Economic Development Models of Emerging Countries

The South African Firm-NPO-Recipient Economic Development Model

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Abstract: This paper provides a review of the firm-NPO- recipient model that helps develop the economy of South Africa highlighting the regulatory environment of South Africa which encourages many firms to use their corporate social responsibility (CSR) efforts to develop national skills and infrastructure. In South Africa, an often chosen vehicle for delivery of CSR, is a nonprofit intermediary organisation (an NPO). NPOs play an important transitional management role in mutual value creation linking firms to CSR recipient communities. NPOs are each a specialist in a specific skill or community infrastructure delivery requirement, additionally acting to highlight community needs for a CSR intervention, to firms. Notwithstanding the contribution of NPOs to many developing African countries economies, studies as to what criteria in their working environment facilitate the NPOs to do their work as intermediaries, is limited especially for South Africa. This paper reviews the legislative contextual environment of NPOs in relationships for CSR delivery with business firms in South Africa highlighting how this enables both the nonprofit NPO and profit driven firm, to participate in the economic development of South Africa.

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1. Introduction

In South Africa a large portion of the corporate social responsibility (CSR) activities are implemented by a firm giving their CSR funding to a nonprofit

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organisation (NPO) who then delivers the CSR project to the recipient individual/community. The firm and NPO work together as CSR project managers during the CSR implementation. At that same time the NPO and community/ individual work together. So NPOs play multiple roles dependent on the CSR project type often acting as community catalysts, community partners and, project implementation agents for disbursement of the firm's resources (Lichtenstein, Drumwright & Braig, 2004). Firms realize that the challenges of succeeding in profit driven activities differentiating themselves from similar others can be attained with a CSR business strategy that improves, protects and enhances the communities within which they operate (Feiock & Andrew, 2006; Penn & Thomas, 2017). This is because the social capital this type of strategy generates becomes an intangible resource from communication and trust networks built between the communities and firm (Kendall & Knapp, 2000; Chenhall, Hall & Smith, 2010) obviating the firm's need to be driven singularly by the act of gaining only immediate financial reparation (Orlitzky, Schmidt & Rynes, 2003; Alhouti, Johnson & Holloway, 2016). Instead the firm establishes long-term benefits from the firm-recipient relationship from the CSR interventions such as loyalty in buying behavior. The firm magnifies its success in social impact outcomes by working in collaboration with a complementary NPO for CSR delivery (Austin, Stevenson & Wei-Skillern, 2006).This firm-NPO-recipient model has worked well for South African firms in all industries. Outsourcing to an NPO has also facilitated the development of many new specialized jobs and skills sets within the NPOs while providing an easy solution for the firms for CSR delivery. NPOs have direct contact with, and understanding of, the needs of recipients in a way that is superior to that of the donor (Shumate & Connor, 2010). Importantly, the South African government purposefully uses the relationship of firm and NPO to deliver CSR to citizens that they, the government, do not have capacity to do themselves. The South African legislative environment has been adapted to encourage firm-CSR generated economic development. The research question answered in this review is: how does the South African legislative context facilitate the model of firm-NPO-recipient in CSR to improve its emerging economy?

2. South African Business Environment

Over the past twenty years since the advent of democratic rule in South Africa in 1994, the South African business sector has undergone a confident transformation of its service offerings to South African citizens with regards to delivering a multitude of varied CSR activities to previously disadvantaged communities. Despite ongoing volatility in global and local South African financial markets caused by the long term implications the global financial crisis of 2007, the resulting recessionary challenges of South Africa's own economy since that date, and recent re-grading (down) of the South African sovereign credit rating, the business sector is encouraged by government to play a key role as a strategic gateway for communities and citizens to access economic development. These challenges have instead led to a shrinkage in direct employment opportunities and the level of opportunity for social economic inclusion in the South African economy in terms of GDP growth employment opportunities on the Inclusive Development Index of the Global Competitiveness Report 2017-2018, when compared to other developing countries such as Cambodia and Viet Nam (WEF, 2017-2018) South Africa has declined. Exasperating the social inclusion challenge, is the fact that the country was ranked 47th out of 138 countries measured in 2016-2017 as regards its global competitiveness index but this dropped to 61st out of 137 countries in 2017-2018 (WEF, 2017-2018). The Global Competitiveness Report (WEF, 2017-2018, p. 11) defines competitiveness as, "the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the economy can achieve". This means that products and services from South Africa are currently less attractive to buyers than those from 76 other countries. In turn, this means less money is available from government through taxes to develop opportunities for social inclusion. Despite these challenges the South African government continues to incentivize firms to incorporate CSR activities. The firm-NPO-recipient model is argued in this review as taking a long term view of CSR by preparing communities and individuals to co-create future prospects that can arise as a result of firm CSR intervention and so advance economic social inclusion. South Africa does have a unique competitive advantage in that it is considered the 39th most innovative country of 137 countries surveyed (WEF, 2017-2018), which is a endowment that is harnessed for improving social inclusivity through the firm-NPO promoting distinctive opportunities for developing citizen inclusivity. The CSR activities broaden the scope of what a community/ individual might attempt through innovative CSR projects devised as fit-for-purpose with no one plan-fits-all, from education to those in need to infrastructure provision where it is needed. Addressing these various social challenges provides opportunities for constantly developing new firm-NPO-community business models that in turn advance the creation of shared value for firms and society by addressing both social and market needs (Porter & Kramer, 2011). While South African firms often use NPOs to create innovative designs for delivery of CSR to recipients, these relationships are also highly mediated and encouraged by the legislative business environment established in South Africa which is important to understand in the creation of this success. The background of CSR and NPOs in South Africa is discussed followed by the legislation that encourages them.

