Origin (SWG-ROO) meeting takes place very slowly. ROO is the most crucial issue in the discussion of trade in goods since it determines how a product can be recognized as coming from member countries and can take advantage of the preferential tariff. Some of the major issues of ROO is the origin criteria, accumulation, and Operational Certification procedures (OCP). The main issue in the origin criteria, namely the determination of error a product, whether a party RCEP origin or origin. RCEP

origin is the recognition of a product as a result of joint production RCEP member countries. RCEP origin allows their full cumulation namely that all the value added at each level of the supply chain that occurs in member countries can be taken into account in calculating the RVC without substantial transformation and minimize. This will benefit the country intermediaries who only perform minimal production processes such as packaging and labeling, but remain eligible to take advantage of preferential tariffs in other member states. Full cumulation many proposed by developed country partners such as Japan, Australia, and New Zealand. Indonesia does not support the full accumulation and suggested the use of diagonal cumulation accumulation that can only be done if they fulfill the substantial transformation as used in trade cooperation, ASEAN + 1.

Another issue related to the origin criteria, namely the provisions laid down on the product specific rules (PSR). PSR is the origin criteria applied uniquely to each product in a classification Harmonized System (HS) at the six-digit level (sub-headings). Origin criteria in PSR are generally divided into three groups: Wholly Obtained (WO), Regional Value Content (RVC), and Change in tariff Classification (CTC) under the following conditions:

- WO: origin criteria are given to products that are taken directly from nature, waste products of consumption and production, as well as products made solely from WO product in a country member.
- RVC: the determination of origin criteria is done by taking into account value added occurring in the member countries.
- CTC: a product is considered to meet the criteria of origin when the non-originating component has undergone changes in the classification of the Harmonized System (HS) at a certain level.

At the meeting of the 12th RCEP in Perth, from 5,205 sub-headings, the new ASEAN agree on as much as 2,676 sub-headings (51%). Discussion PSR itself is only carried out on 421 sub-headings that have a common position between RCEP most Participating Countries (RPCs). Although the meeting has not resulted in an agreement in the discussion of the PSR, the meeting agreed to seek to minimize the difference in the position of PSR and the justification for these differences in the next negotiations in Auckland. Indonesia suggested that not too much use of CTC with the following considerations: (i) the majority of manufactured products has fundamentally changed the classification of the initial conditions, and (ii) enables the process minimal in production processes such as assembly, forging, drawing, and rolling, and mixing so that: use of CTC does not encourage increased investment and detrimental to producers of raw materials. In the context of the de minimus, the conditions governing the minimum limit of components or non-originating materials that do not change the classification of the Harmonized System (HS) at a certain level (do not undergo substantial transformation). Demonisms in ASEAN trades cooperation in general by 10%. An important issue under discussion is whether or not the origin criteria minimize if a product is WO.

Japan and India proposed a mechanism of self-certification and Korea proposed a similar mechanism called approved exporter. Self-certification/approved exporter that is the mechanism that allows the issuance of Certificates of Origin (COO) is done by the exporter in the exporting member countries. COO is the accompanying documents stating that export products exported goods meet the origin criteria. The use of the mechanism of self-certification/approved exporter can only be approved if it does detailed data exchange and transparency among member states. In the absence of detailed data exchange and transparency, the use of this mechanism could potentially give rise to abuse of COO. In SWG-ROO, Australia filed a Post-importation issue preferential tariff on the pretext of protecting small and medium enterprises that when exports did not understand the procedures for the use of the SKA. This mechanism allows the importer to make a claim against the preferential tariff within a certain period after the import process is complete. However, Indonesia advised being careful with the proposal because this mechanism can be used as a tool to adjust the income tax expense in the current year, the amount of administrative burden will be borne by the tax officials and customs officials and temporary suspension of preferential treatment. India also proposed granting member states can suspend preferential tariffs when exporting to member countries exporting member countries do persistent failure. However, India does not provide criteria for persistent failure so that the proposal could cause wearing member states act arbitrarily to the other Member States.

4. Conclusion and Recommendations

Based on this study it can be concluded that the unification of the 16 countries in the RCEP expected to reduce the spaghetti bowl effect caused by a number of free trade agreements followed by a country. However, because RCEP does not eliminate regional free trade agreements that exist, RCEP tend to add to the chain's new spaghetti bowl. In addition, the opening of market access among partner countries in the ASEAN-expected results in increased trade intra-ASEAN partner countries so that the impact on economic growth in the region in general and ASEAN in particular. Based on the results of negotiations in the working group found a few things, namely: (i) the potential threats that need to be considered by the member countries of ASEAN, namely the reduction in product preferences in partner countries of ASEAN (export preferential erosion). RCEP will lead to preferences that had been enjoyed by the member countries of ASEAN in the partner countries will also be enjoyed by the other ASEAN partner countries. (Ii) RCEP basically no impact on their gain new markets in the region for the member countries of ASEAN. The new markets are created only occur between ASEAN partner countries (Australia, China, India, Japan, Korea, and New Zealand). Nevertheless, the competition between the partner country the potential to provide new market access for ASEAN. Based on these findings, in order RCEP provide optimum benefit to the member countries of ASEAN, it is recommended that some of the following: The need for further studies to determine how much the level of trade openness in the RCEP, so RCEP will have maximum impact on each member country. This level of transparency will have to be mutually agreed among member states RCEP.

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Conservation Agriculture and Climate Change: Implications for Sustainable Rural Development in Sanyati, Zimbabwe

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Abstract: Zimbabwe is one of the most developed countries in Sub-Saharan Africa in that markets and rural industrialization are likely to function relatively well. Thus, Zimbabwe's agricultural sector has been severely affected by climate change. The worsening agricultural conditions have led to undernourishment of many in rural areas and this has drawn so much attention. Young women have turned into prostitution, in their bid to ensure the survival of their families. Farmers in rural areas depend heavily on rain-fed water and with rainfall variability and extreme weather patterns records, their livelihoods are being threatened. To cope with the adverse impact of climate change on rural development, different coping strategies and mechanisms are being implemented. The government, non-governmental organizations (NGOs) and the private sector have all introduced various programmes and projects at grassroots levels. The information used in this paper was gathered using data from interviews, questionnaires, and focused group discussion. This article explores how conservation agriculture being one of the coping strategies, has helped rural farmers to deal with climate change and how it has sustained rural development in Sanyati District.

Keywords: *Climate Change, Conservation Agriculture, Rural Development, Livelihoods, Coping Strategies*

1. Introduction

Zimbabwe was once regarded as the breadbasket of Africa but after witnessing almost two decades of recession, its agricultural production has declined living many in need of food. Small holder farmer's families have lived in hunger, with children under the age of ten years malnourished. Climate change and poor harvest has made the government to become dependent on international food aid. The majority of rural farmers depend on rain water for agricultural activities and with the changing climate, it has presented development challenges. It is in this realm that, climate change imposes constraints to food security and rural development especially in relation to smallholder farmers whose livelihoods mostly depend on rain-fed agriculture (Twomlow et al., 2008; Delgado et al., 2011; Dzvimbo, Monga and Mashizha, 2017). Negative impacts of extreme events such as floods and droughts are expected to be high in countries of the Global South's rural areas. In an era where climate change is central in rural development policies and practice, conservation agriculture (CA) appears to potentially contribute a lot in addressing the challenge of adapting to sustainable agricultural practices to climate change (Ngwira et al., 2012; Tilman, 2015). In this regard, conservation agriculture is claimed to reduce negative impacts of climate change by optimizing crop yields and profits while maintaining a balance between agricultural, economic, environmental benefits and rural development (Hobbs al., 2008; Tilman, 2015). Conservation agriculture has been adopted as an alternative to protect the livelihoods of farmers. More than 300 000 small-scale farmers in Zimbabwe had adopted conservation farming (FAO 2010, ICRISAT 2013). Those who have adopted the system have doubled their harvest and others nearly tripped it. But is it the case with farmers in Sanyati area where soil is sandy and no longer fertile after years of growing the white gold "cotton"? This study seeks to establish weather CA reduces the impact of the changing climate and increase yields in Sanyati Distract.