3. CSR Approach

South African CSR has evolved drastically in both concept and scope from philanthropy to strategic CSR integrated into a firm's core business activities through innovative activities that help promote social inclusivity (Gugler & Shi, 2009; Kirat, 2015). Many terms have been used in CSR academic research to describe CSR projects outside of the normal business activities of a firm and not directly linked to creating profit. These terms include but are not limited to: corporate social performance, corporate social responsiveness, corporate social investment, corporate citizenship, corporate governance, sustainability and, the triple bottom-line – but all have a common goal to adopt a developmental approach utilising a firm's resources to uplift recipients (Wood & Logsdon, 2001; Austin, Leonard, Reficco & Wei-Skillern, 2004; Busch, Hamprecht & Waddock, 2018). Corporate philanthropy in South Africa prior to democratic rule in 1994, was widely referred to by the term CSI (corporate social investment). CSI is generally considered in South Africa to be an apartheid historical manifestation of CSR with firms serving the socio-economic needs of South African communities in a discretionary manner giving money, goods and services as a benevolent act, not linking such actions to specific objectives agreed by recipients and donors, just a feel-good answer to pressing social problems. Included in this type of CSI behaviour during apartheid were most successful South African and international firms based in the country at the time (Hinson & Ndhlovu, 2011). CSI in South Africa during apartheid rule became synonymous with a view that businesses do not have economic and ethical obligations to the society in which they operate which in turn supported the de facto government of apartheid at the time (Madden, Scaife & Crissman, 2006; Slavova, 2013; Safwat, 2015). However, South African democracy in 1994, brought with it the advent of information flowing freely about what South African firms were really doing with CSI and a realization by the government that philanthropic CSI actions did not always encourage recipient upliftment. CSI activities had to change to become sustainable CSR projects driven by real recipient need. Government took a stance whereby it became difficult for firms post 1994 to turn a blind eye to less fortunate racial groups sidelined in economic opportunity by the historic actions of apartheid (Harris & Freeman, 2008; Freeman, Harrison, Wicks, Parmar & De Colle, 2010). For a South African firm to now be successful, government sought to make it a requirement to create value for their stakeholders in a way that is meaningful to each and every stakeholder type (Rivoli & Waddock, 2011). One of the jobs of South African management today in CSR value creation is to figure out how the interests of different stakeholder groups are to be managed (Post, Preston & Sachs, 2002; Harris & Freeman, 2008; Argandoňa, 2011; Harrison, Bosse & Phillips, 2012; Sharma & Kiran, 2013; Nwagbara & Reid 2013; Wadonga, 2014).

Recipients of corporate CSR efforts can be broadly defined by two categories – internal and external CSR efforts (Werther & Chandler, 2010). Internal CSR activities involve improving the lives of their employees (the firm's internal community) and is widely practiced within South African firms (Brammer, Millington & Rayton, 2007; Turker, 2009; Penn & Thomas, 2017). This paper discusses the external. External CSR refers to efforts that serve communities, the natural environment or improve the firm's consumer environment in some manner acting outside the firm in their delivery. This is explained by Farooq, Payaud, Merunka, and Valette-Florence (2014) and, El Akremi, Gond, Swaen, DeRoeck and Igalens (2015), as delivered by partnerships with intercessors in the form of NPOs. NPOs have expanded in South Africa since 1994 both in number and competencies to become professional businesses themselves adept at meeting the very varied demands of both donors and recipients (Roux &Wright, 2010). NPOs become skilled at acting as a link between donor firms and recipient communities maximizing the duteousness with which the firm's CSR contribution (which is the invested money of many stakeholders) is delivered to recipients (Margolis, Elfenbein & Walsh, 2009). Hence firm-NPO-recipient delivery in South Africa has been encouraged by government's business legislation to become one of the main implementers of CSR funding (Shumate & Connor, 2010). Lecy, Schmitz and Swedlund (2011) and, Pérez and del Bosque (2013) identified that NPOs have developed unique characteristics to give them the attributes to act successfully on behalf of donors by being effective in the management of CSR and these attributes include: effectiveness in CSR intervention design and implementation; responsiveness to the recipient and corporate environment using both NPO and firm partnerships and networks to achieve pre-conceived outcomes; developing the capacity to fully mobilise all available resources maximizing donor resource impact for the recipient and minimizing resource waste for the donor; and finally simultaneously developing the reputational value to be gained by the donor, the NPO and the recipient from the project.

4. The South African Legislative Context for the firm-NPO-Recipient Model

South African firms have since 1994 extensively used NPOs for external CSR execution. South African NPOs undertake CSR upliftment projects such as child care, adult education, job training, mental health counselling, substance abuse treatment and rehabilitation, school infrastructure, community water pumps, community solar energy projects and housing to name a few (Fink, Klerman, Markovitz & Minzner, 2014; Department of Social Development. 2016). The macro environment in South Africa as regards legislation to support CSR has been very focused since 1994 in promulgating national regulations that promote all activities that bring about social cohesion and empowerment of the historically disadvantaged black population which had been excluded by apartheid from the mainstream economy (Arya & Bassi, 2011). South African CSR related legislation specifically seeks to promote firm-NPO-recipient linkages. This legislation drives South African firms to invent various CSR focused plans, applied by their partner NPOs, to address South Africa's social challenges (Hamann, 2006). A major government instigated milestone in ensuring social economic development through firm external CSR was the introduction of South African legislation known as the BBBEE (Broad-Based Black Economic Empowerment) Act no. 53 of 2003 (Arya & Bassi, 2011; Kloppers, 2014). Section 1 of the Act defines black as all previously disadvantaged races (prior to 1994) African, Coloured and Indian peoples. Section 2 of the BBBEE Act indicates that economic transformation must enable meaningful participation of black people in the South African economy and advocates that this can be achieved by corporate promotion of investment programmes that realise sustainable community development. CSR is specifically mentioned as a way to attain this goal through an amendment to this Act in 2013 (Republic of South Africa Government Gazette, 2004; Republic of South Africa Government Gazette, 2013). The South African Nonprofit Organisations Act 71 of 1997 (2018) defines an NPO as a trust company or other association of persons established for a public purpose. The NPO income and property according to the Act are not to be distributed to its members or office bearers except as reasonable compensation for service rendered (Inyathelo, 2009). This specifically seeks to protect assets that stakeholders invest in firms, of being recklessly spent by an NPO. In addition, the South African Companies and Intellectual Property Commission (CIPC, 2018) makes special provision for the registration of a nonprofit company (NPC). The NPC is a step every NPO can voluntarily take as it lends to establishing trust from all stakeholder types as the NPC has to maintain the same reporting standards as every registered for-profit firm in terms of external auditing and financial controls. This leads to greater transparency in what the NPC does with donor funds. Wyngaard, (2013) draws attention to how this legislation helps eliminate those NPOs not fit for purpose as if an NPO fails to convince firms with available CSR funding that they are not a suitable partner, they will finally have to close. This is a self- regulating process and very valuable in ensuring only those NPOs fit-for-purpose, survive and thrive. These Acts serve to assure donors and their stakeholders that their CSR funds are equitably dispersed to recipients, not spent on unjustifiable NPO/NPC employee benefits. The BBBEE Act since inception has driven the need for NPOs as CSR-firm-recipient intermediaries and Table 1 demonstrates the year-on-year increase in registered NPOs and the diversity of development themes they embark upon. The broad categories of NPOs registered in South Africa from 2011-2016 is informed by the aggregation by year of NPO founding documents collated by the South African Department of Social Development (Department of Social Development, 2016). Year on year the NPOs disburse firm resources that amend historical economic disadvantages. Additionally, in November 2006, the Revenue Laws Amendment Bill (33 of 2006) was passed in South Africa that significantly improved the opportunities for applications for tax relief for NPOs (Brevis & Wyngaard, 2006).

Table 1. NPO registration in South Africa

Sector	**2011/ 2012**	**2012/ 2013**	**2013/ 2014**	**2014/2015**	**2015/ 2016**
Business and Professional Associations, Unions	510	662	937	1137	1411
Culture and Recreation	4551	5570	6206	8059	9508
Development and housing	17078	20964	24063	28534	32975
Education and Research	6249	8039	9016	9607	9987
Environment	1031	1228	1424	1577	1743
Health	9240	10582	10421	11966	12466
International	61	65	73	85	99
Law Advocacy and politics	1775	2229	2927	3090	3577
Philanthropic intermediaries and volunteerism promotion	963	1089	1288	1303	1391
Religion	10009	11791	14285	16703	19585
Social Services	33781	40078	46452	54392	60925
Totals	**85248**	**102297**	**117093**	**136453**	**153667**

Source: Adopted from the South African Department of Social Development (2016)

A good number of CSR efforts in South Africa are also a product of firm compliance with the BBBEE Act strengthened in South Africa by the Johannesburg Stock exchange (JSE) listing regulations. South African firms that are JSE listed must fulfill stated JSE reporting requirements that include CSR reporting for initial exchange listing and continued listing. This plays a major role in driving the application of an integrated social, profit and planet approach to the way firms do business in South Africa. Managers for JSE listed firms have to report on social, environmental and economic issues annually, transparently indicating their considerations undertaken in making business decisions related to these CSR decisions. Managers must report on the possible impacts of their decisions in terms of helping future generations be economically viable (Idemudia, 2011; de Villiers, Rinaldi & Unernam, 2014). This liability to protect the economic capabilities of South Africa for future generations arises from the South African Constitution which notes that individual citizens and juristic persons need to take responsibility for ensuring South African citizens fundamental rights in terms of their needs to be able to survive (Constitutional Court of South Africa, 2018). The Constitution requires that every registered company should be themselves a responsible citizen in this regard, and the JSE further requires that all firms on the JSE operate in compliance with the JSE governance principles and guidelines. This ensures that the South African manager’s agenda includes fulfilling BBBEE requirements and guarantees a place at the table for CSR activities (Nkomani, 2013; Mersham & Skinner, 2016). A large carrot to comply with the CSR legislative environment is that proof of fulfilling BBBEE requirements as set down by South Africa's legal environment is a requirement for firms who want to tender for government and state owned enterprise contracts (Bolton, 2006; Juggernath, Rampersad & Reddy, 2011). Further to these legislative conditions, the South African King IV Report (Institute of Directors Southern Africa, 2016) adds to existing legislation actively encouraging firms to undertake CSR activities specifically relating management's role to viewing this as examples of their firm's ethical and effective leadership in business reporting (PWC, 2016).