Defining Conservation Agriculture and Climate Change: Conservation agriculture consists of three fundamental agro principles namely minimal soil disturbance, mulching of the soil surface and legume – based cropping (Nkala et al., 2011). The International Crops Research Institute for the Semi-Arid Tropics (2013) further goes on by stating that conservation agriculture improves infiltration, improves soil fertility, reduces soil erosion and builds up soil organic matter. FAO (2001) indicated that conservation agriculture is a farming technology which improves and allows for efficient utilization of resources through its integration management of resources available combined with external inputs. Others refer conversation agriculture as zero tillage, conversation tillage, non-tillage and direct planting (Ereinstein, 1999, Fowler & Rockstorm, 2001). The technology erodes enhances reduction in labour required for crop production at an estimate of 50

percent especially for peasant farmers. Agricultural expects argues that conservation agriculture increase yields and this address the issue of food security, it reduces poverty as livelihoods are protected and conserve biodiversity. Conservation agriculture has made agriculture production to be resilient to climate change. Climate change is a long-term change in the statistical distribution of weather patterns over periods of time that range from decades to millions of years. It may be a change in the average weather conditions or a change in the distribution of weather events with respect to an average, for example, greater or fewer extreme weather events. Climate change may be limited to a specific region, or may occur across the whole Earth. The International Panel for Climate Change (IPCC, 2007) defines climate change as a long term change/trend in weather, generally over decades. Long term changes are in the average climate that is the annual average temperature or precipitation or in climate extremes such as the frequency of intense rainfall. Climate change may result from natural factors such as changes in the sun's energy, changes in the natural processes within the climate system such as ocean circulation changes or it can be as a result of human activities that change the atmosphere's setup that includes deforestation and burning of fossil fuels (Reddy, 2015; Cahill et al., 2014).

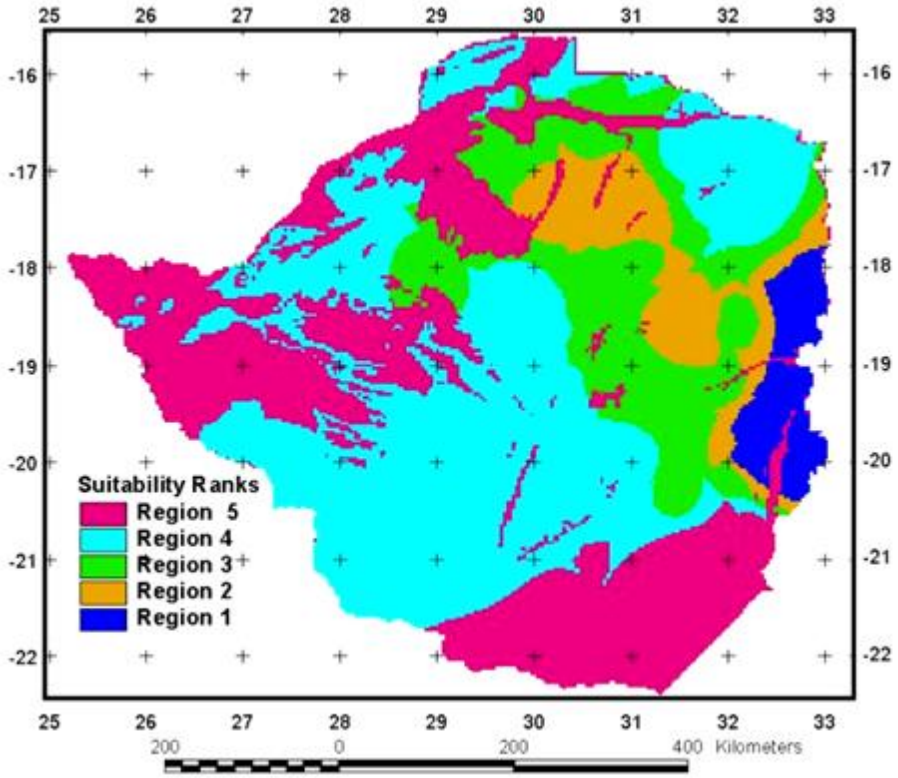
2. Literature Review

History of Conservation Agriculture in Zimbabwe: The origins of Conservation Agriculture (CA) can be traced back to conservation tillage, a farming technique which was developed to respond to the degradation of agricultural production. Conservation tillage was developed to address soil erosion, which was particularly caused by wind and rain. Conservation tillage was applied as a practice within conservation concept of agriculture and in some places it worked well and in some places, the story was different. Henceforth, people started to understand the concept of not tilling the soil using machines, which become a major principal. CA gained its popularity and its main objective changed towards providing a favorable microclimate for soil life by protecting the soil surface from sun, rain and wind as well as providing feed for the soil micro and macro organisms (Friedrich and Kienzle, 2008; Giller et al., 2009). The beginnings of the non-tillage approach in Zimbabwe can be traced back to the establishment of non-ploughing trials of tobacco in the 1920's (Marongwe et al., 2012). It is argued that the Northern Rhodesian government had to introduce non-tillage approach because of land degradation and high cost of diesel and spare parts as a result of the sanctions imposed on them. Zimbabwe gained its independence in 1980, and an estimated 30 percent of commercial farmers had adopted the use of conservation tillage, with the first conservation farming basin being implemented in Musana communal lands by Brain Oldrieve. The implementation of conservation farming in Musana communal lands saw an increase in yields and a reduction in soil erosion which led to the components of reduce tillage and 30 percent mulch retention being promoted to the smallholder farmers (Oldrieve, 1993). In 1988, AGRITEX joined forces with GTZ and implemented a project known as Contill from 1989-1996. The aim of the project was to address the issue of soil loss, water run-off and declining yields. AGRITEX and GTZ developed three tillage methods which was practiced namely mulch ripping, clean ripping and tied ridging. Applying these three principles, CA has been adopted to different provinces and districts in Zimbabwe.

Climate Change in Zimbabwe: One of the biggest threats facing humankind today is climate change. Global development which has being made over the decades has being lost and developing countries are more vulnerable because of their low adaptive capacities. Reports suggest that climate change can increase potential erosion rates which reduce agricultural production by 10% to 20% or even more in some extreme cases (Delgado et al., 2011; Rurinda et al., 2013). Zimbabwe has not been spared to feel the adverse impact of climate change, with families in rural areas suffering more as they depends agro based livelihoods. With a population of sixty seven percent living in rural areas (Zimstat, 2014), Zimbabwe is fighting one of the greatest battle which is climate change. There is a great consensus that climate change is indeed a threat, and it has been recognized and accepted as a reality and it has pose environmental, social, political and economic consequences. The impacts of climate change in Zimbabwe are likely to put on hold the country's development and pose great risk to food security (GoZ, 2013; Dzvimbo, Monga and Mashizha, 2017). Socio-economic activities, human health, water resources and infrastructure have faced negative effects of climate change. Plants and animals many are not able to cope with and adapt to the change in climate and this pose a serious threat to ecosystems (Brown et al., 2012).