To-date the JSE listing requirements with regards to CSR have worked both for and against transparency in reporting firm activities. Arya and Zhang (2008) and Chetty, Naidoo and Seetharam (2015) highlight how investors respond positively to South African JSE listed firm CSR announcements and there is evidence that listed firms now use CSR as a strategy to woo investors and to improve stock prices. Eccles, Pillay and De Jongh, (2009) warn however that corporates may be selectively disclosing CSR information to deliberately place them in an encouraging light to investors. South African CSR reporting processes have tried to manage this. Ackers (2009) highlights how South African corporate CSR assurance for JSE public listed companies was historically integrated into overarching financial reports delivered by South African auditing firms. In this way transparency in where CSR funds came from and how they were spent, was clear. Ackers noted such auditing practice compared favourably with developed countries in terms of transparent reporting. However, in a more recent report Ackers and Eccles (2016) now note a trend in South African JSE listed firms to separate financial reporting by financial auditors from the CSR reporting audits. South African firms currently use specialised CSR assurors for assessment of their CSR activities. While the professionalism of the CSR auditors may be exemplary there is concern from Ackers and Eccles (2016) that the varied methodologies these CSR specialists apply from firm to firm means there is no standard measurements for stakeholders to evaluate CSR efforts. This is a concern in terms of assuring transparency in CSR for all the firm's stakeholder types. The authors recommend the CSR assurance process is now mandated and standardized in South Africa. In a collaborative relationship every stakeholder (i.e. the firm, the public, investors) should be able to easily perceive the benefits of supporting the firm because this sets a good foundation for long-term sustainable relationships (Porter & Kramer, 2011; Jonikas, 2013).

5. Conclusion

This paper has sought to answer the question: how does the South African legislative context facilitate the model of firm-NPO-recipient in CSR to improve its emerging economy? It is clear that empowering the firm-NPO-recipient relationship has been done in many ways by the South African government from giving NPOs opportunity for a company status, to rewarding firms for using them. The NPO creates an alliance with the firm that brings together a unique blend of their joint capabilities and this ensures the recipients receive the best the firm-NPO have to offer (Austin, 2010; den Hond, de Bakker & Doh, 2015). In doing so the government has set out to alter the benevolent but unfocused philanthropy historically practiced by many South African firms and to encourage use of CSR resources for really meaningful economic change in society. The all-important, on-the-ground facilitator for one of the government's strategies for economic development is indeed the NPO. First, the NPO in itself has created opportunity for economic development with many types of NPOs opening each with unique skill sets employing, training and holding repositories of specialized project knowledge that can deliver a firm's unique requirement for their CSR resources, to needy communities and individuals. This paper argues that this proliferation of specialized NPOs employing specialized staff has contributed hugely to creating economic change in this developing country. It has also given opportunity during a recession period for people to be employed at an NPO if they have the specialist skills to help on CSR projects. Second, the NPO sector has provided the extra, crucial capacity to implement the upliftment of previously disadvantaged communities assisting the South African government to fulfil its constitutional mandate. Third, the NPOs themselves are often set up and run by historically disadvantaged people or employ such people as this helps the donor firm attain, through this relationship, BBBEE status to win government tenders. Fourth, NPOs composed of employees from previously disadvantaged backgrounds, have a unique insight to the needs of the many previously disadvantaged communities and individuals they serve. Finally in conclusion, successful NPOs have the most sought-after commodity of any business and that is financial funding with no borrowing costs. It is argued here that NPOs actually become business incubators in times of recession because their employees, while not perhaps gaining much in financial salary reimbursement, gain tremendous opportunity for on-the-job skills development leaving each in an improved position to open their own business. These factors all have a positive effect on South African economic development.

This paper highlights how the South African government has done much since 1994 to develop the country economically using the firm-NPO-recipient model to upskill citizens and build skills capacity and physical infrastructure. Legislation has forced many financially successful private firms and JSE listed public firms to use the NPO delivery model to allow them to stick to their core business pursuits while strategically attaining CSR goals which in turn give them opportunity to tender for large government contracts or enter into relationships with other BBBEE conscious trading partners. Ackers and Eccles (2016) have drawn attention to the requirement to measure consistently South African CSR activities and this is perhaps the next crucial development stage of the South African firm-NPO-recipient economic empowerment model. CSR activity for small firms not seeking BBBEE opportunities including non-JSE listed firms is still not quantifiable as CSR implementation at this level is voluntary not legislated. Additionally, smaller firms often have limited expendable resources for external CSR projects. That said internal CSR using employees to deliver CSR rather than NPOs, is widely practiced by South African firms from micro sized firms to large but unmeasured by government as to its impact on the South Africa economy (Aletter, von der Burg & Zanella, 2010).