Zimbabwe lies in the semi-arid region and usually receives rains between mid-Novembers to April. The country is classified into five agro-ecological regions on the bases of the amount of rainfall received in each region (Vincent and Thomas, 1961; Mugandani et al., 2012). Region I and II receive more rain and agricultural activities decreases form Region I to V. Region IV and V have the lowest rainfall of below 650mm and they are not suitable for crop production but good for livestock production. Records have shown that Zimbabwe's rainfall is on decrease and the country is now characterized with frequent droughts. The timing of rainfall is now uncertain. There is a shift on the onset of rains, increase in the frequency and intensity of heavy rainfall events, increase in the proportion of low rainfall years, decrease in low intensity rainfall events and increase in the frequency and intensity of mid-season dry spells (Unganai, 2009). Temperature is increasing by around 0.1 degrees Celsius (Government of Zimbabwe, 2013). The Zimbabwe Meteorological Service highlighted that daily minimum temperature have risen by 2.6 ^{0}C over the last century while daily maximum temperatures have risen by 2 ^{o}C during the same period. By the year 2050, predictions indicate that temperature will increase by 2.5 degrees Celsius. The country is experiencing more hot days and fewer cold days than before and the annual surface temperature has warmed by about 0.4 C from 1900 to 2000 (Government of Zimbabwe, 2013). During the wet season, daytime temperatures have warmed more than night time temperatures. Zimbabwe's five agro- ecological regions have shifted with rainfall and crop production deteriorating in each region. Areas such Norton and Mhondoro have shifted from region II to region III (Mugandani et al., 2012) while Kwekwe has shifted from region III to IV.

Figure 1: Map of Zimbabwe showing the new Natural Regions



Source: Mugandani et al. (2012)

Conservation Agriculture and its relationship to Climate Change: The agricultural production of farming regions is being affected by climate change throughout the world. Economic Reforms that would help countries negatively affected by climate change could include the introduction of flexible land-use policies and the elimination of subsidies (Tilahun, 2013; Dzvimbo, Monga and Mashizha, 2017). Conservation agriculture is increasingly seen as the best practice to sustainable agriculture. The world is facing serious threats due to unreliable climate conditions hence; CA is a popular concept in rehabilitation response to emergencies caused by climate change induced disasters. Conservation agriculture focuses on soil organic

matter which stabilizes soil and increase water holding capacity. Due to a direct relationship between soil and water conservation practices and maintaining and increasing productivity, research suggests that without the application of best soil and water conservation practices, it will not be possible to maintain the productivity levels that are needed to feed the additional billions of people by 2050 (Delgado et al., 2011). Conservation agriculture is an alternative management strategy which helps farmers to deal with a changing climate and it can allow for an increase in economic returns. Conservation agriculture assist in the adaptation to climate change by improving the resilience of agricultural cropping systems and hence by making them less vulnerable to abnormal climate situations (Friedrich and Kienzle, 2008). The farming method enhances better soil structures, due to minimum soil disturbance, and allow for high rate of water infiltration which reduces flooding. Conservation agriculture can increase the ability of smallholder farmers to adapt to climate change by reducing vulnerability to drought and enriching the local natural resource base on which farm productivity depends (Tilahun, 2013; Pannell et al., 2014). CA increases the level of organic matter within the soil which then improves the water holding capacity which is essential in drought periods. CA minimizes the release of green-house gases and it can retain carbon dioxide and store it for long periods, hence contributing to mitigate climate change.

CA is characterized by three fundamental agro principles namely minimum soil disturbance, mulching and legume- based cropping. Zero tillage is a system in which soil disturbance is reduced to sowing operations and traffic only and where weed control must be achieved by chemical means (Baeumer and Bakermans, 2008). This system enhances crops to be grown periodically with minimum disturbance of the soil, increase the amount of water that infiltrates and enhancing the cycling of nutrients in the soil. Mulching or soil cover is a process of spreading crop residues, dry grass and leaves on the field and it is a fundamental principle of CA. The effects of raindrops are minimized, thus reduce soil erosion and allow water to seep into the soil and reduce water evaporation. Studies which were conducted indicates that mulching moderates soil temperatures and others suggest that in the long run, mulching improve organic matter content and soil nutrients status. Crop rotation, a fundamental principle of CA helps in controlling weeds, diseases and pest by breaking their life cycles through the introduction of a new crop. Crop rotation is the most efficient and economical way to break the biological cycles of pests and diseases, thereby making Conservation Agriculture feasible (FAO, 2012; Ngwira et al., 2012).The mechanism reduces the risk of crop failure in cases of droughts.

3. Methodology

This study is a result of data collection procedures and analysis. The study adopted the use of semi-structured interviews, questionnaires and focus group discussion. Data on climate change scenarios in Mashonaland West Province was obtained from the climatic records of the Zimbabwe Metrological Services Department. The data needed to be extended for a period of twenty-five years in order to be usable. A questionnaire survey was carried out in Alabama to capture the views and perceptions of households on climate change issues and households where selected randomly. Purposive sampling targeting the elderly of 50 years and above was adopted mainly to make significant comparisons with past climate. Interviews with Alabama farmers were conducted, to explore adaptive and mitigation strategies implemented to decrease agriculture's vulnerable to the impacts of climate change. Farmers who are more conservation oriented and early adopters of conservation agriculture were targeted mainly because the research team wanted to learn from people who had some experience and exposure with key conservation practices. There were twenty individuals from Pazvakavambwa Plots, villages 7- 15, village heads, and four representatives from local NGO who were interviewed. One interview using several questions guidelines was conducted by Rodrick Dick, the Director of Community Capacity Building Initiative Centre for Africa (CCBICA) a NGO involved in conservation and implementation in Sanyati District. Three focus group discussions were held to obtain more information on the views of men and women on the impacts of climate change based upon their experiences and possible coping strategies.

Study Area: The work was carried out in Alabama, south east of Kadoma. Alabama is a mining and farming village in the province of Mashonaland West, Zimbabwe. It is located about 20km north of Kadoma. The area has red soil suitable to grow crops such as maize, soya beans, ground nuts and sorghum.

Figure 3: Map Showing Kadoma, Sanyati District

4. Discussion

Here, we present our discussion on how conservation agriculture acts as a buffer to climate change woes with special attention on sustainable rural development in Zimbabwe and taking cognizance of the various excerpts and components of the sustainable livelihoods framework as discussed in Jacobson et al. (1992). Various livelihood outcomes and conservation agriculture principles will be explored inter-alia climate change impacts, capital assets, and institutional arrangements on how to understand economic and agricultural systems, and various academics can dwell on the discourse. In all the study areas there was a general feeling that rainfall pattern has been decreasing during the last 30 years. At village level the concept of "climate change" was associated with weather conditions particularly rainfall unreliability and unpredictable over years rather than actual change.

CA as a buffer to Climate Change: Unpredictable weather patterns, unfertile poor soils and lack of institutional support are some of the factors responsible for affecting smallholder farmers in Sanyati district in Zimbabwe. This is supported by Rurinda et al. (2013) who states that farming of marginal and former commercial lands had declining soil fertility and low productivity levels worsened. In this regards, this study noted that agricultural production in rural areas has is being affected by climate change and that yields have declined. This is concurred by Baker et al. (2007); further argue that impacts of climate change are likely to reduce crop yields by 20 to 30% by 2050 in already marginal cropping regions thereby necessitating a shift from dependence on cropping to livestock as a livelihood option for most poor rural households. It is worth noting that since the year 2000, flooding has flooding has worsened farm productivity thereby increasing the vulnerability of smallholder farmers to both extreme rainfall patterns. This study revealed that floods and wild fires damage various infrastructures such as roads and bridges further compounding transportation problems of agricultural inputs, equipment and personnel to remote areas. Poor extension services provision, poorly organized farmers' organizations, poor means of transport, and insufficient housing for extension workers in the district also aggravate the vulnerability problem. Furthermore, farmers operate in inefficient product and credit markets characterized by highly distorted prices of both inputs and produce.

Coping with Climate Change in Sanyati District: In hot, dry Sanyati district, droughts are and community members highlighted that climate in the area is becoming drier with shorter growing seasons punctuated by mid-season dry spells. The study noted that rivers, streams, ponds and wetlands are drying up and pest populations are increasing. Locals have noted changes through their study on the behaviour of migratory

birds (mashuramurove) and the flowering pattern of certain trees that they use to predict droughts and floods. This is supported by Icrisat (2013) who argues that indigenous knowledge system is used marginal communities to prepare and adapt to the changing climate. This study argues that short-term coping practices and long-term adaptive strategies based on indigenous knowledge are being adopted. These include social safety nets such as "the chief's granary" (Zunde raMambo) whereby the general community contributes to a grain store to help needy families during times of hard-ship. In addition nhimbe, or collective work, is carried out by community members.

Drought-coping measures: Community members interviewed revealed that wild fruit harvesting and dry planting before the rains have started are some of coping strategies they practise. Wild fruits that community members harvest includes mauyu, matamba and tsvubvu . It is worth noting that mauyu are used to prepare porridge to fed family members. The study noted that CA is highly adopted and households that were interviewed argues that the process increases productivity through higher crops yields. Households that adopt CA depend less on food aid and drought resilience. This is concurred by Twomlow et al. (2008) who reported that CA increase yields of up to 3.5 tonnes per hectare. CA technology is adopted as an insurance against drought as many families believe that the practise guarantees some level of yields even during years of drought.

Flood-coping measures: Traditional flood-proof building designs, temporary migration and dual-season cropping. Indigenous adaptation strategies can be used effectively in conjunction with conventional strategies through the participation of local community member.

Figure 4: Practicing of Conservation Agriculture

Source: ICRISAT

Drought Resistant Cropping: In line with the findings from this study through interviews, the immediate obtainable climate change strategy is drought cropping. Brown et al. (2012) puts forward that climate change will result in certain agro- ecological regions in Zimbabwe becoming unsuitable for maize production by 2050, as mean temperatures would have increased to 20 to 25 degrees Celsius and annual rainfall would have fallen to less than 450mm. Hence, with the bulk of communal farmers being in the low potential areas of agro-ecological regions IV and V, with limited irrigation potential and in field water harvesting techniques having varied results, drought resistant cropping is the most workable solution. More so, drought cropping is the quickest and most practical mechanism available to communal farmers mainly because it has the potential to alleviate food insecurity and poverty in the face of climate variability.

Planting small-grains: The study conducted interviews and FGD on 20 smallholder farmers who showed that communities are able to apply improvisation, experimentation and indigenous knowledge in small grains production as they have been doing for centuries. The communal farmers indicated that they have realised several advantages of small grains cropping over maize production. Small grains require minimal fertiliser, crop rotation and farmers can use open pollinated seeds and yield a reasonable harvest. Small grain crops are

more resistant to pests and diseases, and when harvested, require less chemical treatment for storage (Ngwira et al., 2012).

Constraints and Challenges of CA implementation: Conservation agriculture has been successful in communities with fertile soils but its performance on poor degraded soils in Southern Africa remains unclear. As argued by Giller et al. (2009) the plough has become a symbol of agriculture such that many people involved including, farmers, extension agents, researchers, university professors and politicians find it difficult to believe that agriculture can be possible without tillage. Moreover, this study concludes that there is scepticism linked to the risk adverse disposition of the farmers leading to the reluctance in adopting revolutionary technologies attempting to change the paradigm of farmers. It is difficult to realize a paradigm shift especially on long established practices. The researchers of this study noted that success of CA depends on its ability to transform mindset of smallholder farmers and perceptions on how CA can lead to desired livelihood outcomes. As supported by Giller et al. (2009) the top-down approach in technology transfer is another constraint leading to questions whether CA addresses the needs of farmers, scientists or policymakers. Interventions and approaches to technology dissemination is failing due to lack of ownership by smallholder farmers. The demise of externally driven interventions is well documented and the introduction of CA in Southern Africa could face a similar fate.

Hobbs (2007) concurred as he states that constraints directly relate to the principles of CA, particularly the permanent soil cover with crop residues for moisture retention, increased soil biological activity and better protection of the soil. This study observed that farmers in Sanyati District collect crop residues and use them as stock feed not to cover the soil. Against this background, crop residues are removed by livestock that roam freely in the fields after harvesting. Hence, farmers are forced to face their fields such that they are able to keep crop residues and provide permanent soil cover. It is worth noting that some crop residues are decomposed by ants such that by the time the cropping season begins there will be no residues left in the field. Social harmony and justice seen as part of the social benefits of CA may be an anathema whose solution requires the involvement of all farmers. The shortage or late arrival of inputs, inexperienced personnel and inadequate access to government extension services is a common problem faced by smallholder farmers as supported by (Korstanje & Cuenya, 2010). This paper argues that in remote communities, government agricultural extension services are unknown and have never visited some areas due to resource limitations. In some instances where extension services are provided, extension workers look at their involvement in the CA projects as extra work for which they should be remunerated separately. Since CA is a knowledge intensive technology, it would be difficult to successfully promote this technology without the help of well-trained and experienced extension workers. More to the above, small holder farmers faces financial constrains as they lack collateral to use and borrow from financial institutions. It is against this background that access to finance is a serious constraint to the implementation of CA by the targeted group of smallholder farmers in the region.

5. Conclusion and Recommendations

The study has shown that unpredictable weather patterns and lack of institutional support are determining factors responsible for affecting smallholder farmers in Sanyati District. This suggests that agricultural production is impacted by climate change and lack of institutional support has added more consequences on household livelihoods. Available evidence shows that conservation agriculture is a farming technique/ technology which reduce the negative impact of climate change. CA address the problem of low rainfall as it complement the use of technologies that reduces water losses and increase the soil moisture holding capacity. However, the adoption of CA is facing challenges. Smallholder farmers are reluctant to abandon the use of ploughs and some find it difficult to believe that agriculture can yield fruits without tilling the land.
This study raises the following policy implications:

- There is need for more information, education, trainings and communication strategy on the adaptation of CA and its impact on climate change.
- The Public and Private sector should building capacity of rural communication for adaptation and provide resources for them to participate in climate change adaptation activities with youths at the center of the process. More to the above, there is need to incorporate the use of Indigenous knowledge system in the climate change governance framework.