The researchers posit that the South African firm-NPO-recipient model given the same legislative government support can be applied in any developing country with an emerging economy and can be focused by government to economically help develop specific industry/ community sectors while passing the burden of such development from government to profit-driven firm.

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The Impact of Cross-Cultural Values on the Manifestation of Performance Orientation in Romanian Educational System under the Aegis of European Union Strategy

Ionel Sergiu Pirju[1]

Abstract: Romania, state member of the European Union, as well as part of the South Eastern European- Cluster, is an emergence nation with strengths and weaknesses in achieving a democratic path. European integration assumes a series of principles with high values which promotes the equality among the students, correct dissemination of information, transparency and free access to future opportunities in career. The article shall try to present the Romanian cross-cultural values as stem for the educational performance according to European international standard. It will be evaluating the performance of contemporary Romanian educational system and the manner of accomplish the present main objectives. Only well-prepared people are capable to combat the high-power distance, to avoid the low performance and to improve a sustainable quality of life. The research methodology is based on positivism because the study is centered on the analyses of real events with a synchronic approach of reality.

Keywords: education policy; performance; European Union Strategy; Romanian cross-cultural values

JEL Classification: Z10

1. Introduction to the European Union development vision for 2013-2020

In 2007, when Romania was accepted in European Union the general opinion had been following the principle that this acceptance will provide a long-term security for all the people and the state will be an egalitarian one.

During the 2007-2013 European Union have had three main objectives: economic conversion and development for all the regions with a GDP under 25%, regional competitiveness and employment, and European territorial cooperation[2]. Unfortunately, Romania was not able to accomplish any of these goals.

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[2] Community Strategic Guidelines on Cohesion 2007-2013 https://ec.europa.eu/regional_policy/en/information/publications/communications/2006/community-strategic-guidelines-on-cohesion-2007-2013 , accessed at 02/11/2018.

In an era of intelligent economy, characterized by productivity and social cohesion, EUROPE 2020 strategy has been developing three major cross-national priorities:

- Intelligent development by increasing a knowledge-based economy and constant innovation;

- Sustainability by promoting ecological technologies and competitiveness;

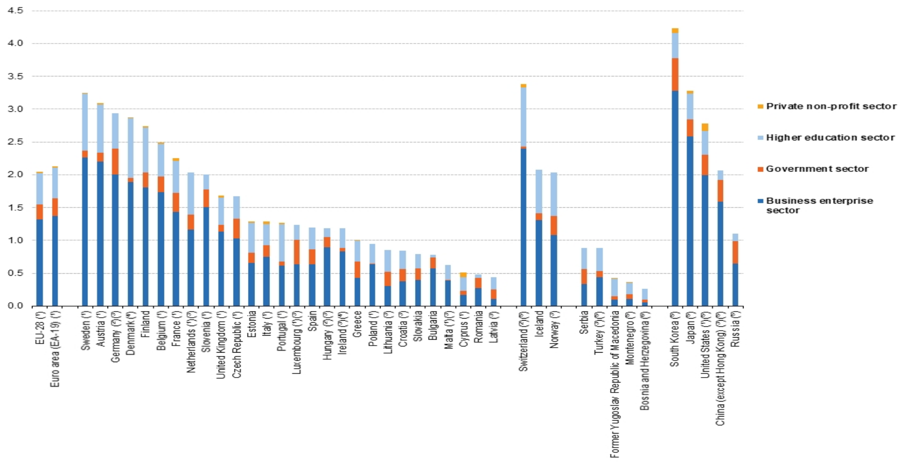
- Integrational development through consolidation of an economy with a high rate of employment characterized by secure social and territorial cohesion (Molle, 2015).

This strategy is aiming to define the future of European Union and is having a series of main objectives as starting points for the progress: 75% of the population (segment between 20 & 64 years) should have a permanent job, 3% of European GDP would be designated to research and development (R&D), clear improvement in clime and energy (so called objective 20/20/20), the reducing of early school leaving bellow 10%, incentives for the young generation to increase superior education (at least 40%), the reduction of poverty with 20 million[1]. After 2020 we officially will know if Romania was capable to improve some aspects of this European priorities.

In the field of education, the access is set on knowledge and innovation as stems for economic and social development. For this aim it is necessary to improve the quality of contemporary educational systems, to harness the preformation in research, development and promote a true transfer of knowledge between all the European shareholders. The perfect communication skills are a strength point for international cooperation (Popa, 2014) because the innovative ideas could be transformed in new and valuable products. The amount of investment in European innovation, especially research and development (minus 2%) is very low compared to the international top performers: 2,6% in United States and 3,4% in Japan[2]. As we can notice from the below figure, Romania is having a bottom down position, and even the high-tech sector is extremely performer, the private sector is constantly suffering for high taxation, corruption and bureaucracy.

[1] Strategia Europa 2020/Europe Strategy 2020 https://www.mae.ro/sites/default/files/file/Europa2021/Strategia_Europa_2020.pdf accessed at 02/11/2018.

[2] Eurostat R & D expenditure https://ec.europa.eu/eurostat/statistics-explained/index.php/R_%26_D_expenditure, accessed at 02/11/2018.