- Reducing the length of the different phases in the adoption of CA could accelerate the realization of livelihood outcomes.
- It is vital to implement agricultural policies that put sustainable agriculture at the center, with appropriate donor and government support, incentives and institutional reform for effective transformation of farmers' productivity (Dzvimbo et al., 2017).
- Climate change communication provides additional climatic information that would enable farmers relate to conservation CA as an adaptation strategy.
- The implementation of CA should acknowledge and address the existing economic and ecological constraints facing farmers. Thus, smallholder farmers should be given an opportunity to adapt CA to their local conditions, experimenting with several components to assess what aspects of CA are suitable for them, how and when.

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Nuclear Proliferation Deterrence: Bullying vs Diplomacy

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Abstract: The article examines the plausibility of using sanctions as an instrument that can deter nuclear proliferation. Sanctions have been a favored policy tool in the arsenal of the international community, when it comes to issues relating to deterring nuclear proliferation. The adoptions of sanctions as a policy instrument that can quench the nuclear ambition of states and/or regimes are based on two main assumptions. First, it is believed that they add cost to the regime aspiring to acquire nuclear weapons, by limiting the regime's access to finance and thus discourage it from furthering its nuclear ambition. Second, it is believed that the impact of sanctions on the welfare and well-being of the citizens of a targeted regime will prompt the citizens to rebel against the regime and perhaps force it to comply with the demands of the sanctions imposing party. This article however, took a dissimilar view and argues that sanctions as a single policy tool cannot check nuclear proliferation. At best they can be used to express discontent or signal displeasure to a regime with nuclear ambition. The article concludes that diplomacy devoid of rapacity is and will remain the plausible mechanism to deter nuclear proliferation.

Keyword: *Deterrence, Diplomacy, Nuclear Proliferation, Policy Tool, Sanctions*

1. Introduction

The treaty on the Non-Proliferation of Nuclear Weapons, commonly known as the Non-Proliferation Treaty (NPT), entered into force in 1970 (Sokolski, 2010: 26). Since then, economic sanctions have been favored by the international community as a tool that can deter nuclear proliferation. Consequently, economic sanctions have been deployed against countries aspiring to acquire nuclear weapons. According to the United States (U.S.) State Department, the reason for employing economic sanctions as a deterring measure to regimes/countries aspiring to develop nuclear weapon is mainly to weaken and/or cripple the targeted regime's economic capability and thus forestall its nuclear ambition. The logic here is that developing nuclear weapon requires huge amount of capital, therefore, economic sanctions can potentially yield positive results by substantially and/or effectively curtail the amount of capital available to the target regime, thereby making it difficult for the regime to continue with its nuclear program and/or policy. The above argument seems reasonable and forthright; however the use of economic sanctions as a mechanism to stop and/or deter a country from acquiring nuclear weapon have had varying degrees of impact depending on the underlying economic and political conditions in the target country.

The belief or argument favoring the use of sanctions is that a change in the nuclear ambition of a targeted regime would be beneficial to the international community in terms of maintaining international peace and security. In this regard, sanctions are perceived as a means to some good end, in that though they may be ruthless to the population of a targeted regime, they aim to force the offending regime to comply with acceptable standards of behavior that the sender of sanctions perceives to be useful. In light of the above, the article examines the use of sanctions, which is also considered as bullying in place of diplomacy for the purpose of deterring nuclear proliferation. In doing so, it reviews the NPT as well as examines selected cases of nuclear proliferation where economic coercion/bullying where employed as deterrence. It concludes that bullying/economic coercion is not a plausible approach towards nuclear deterrence; as well, it cannot serve as alternative to diplomacy. Accordingly, the study proffers new insight on how to overhaul nuclear diplomacy and how same could be used by the international community to address North Korea's nuclear ambition, which seems to be the greatest nuclear threat to our contemporary world. The study proposes a shift from the use of conventional state diplomats to the engagement of 'alternative or non-conventional diplomacy', one that will incorporate renowned scholars, peace practitioners, artists and sports legends in negotiating North Korea's nuclear ambition. For the sake of clarity, the word economic sanctions, economic coercion and economic bullying were used interchangeably in this article.

The Nuclear Non-Proliferation Treaty (NPT): On 6 August 1945, during World War II, the United States deployed the world first atomic bomb over the Japanese cities of Hiroshima and Nagasaki. The bomb resulted in the death of approximately 170,000 people in both Hiroshima and Nagasaki (Lindee, 1994; Khan, 2012). Then in the 1960's, there was a prediction by presidents, prime ministers, and arms-control analysts that about 25 to 30 countries would possess nuclear weapons by the end of 20th century (Kaplan, 2005). Consequent upon the prediction, the world was petrified by an impending devastation from nuclear weapon proliferation. Therefore, a strategy to impede a potential nuclear disaster was hatched and thus gave birth to the NPT. In 1968, the United Nations drafted the NPT and states were obliged to sign and be part of the treaty in order to promote peaceful nuclear use. Presently, the NPT has been ratified by 189 countries. Prior to the NPT, there were five nuclear weapon states: China, France, the United Kingdom, the United States, and the Union of Soviet Socialist Republics (Alonso, 2012: 424). It is believed that since the initial signing of the NPT, India, Israel, and Pakistan have developed nuclear weapons, while North Korea is believed to have developed a nuclear explosive capability (Joyner, 2011). Among these four countries that later developed nuclear weapons and/or capability, India, Israel, and Pakistan were not signatory to the NPT, while North Korea ratified the treaty but later withdrew from the agreement.

Overall, the NPT has three main clauses. First, states seeking to be part of the treaty would agree to promote and also make efforts towards non-proliferation. That is to say, nuclear weapon states would agree not to transfer nuclear weapon devices or technology to non-nuclear weapon states. Besides, nuclear weapon states have to consent not to assist, influence, encourage, coerce or induce a non-nuclear weapon states to acquire nuclear weapon. The second main clause has to do with disarmament. The treaty requires consenting states to disarm and liquidate existing nuclear weapons and make efforts towards discouraging nuclear arms race. This implies that countries that already possess nuclear weapon or nuclear capability are required to destroy or get rid of their weapons. In essence, the NPT forbids both nuclear weapon proliferation and nuclear weapon safeguard. The third main clause in the agreement is the permission given to states to explore nuclear technology solely for peaceful purposes. By implication, nuclear technology can be exchanged, transferred or even traded between states as long as it is indicated that the technology will be used in a peaceful manner. This clause seems to be the biggest challenge in interpreting as well as implementing the NPT. This is because countries with nuclear ambition often claim that they are doing so for peaceful purposes as permitted by the NPT.

Another challenge facing the NPT is the lack of interest by the initial five nuclear weapon states to adhere to the recommendation of the treaty, by relinquishing their nuclear weapons. One may argue that the apparent expression of interest by these countries to keep and/or safeguard their nuclear weapons has sparked the interest of other countries that aspire to acquire their own nuclear capability. For example, the government of India while challenging the NPT argues that: "it is unfair for already nuclear nations to impose limiting sanctions on nuclear weapon development while they observe no signs of disarmament and liquidation of nuclear stockpiles from the nuclear states" (Khan, 2012). Therefore, the lack of political will among the original nuclear weapon states to relinquish their weapons is a factor that may propel other states to pursue a nuclear program, with the intention to achieve balance of power.

3. Methodology

The study employed the content analysis research method. The reason for adopting this method is primarily because the study is a qualitative research that relied heavily on documentary evidence in data collection. Therefore, the content analysis approach and secondary sources of data became imperative.

Cases of nuclear deterrence using sanctions: In different occasions, economic sanctions have been imposed with the aim to halt nuclear proliferation. Cases abound where sanctions and threat of sanctions have been used particularly by the United States to forestall nuclear ambitions. Although it is difficult to analyze the impact and/or degree of contribution made by sanctions in each case, in terms of delaying a nuclear program or persuading a government to abandon its nuclear policy, however, Hufbauer, Schott, Elliott and Oegg (2007) argue that sanctions have been successfully used to curb nuclear proliferation, though not in all cases where they were employed. In view of the above, this section of the article examines selected cases of nuclear deterrence using sanctions.

India: On gaining independence from Britain in 1948, India became a vocal voice against nuclear proliferation, despite not being a party to the Nuclear Non-Proliferation Treaty. The country challenged the use of nuclear weapons and made statements discouraging other states from engaging in a nuclear arms race. In 1948, the country's spiritual leader Mohandas Karamchand Gandhi denounced nuclear proliferation when he made the following statement: "I regard the employment of the atom bomb for the wholesale destruction of men, women and children as the most diabolical use of science" (Veeravalli, 2014: 95). Gandhi's statement was viewed as one of the harshest criticisms of nuclear technology in that time. However, in 1955, India started a nuclear program with the aim of providing cheap electricity to its growing population. The initial stage of the program was facilitated by the U.S. and Britain, until the 1960's when the country's nuclear ambition changed from a "peaceful" nuclear program to the production of nuclear bomb.

It was suggested that the change in India's nuclear ambition was influenced by a number of factors, but mainly because of the presumed threat from Pakistan and China. As of 1974, India managed to develop and successfully launched its first nuclear test (Charnysh, 2009: 2) and in 1983, it launched an Integrated Guided Missile Program (IGMP). Shortly after that and precisely in 1989, it successfully tested both short and medium range missiles. Consequently, the U.S. and fourteen other Western countries including Japan, Australia, Canada, Germany, Denmark, and Sweden deployed economic coercion (sanctions) against India for unlawful nuclear activities (Morrow and Carriere, 1999: 5). Western sanctions focused on cancellation of aid to India. Japan cancelled development aid to India valued at $30 million as well as loans worth $1.2 billion. Germany on her part, suspended bilateral aid negotiation with India and cancelled development aid worth $168 million. Also Denmark cancelled its aid to India worth $28 million while Sweden cancelled $119 million worth of aid. Furthermore, Canada and Australia suspended their aid valued at $9.8 million and $2.6 million respectively (Morrow and Carriere, 1999: 5). In addition, the World Bank and G-8 countries joined the sanctions and revoke non-humanitarian lending agreement with India. Remarkably, India defied the odds of sanctions and went ahead to produce a nuclear weapon. In 2012, the Federation of American Scientists reported that India has developed between 80 and 100 nuclear warheads (Raj, 2015).

Pakistan: Pakistan's nuclear ambition started around 1952 and in 1955, the country participated in the U.S. Atoms for Peace program (Weiss, 2003: 34). Initially, it was believed that Pakistan was seeking civilian nuclear capabilities, prompting a nuclear cooperation agreement to be signed between Washington and Islamabad, under which the later was offered $350,000 in aid to facilitate its supposedly peaceful nuclear program (Charnysh, 2009: 1). However in 1974, Pakistan's nuclear program veered from civilian purpose to military nuclear aspiration. Different reasons were identified for this change and among them are: First, it is believed that Pakistan was threatened by India's development and testing of nuclear bomb in 1974. Second, Pakistani leaders believes that having nuclear weapons will earn them the respect associated with being a member of the nuclear club. In late 1974, a CIA report indicated that Pakistan may be able to produce nuclear bomb within 10 years if nothing is done to sabotage Islamabad's nuclear program. Consequently, the U.S. Congress adopted economic bullying as a remedy to Pakistan's nuclear ambition. In doing so, Congress passed the Pressler Amendment, cancelling all U.S. foreign aid to Pakistan until a time when it had denounced its nuclear weapon program.

Apart from the U.S., the UN joined the sanctions against Pakistan and in 1979 it suspended its military and economic aid to Islamabad (Charnysh, 2009: 2). The international community had believed that suspending aid to Pakistan will increase financial cost to the regime and thus force it to discontinue with its nuclear ambition. This overtly lorded assumption did not yield the expected result; instead U.S. intelligent report in 1990 confirmed that Pakistan was actually making progress in developing nuclear bomb. Reacting to the report, Washington slammed Pakistan with sanctions and all economic and military aid from Washington to Islamabad was effectively cancelled. Despite array of sanctions being put in place against Pakistan, in May 1998 it conducted successfully nuclear tests and stamped its name on the list of nuclear weapon states. It is estimated that Pakistan has about 60 nuclear warheads (Norris and Kristensen, 2007: 71) and the country continues to expand its nuclear weapons arsenal.

Iran: In February 2003, the National Council of Resistance on Iran revealed that it has launched a nuclear program in a site near Natanz and Arak, claiming that it was using the technology for peaceful purposes. Consequently, the UN nuclear monitoring body, the International Atomic Energy Agency (IAEA), was

mandated to inspect the facility and make recommendation based on the NPT agreement. In 2005, the IAEA inspector's reported that "it could not confirm that Iran was not pursuing undeclared nuclear activities" (Toumaj, 2015: 1). In effect, the report did not prove that Iran was pursuing a nuclear weapon neither did it disprove it. However, scholars such as Hufbauer, Schott, Elliott and Oegg (2007: 233), posits that Iran has reasons why the regime would want to aspire to acquire nuclear weapons. First, it is believed that Iran considers a nuclear armed Israel as a deadly threat to its existence. Second, Iranian leaders believe that acquiring nuclear weapon, will increase the country's influence in the region and position it as a very important player in international affairs. On 31 July 2006, the Security Council adopted Resolution 1696 mandating Iran to suspend all uranium enrichment programs by 31 August 2006 - a request that was rejected by Tehran. In light of Iran's defiance to UN directives, on 23 December 2006, Council adopted resolution 1737 and imposed economic sanctions against Iran. The sanctions contained in Resolution 1737 were in twofold. First, it prohibited the supply of sensitive nuclear materials and technology to Iran. Second, it froze the assets of individuals and entities that were believed to be facilitating Iran's uranium enrichment activities. Subsequently, the Security Council adopted Resolution 1747 on 24 March 2007, Resolution 1803 on 3 March 2008 and Resolution 1929 on 9 June 2010, with all of them imposing different categories of sanctions on different sectors of Iran's economy, including entities and individuals believed to be supporting Iran's nuclear program (Davenport, 2015).