Note: when definitions differ, see http://ec.europa.eu/eurostat/cache/metadata/en/rd_esms.htm.
(¹) Provisional.
(²) Definition differs.
(³) Private non-profit sector: not available.
(⁴) Estimates.
(⁵) 2015.
(⁶) 2014.
Source: Eurostat (online data code: rd_e_gerdtot)

Figure 1. European investments in research and development

Source: Eurostat

Another weak cornerstone of European countries, and particularly Romania, is the situation of education and the general lack of preoccupation for the importance of long live learning. A quarter of European pupils and collegians are having problems in readings, the rate of drop out of school is extremely high and less than 30% of the persons between 25 and 35 years are graduate students compared to 40% in United States and more than 50% in Japan[1].

One of the strength points for Romania is the progress achieved in high tech industry, the fifth place in high-tech exports by high-technology group of products in EU-28[2]. Except the Romanian case, one of the European problems is the low speed of internet, especially in the rural zones and this is a real preoccupation for the impossibility to improve the online dissemination of knowledge.

Among the top priorities for the European development vision is enhancing the support for the strategic field in education and longtime formation in the area. The intended objective is the implementation of a long-life learning policy in all the States of the Communitarian Block. The economical and social partners are key factors in the process because their development strategy should be based on

[1] Eurostat Tertiary education statistics, https://ec.europa.eu/eurostat/statistics-explained/index.php/Tertiary_education_statistics, accessed at 02/11/2018.

[2] Europa. eu High-tech statistics - economic data https://ec.europa.eu/eurostat/statistics-explained/pdfscache/46748.pdf , accessed at 02/11/2018.

flexicurity[1] under the principle of promoting a performant environment for education, formation and work.

The objective to modernize the labor market is achievable only by promoting the autonomy of the people through education, capable to obtain new competences having the possibility to access proper carrier orientation in order to avoid unemployment.

As final remark for this first part, the principle of flexicurity is a possibility for all the European citizens, regardless the region, religion or political orientation to achieve new competences for enhancing the struggle against poverty, social exclusion and assuring a higher productivity

2. The Effect of Romanian Cross-Cultural Values for the Educational Sustainability

The cross-cultural management and the comparative management are forms of general management and are trying to identify the cultural differences between countries, companies etc. (Zaiț, 2009; Nicolescu & Verboncu, 2008) in order to obtain positive results considering the regional cultural values and norms.

For analyzing the Romanian cross-cultural values, it was used the Hofstede survey because it is world wide recognized even the method has been some time contested by some scholars. His general conclusion is: even though the employees are adopting the practice of an organization, they are keeping the values of their country or native region (Hofstede & Hofstede, 2005).

Based on cross cultural researches we can infer that Romanian management is paternalistic, with a low adaptation for change, the influence of the group is very strong on the mentality of the person, and the present migration of young generations is gradually "killing" the initiative and creativity. For Nicolescu & Verboncu (2011) the Romanian management as well as the Eastern European Management is situated under the average level of European management and the lowest performance is specific to public administration and the highest is obtained by the multinational corporations.

The scores for the Romanian cross-cultural values, presented in the next figure, are: power distance (90), uncertainty avoidance (90), masculinity versus femininity

[1] Flexicurity is a new concept based on a welfare state model with a pro-active labor market policy. It is an integrated strategy for enhancing, at the same time, flexibility and security in the labor market. It attempts to reconcile employers' need for a flexible workforce with workers' need for security – confidence that they will not face long periods of unemployment. Source: European Commission. Employment, Social Affairs & Inclusion https://ec.europa.eu/social/main.jsp?langId=en&catId=102 accessed at 02/11/2018.

(42), individualism versus collectivism (30), long term orientation versus short term orientation (52), indulgence versus restrain (20) (Hofstede Center, 2018).

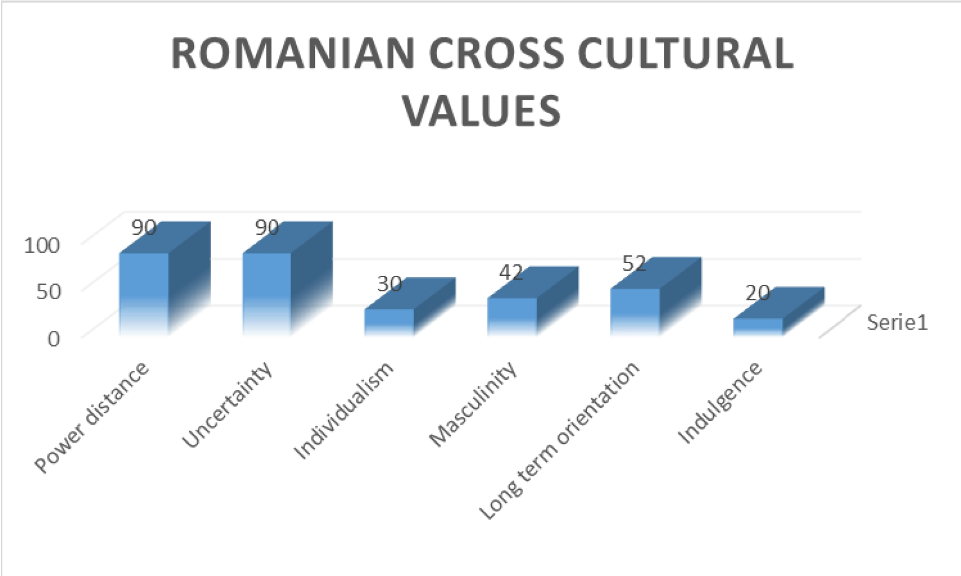


Figure 2. Romanian cross-cultural values: adaptation *apud* Hofstede Center (2018)

The power distance is representing the degree of acceptance and reward of inequality and the unequal distribution of power in a community (Chhokar et al, 2008). The Romanian score for this dimension (90) is one the highest in the world compared to Guatemala (95), Philippine (94), Panama (95) and Russia (93).