However, prior to UN sanctions, the U.S. has imposed different sets of economic sanctions against Iran, which focused intently on compelling Tehran to abandon its nuclear program or even to limit the scope of its nuclear activities to a level that may be considered "peaceful" to the international community. On 8 April 1992, the U.S. Congress believing that Iran was aspiring to produce nuclear bomb adopted the Iran-Iraq Arms Non-proliferation Act (IIANA) and imposed sanctions against Tehran. IIANA seeks to sanction entities that provide support for Iran's nuclear technology or any form of assistance that will facilitate the country's nuclear ambition. Thereafter, the U.S. imposed numerous other sanctions against Tehran, mainly through Presidential Executive Order. In 1995, President Bill Clinton issued Executive Order 12957 and declared Iran an "extraordinary national security threat" and called for national emergency to deal with it (Kattan, 2013). Accordingly, the President of the United States is permitted at all times to regulate trade with countries considered as "extraordinary threat." Thereupon, the president issued Executive Order 12959 on 6 May 1995, placing a comprehensive ban on U.S. trade with, and investment in Iran, with exclusion of food and medicine. Several other sanctions by the President and Congress followed. For example, Congress passed Iran Foreign Oil Sanctions Act, Iran and Libya Sanctions Act (ILSA) and Iran Missile Proliferation Sanctions and imposed different degrees of economic restrictions on Iran, while the President issued Executive Order 1305, which prevents U.S. companies from exporting goods to a third country that will eventually re-export them to Iran. These are just a highlight of the many U.S. sanctions against Iran's nuclear program.

Besides the UN and the U.S., the EU also imposed sanctions against Iran for the same purpose of deterring it from acquiring nuclear weapon. In July 2010, the EU imposed economic sanctions against Iran's energy and financial sector, banning the import of crude oil and blacklisted most of Iranian banks (Tabrizi and Santini, 2012: 2). Thus, Iran became the first country the EU sanctioned on issue relating to nuclear proliferation. According to the EU, the objective of implementing punitive measures against Iran is to persuade Tehran to comply with its international obligations and to hinder its development of sensitive technologies that will facilitate its nuclear and missile programs (ibid). In 2011, the EU imposed another set of sanctions against a number of Iranian officials for their alleged involvement in human rights violation. Those listed were banned from entry into the EU territory while their assets within the EU were seized. Then in March 2012, the EU adopted a decision and banned provision of financial communication services to exchange data with the Central Bank of Iran and some other banks in the country (EU Council Decision 2012/152/CFSP). Acting on EU Council decision, the world's biggest electronic payment system, Society for Worldwide Interbank Financial Telecommunication (SWIFT) halted its services to Iranian banks (Norman, 2012). SWIFT's action against Iran yielded the most hurting impact on Iran's economy. Foreign transfers from and to Iran were effectively blocked. Payment for exports from Iran and imports to Iran became impossible, creating cash trap for the government. Then, in the later part of 2012, the EU adopted additional sanctions against Iran. This time the Union imposed a total ban on the importation of Iranian natural gas into the EU (Buonanno; Cuglesan and Henderson, 2015: 53), as well as a ban on the export of certain sensitive materials such as metal, shipbuilding technology and oil storage facilities to Iran. In essence, the EU sanctions against Iran

compliments the U.S. unilateral and the UN comprehensive economic sanctions against the country, which aims at sabotaging Tehran's nuclear program by denying the economy access to foreign finances and support. Nevertheless, sanctions were unable to achieve its goal, as Iran's nuclear program progressed albeit pressure from sanctions until a diplomatic agreement was reached between Iran and the P5+1 (China, France, Russia, the United Kingdom, and the United States; plus Germany) to halt the former's nuclear activities. Apparently, diplomacy proved to be a better alternative to bullying in this very case.

North Korea: North Korea, a backslide member of the NPT started its nuclear technology around 1956, when the Soviets started training North Korean scientists on basic knowledge on how to initiate a nuclear program (Bolton, 2012). Then in 1962, North Korea established the Yongbyon Nuclear Scientific Research Center, marking the beginning of its nuclear program. Some observers argue that North Korea's nuclear ambition was propelled by the U.S. deployment of a nuclear armed Honest John missiles and 280 mm atomic cannons to South Korea in 1958. It is believed that Pyongyang assumed that Washington was arming its neighbor (South Korea) for an imminent confrontation against it. Thus, North Korean leaders were convinced that acquiring a nuclear weapon is the only option that will guarantee the country's existence and safety. The U.S. however, withdrew its nuclear weapons from South Korea in December 1991, but North Korea continued with its nuclear program, which indicates that Pyongyang's nuclear ambition was not precipitated by fear of U.S. nuclear arsenal housed in South Korea; instead it shows that Pyongyang has a grand plan to acquire nuclear weapons and be part of the nuclear club. In January 1994, the CIA reported that North Korea may have produced one or two nuclear weapons. Consequently, the UN resorted to use economic sanctions against North Korea but the resolution failed to pass due to China's objection to the proposed sanctions against Pyongyang. Then in 2002, the UN World Food Program, significantly reduced its food aid to North Korea which affected about 3 million people.

In 2003, North Korea withdrew its membership of the NPT and between July and October 2006; it carried out series of nuclear tests. Consequently, the Security Council unanimously adopted a resolution and imposed both diplomatic and economic sanctions against North Korea. In total, the UN has adopted 16 resolutions in relation to the North Korean missile and nuclear program. Out of the 16 resolutions, 7 imposed different types and degrees of sanctions on North Korea. Security Council Resolution 1695 of 15 July 2006 and Resolution 1718 of 14 October 2006 imposed economic sanctions against North Korea for conducting a ballistic missiles test. Also Council Resolution 2094 of 7 March 2013, imposed sanctions against Pyongyang after its 2013 nuclear test. Similarly, Resolution 2270 of 2 March 2016, imposed further sanctions on North Korea after it conducted a nuclear and missile test in September 2016 (Davenport, 2016). In addition, Resolution 2270 prohibited all weapons trade with North Korea and bans the import of luxury goods from the country. Resolution 2321 of 30 November 2016 was adopted to strengthen previous sanctions against North Korea after its 9 September 2016 nuclear test. On 3 June 2017, Council ones again unanimously passed Resolution 2356 with new sanctions against North Korea after the regime launched its ninth ballistic missile test of the year.

Besides the UN, the United States and the EU also imposed different categories and degrees of sanctions against North Korea in an attempt to coerce the later to forgo its nuclear program. EU sanctions against North Korea include ban on the export of aviation and rocket fuel to North Korea, ban on the trade in gold, precious metals and diamonds with the North Korean government; ban on the exports of luxury goods to North Korea; restrictions on financial support for trade with North Korea; restrictions on investment and financial activities by EU citizens and entities with North Korea and prohibition of certain North Korean individuals from entering the EU (Fifield, 2016). Similarly, U.S. sanctions, which were mainly through Presidential Executive Order include, Executive Order 13466 of 26 June 2008 that places restrictions with respect to North Korea and North Korean Nationals; Executive Order 13551 of 30 August 2010, freezing the property of certain persons with respect to North Korea. Executive Order 13570 of 18 April 2011, prohibiting certain transactions with respect to North Korea and Executive Order 13722 of 16 March 2016, blocking property of the government of North Korea and the Workers' Party of Korea, and prohibiting certain transactions with respect to North Korea (U.S. Department of Treasury, 2017). In essence, sanctions have been a popular policy towards North Korea's nuclear ambition. However, Pyongyang has managed to develop and launch costly nuclear and ballistic missile test, despite being under the most draconian and one of the most widely-endorsed sanctions under the sun for decades.