At the opposite pole there are the Nordic States: Denmark (18), Finland (31), Norway (31), Sweden (31), Iceland (31) with extremely low values, which means that the Nordic Cluster is dominated by an equal distribution of power (Albæk & Rosdahl, 2017; Bergmann, 2014; Calforms, 2015) and we can find in the area a meritocracy and not an untouchable hierarchy.

In Romania, the representative democracy is not able to transpose the political campaign slogans in public policy. In the educational system there is a high manifestation of power distance, almost all the principals from elementary schools and high schools are politically appointed and the educational process is penurious forced to accept unperformed managers with low performances. The situations are even sad and sometimes theatrical with the ministerial top management. In present we can find various Ministers with huge gaps in elementary knowledge and low skills in speaking their own native language. The Romanian media is having a full-time job presenting their "managerial masterpieces". In the most cases the protest manifestations of the teachers and professors are not influencing the authorities to take into account the public will. We can infer from the high-power distance score that Romanian society is not an equalitarian one and the hierarchy is not established after common consultations, a sad reality for everyone with negative international impact.

The Romanian score for individualism is quite low (30) which means the people are integrated in cohesive groups, and these cohesive groups could be family or not. Also, is very important for almost everybody to make a good impression in society. The people are looking for jobs who can offer enough time with their families, even there is a respect for the private life and individualistic values. In the educational system as a constant for collectivist societies the personnel are looking for external protection and the political membership provides extra protection and mostly is offering solutions for an unexpected and improper career improvement.

Indulgence versus restraint is an indicator who study in which proportion a society allows or not the personal satisfaction of its members, the indulgence is characteristic for nations without strict control and offers the joy of life for its gentry (Onea, 2011). Romania is having a very low indulgence (20) which demonstrates that it is a highly bureaucratic state, with economical constraints and problems and with great esteem for tradition and social customs. Thereof, the educational system is well structured, with week tolerance, obedient, there is a propensity for punishment measures and bed behaviors are not tolerated.

Uncertainty avoidance is the measure who presents the degree of threat in a community, how the people act and accept new and uncertain situations (House et al, 2004). This dimension is the reflection of the level of independence for the persons inside of a country and in Romania the score is extremely high (90) identical to power distance. The people are living under a continuous threat, there is a strong anxiety and a high intolerance to any type of new situation. In schools we can find the mentality that the teachers are always having all the answers, and we can talk about an acceptance of the rules in public institutions, even those are not always followed.

Long time orientation versus short time orientation refers to the sets of values with direct consequences upon a certain period of time (close – short time and far – long time orientation). Romanian value is 52 (Hofstede & Hofstede, 2005) and we can conclude that there is an equilibrium between the approach of traditions and social attitudes. Exist children with high level of tolerance and respect, meanwhile another segment of the youth is more preoccupied with personal wellbeing. In the same manner the solving of the problems is making in an organized style, or with passion without no logic and respect for other feelings.

Masculinity versus femininity reflect the importance of sexual differences in a society (ibidem) and the polarization of function based on this criterion. The masculine societies are centered on acceptance of provocation and conflict, and feminine countries are promoting sensibility, respect and modesty. Romania has a predisposition for feminine values with means the acceptance of sharing the power between men and women (an excellent reality), compassion for the weak and there is a social morality. We can find also many women in public functions or in the educational system.

Between the cultural values and the problems of a society it is a strong connection, because understanding the cultural patters we are capable to improve our superior aspirations. The Romanian educational system is still rooted in our collective mentality and its improvement can be done only by promoting a shift from an obedient tradition to the acceptance of performance inside the group.

3. The Manifestation of Performance Orientation in Romanian Educational System

For being a leader in the regional area, a nation must have well-educated citizens with principles based on performance orientation and a correct synergy between the leaders and society. Performance orientation is in favor of a sustainable economy and is the key for the Universities visions, even their methodologies are based on traditional or secular principles.

Performance orientation is referring to which what high level amidst a society`s members is encouraged and reward the excellence, personal improvement and performance (Kocheva & Kochoska, 2015; Che-Ha et al., 2014)

In Romanian system there is a broad contrast between the way in which the authorities are evaluating the performance and the reality seen by society, business communities or foreign partners.

In elementary and high schools is predominant the tradition of “paternalism mentality” and the tendency to is still to support the “familiar relations” between the teachers and the Manager/Principal (mostly politically elected), the last one demand loyalty and offers protections only if his/her authority is accepted. The state is the main shareholder in most of the schools and when the Government is changed the entire national strategy follows new political patters.