4. Analysis and Results

Sanctions have always been available in the menu of the international community in almost all cases relating to deterring nuclear proliferation. As a result, the rational question to ask is: have sanctions been able and are they still capable of achieving their set goals, in-terms of persuading targeted regimes to forgo their nuclear ambition? The cases examined above show that the degree of successes in using sanctions as a mechanism to forestall nuclear proliferation is dicey. A major argument by proponents of sanctions is that they fail because their implementation is often inconsistent - that is to say that they are either not tough enough to produce desired result or they are often sabotaged. Whilst the argument is reasonable, the issue is that the inconsistencies in implementation are frequent and almost evident in every sanctions episode that has to do with deterring nuclear proliferation. This article therefore, suggests that sanctions and/or economic bullying is not a reliable policy tool that can curtail a regime's nuclear appetite. Clearly, sanctions failed to stop Pakistan, India, Iran and North Korea from aspiring or acquiring nuclear weapon. It thus, challenges the notion that sanctions as a single policy tool has the capacity to deter nuclear proliferation. In the case of Iran, numerous sanctions by the U.S., the EU and the UN could not roll back Iran's nuclear ambition. Evidently, years of economic bullying were unable to reverse Tehran's nuclear policy, which diplomacy was able to accomplish in a short period of time. The nuclear agreement between Iran and the P5+1 on 14 July 2015, serves as a strong evidence and indication that diplomacy is and will remain the practical and most reliable solution to nuclear proliferation. As noted by the EU Foreign Policy Chief, Federica Mogherini, Iran's nuclear agreement shows that "diplomacy, coordination and corporation can overcome decades of conflicts" (Aljazeera, 2015). While President Obama reacted to the nuclear agreement by saying that: "diplomacy has achieved what decades of animosity could not achieve." He added that the nuclear deal "shows that diplomacy can bring real and meaningful change" (Gordon and Sanger, 2015).

Apart from Iran, North Korea's nuclear program poses the greatest challenge to world peace and security. According to the U.S. Secretary of Defense James Mattis, North Korea is a "clear and present danger" (Burns, 2017). Pyongyang has carried out a number of missile tests this year putting the region on edge and leaving the international community dismayed. The question now is: what could save the world from a nuclear armed North Korea? Just like Iran, the international community should betray their ego and re-engage North Korea diplomatically. Although previous talks did not yield desired goal and presently it appears to be difficult to engage North Korea in a dialogue, however, a statement made by the country's former leader Kim Jong II in 2005, when he was quoted as saying that "the country (North Korea) will return to talks if the U.S. shows 'trustworthy sincerity" (Winder, 2005: 2) indicates that diplomacy is still a viable option. It shows that there is hope for a peaceful negotiation should the parties prove to each other that negotiation will be devoid of rapacity. In light of the above, the rhetoric's by Washington (Trump's administration) of possible use of force against Pyongyang should be channeled towards alternative options, of which diplomatic engagement is the most expedient. The international community should tap into the gains of Iran's nuclear agreement and forge a negotiation team that will re-engage North Korea in a dialogue. In that case, re-engaging North Korea should not be an issue between an individual state and North Korea, let say between Washington and Pyongyang or between Beijing and Pyongyang; instead it should include a coalition of states, particularly states that share business and diplomatic ties with North Korea and those with prior experience in nuclear negotiation. A negotiation team that include the United States, the United Kingdom, Iran, China, Russia and any other country(s) could deal with Pyongyang and Kim Jong-un's obscene appetite to be part of the nuclear club. However, the international community should not rely solely on the use of conventional state diplomats, reason being that the position of state diplomats are often influenced by their national interest and state policies. Consequently, the suggested diplomatic engagement of North Korea should incorporate 'alternative or non-conventional' diplomats that will include selected statesmen, renowned, scholars, artists and sports legends. Doing so, will add a new twist to the diplomatic approach towards North Korea's nuclear program and it will potentially curtail Pyongyang's nuclear threat to world peace, instead of reeling out more sanctions.

Giving the fact that economic bullying have being in place for more than two decades without achieving set goal, it is therefore evidently inapposite to rely on sanctions, no-matter how cruel they are as a single measure that can reverse Pyongyang's nuclear ambition. On the other hand, the use of force will produce an unpredictable outcome; hence it is not a conceivable option. One of the assumptions when adopting economic

sanctions is that the hardship arising from the measure will instigate citizens to revolt against their leaders and possibly persuade them to adhere to the demands of the party imposing sanctions. However, this is not always the case because regimes with nuclear ambition are often insensitive to the plight and suffering of their citizens. Also, they are hyper-sensitive to opposition and as such will do anytime to crush contrary opinion and popular opposition. This is not to deny the fact that sanctions can make some contribution in deterring nuclear ambition. For example, in the case of Iran, it is believed that sanctions played a role in forcing the country to the negotiation table. However, the cases reviewed above shows that sanctions are not a reliable policy tool that can achieve nuclear deterrence on its own. Sanctions may be used for the purpose of signaling displeasure to a country aspiring to acquire nuclear weapon; however diplomacy (selfless negotiation and dialogue) is and will remain the plausible policy tool when the ultimate goal is to forestall the nuclear ambition of a state.

5. Conclusion and Recommendations

The incessant use of sanctions for the purpose of deterring nuclear proliferation raises questions of how polities and international entities address various incompatibilities. Obviously, any attempt to get the world free from a potential nuclear danger should be welcomed at least in the interest of humanity. Nonetheless, the question is: have sanctions been able to achieve this goal? The current situation with Iran and North Korea proves that instead of achieving compliance to demands, sanctions are in fact instigating provocations and add to the tension in world affairs. Contrary to sanctions, diplomacy seems to be the solution to nuclear proliferation and global peace and security. Diplomacy in our case should mean an inclusive, committed and continuous dialogue, devoid of vested interest, where negotiators must understand the need to be fair and transparent, while being wholly committed to peace during the entire negotiation process.

Suggestions: Based on the conclusions of this study, it puts forward the following recommendations:

- The international community should overhaul its nuclear diplomacy and strategy to include non-state actors, such as representatives of major civil society groups, renowned scholars, artists and sports legends. In the case of North Korea's nuclear program, it is evident that there is lack of trust among state parties, therefore, the involvement of non-state actors/diplomats will renew trust and confidence among negotiators as well, it will foster neutral opinion and inputs to the negotiation and dialogue process. Most importantly, it will eliminate the issue of preconditions for negotiation, which has become one of the biggest challenges to world diplomacy.
- Although North Korean has constantly defiled orders by the international community instructing it to freeze its nuclear program, the fact remain that North Korean nuclear ambition could be propelled by the U.S. activities and unwarranted military presence in the Korean Peninsula. First, the U.S. holds a “pre-emptive first strike” policy toward North Korea, and has stationed an armed drone on the Korean Peninsula, which threatens Pyongyang. Second, the U.S. has more than 80 military bases in South Korea and every year in March and August, it conducts a joint war game with South Korea that includes dropping mock nuclear bombs on North Korea, thus frightening North Korea and escalating the tension in region. Therefore, to restore confidence and convince North Korean leader Kim Jong-un that what happened to Muammar Gaddafi and Saddam Hussein will not repeat itself should he forgo his nuclear program, the U.S. must work to deescalate the tension in the Korean Peninsula by reducing its military presence and activities in the region. Washington should consider a freeze for a freeze proposal made by China, where North Korea will freeze its missile and nuclear tests in exchange for a halt on U.S.-South Korean war games. A consideration of the aforesaid will proffer an enabling environment for in-depth dialogue and the disarmament of North Korea.

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