No matter the political orientation, in almost 30 years after the Romanian revolution, all the Governments have been seen the educational approach as a superior-subordinate relationship, strengthening the hierarchy. Unlike the Nordic model where the equalitarian system is the base for national success (Sjovaag & Bergmann, 2012) and the employees become more performance-oriented workers within a collective - individual system, in Romania we notice the existence of authoritarian directions combined with some democratic practices of European Union.

According to European Union principles, the educational Leader must be a skilled administrator in order to cope effectively with the immense demand of public concern about the situation of the youth and must make the promises and the decisions based on practical reasons, which realistically can be respected.

In the Romanian national government program 2017-2020 the education must be: exciting, continuous and coherent and the main objectives are:

- Construction of 2,500 nurseries, kindergartens and after-school facilities;

- Establish a National Register of Entrepreneurs Mentors by operating an online public database that will form the basis for a network of volunteer mentors who will implement the entrepreneurship in schools;

- Strengthening the monitoring capacity and the evaluation of the education system, the implementation of Integrated Education Information System in Romania, National Qualifications Framework, etc.);

- Realize new research based on the needs of businesses in terms of employing qualified personnel;

- Establishing the schooling plans according to the needs of the labor market;

- Revival of vocational and technical education through flexibility of the system etc.[1].

Internal pressures and constrains had not be handled effectively, so until now the above-mentioned objectives have not been accomplished. The results attributed to Romanian educational reforms are systematically much lower than those obtained from other nations inside the European Union.

The Romanian people are having dynamism, team orientation, but the pressure of too many Government laws and regulations is maintaining a continuing pressure upon the didactic staff. There is a need of a more humanistic style of governmental management who will offer to the persons involved in the educational process the chance to be performance-oriented at the work place and to choose outstanding leaders better prepared to handle managers-employee relations.

A long-term national policy in the field of education, with less political implications, will make creativity and innovation more achievable and the uncertainty will not always be presented in the people's minds. Those improvements are necessary because in the Romanian traditions exists the

[1] Romanian national government program 2017-2020 ttps://www.google.com/search?client=firefox-b&q=programul+de+guvernare+2017-2020+pdf accesed at 28/09/2018.

recognition of the importance of humanism, the preference for intellectualism and the ability to maintain the originality. One of the strength points for the national educational system is the consolidation of European mobility programs for collegians, students, teachers, professors and scholars (Tempus, Erasmus, Erasmus Mundus, Marie Curie) and developing a benchmarking analyses with the internal programs. Through those programs Romanian system has been capable to maximize the investments in the educational system, to improve and adopt new key-competences and to promote the importance of international formal and non-formal learning. As a short analysis about the scholar performances we can infer that the persons involved in the process are having a European assumption about sharing their research, but express great dissatisfaction with the low development of the sector.

As final remark for this part we can infer that the Romanian educational system needs encouragement for improving its excellence because there are great expectations after a transition from a dictatorship toward a democracy and a fairness approach is needed for eliminating social and political hierarchies.

4. Conclusions

It seems quite difficult, but not impossible for Romania to adopt in short term a competitive and innovative European policy, because traditionally the nation is still rooted in cultural values which promotes the acceptance of high-power distance and is not oriented for equalitarian values.

The Romanian people by understanding the importance of long-term educational investments in sustainability will be better prepared for new business opportunities in the future.

The Romanian entrepreneurship is supporting the high-tech corporate performance through a quality-oriented adaptation for the international policy. Romania is capable to gain stable and log-term benefits if the structural fonds will be used in the benefit of his internet infrastructure which is a real gate for innovation, creativity and entrepreneurship.

In other sectors the national conscience should transcend the indifferences of some part of political “elite” for whom the social competence is something that goes beyond their personal responsibility.

In Romania there is a need for performance orientation related with real interest for the improvement of the educational system based on a quality orientation. Unfortunately, in elementary and high schools demonstrated ability in teaching and administration does not count so much, the political support remains the criterion for promotion to leadership.

Joining the European Union in 2007 have been brought for the educational system many benefits, the mobility programs (Erasmus, Erasmus Mundus, Tempus etc.) are having a significant effect namely on the student's long term future orientation in career, and their reputation gain international credibility. But the implementation of new educational policy needs to be strengthened because it is necessary to put downward the pressure caused by the inefficiency of the system.

In future research we will try to be more specific about the evolution of educational system, to identify and explore the problems of each general sector and not only to present a brief overview. We will also explore the evolution of educational leadership and how they tend to activate after the Romanian Presidency of the Council of European Union.

A cultural mantra for the Romanian educational policy could be: " pervasiveness of intellectualism is possible to be accomplished only when equality and equity will be the premises for selection of the hierarchy".

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Fiscal Health and Developmental Outcomes in Brics Nations: New Answers to Old Questions

Olusegun Gabriel Oduyemi[1], Kunle Bankole Osinusi[2], Ibrahim Ayoade Adekunle[3]

Abstract: Insufficient and inefficient use of state resources amidst growing state budgetary expenditure has ensured that developmental outcomes in BRICS nations are kept at bay. Despite the one-time tremendous growth of the BRICS nations, stakeholders, policy makers, financial institutions and the society at large are concerned about the disruption in what has been an upward trend in growth and development activities of the BRICS nations. This paper examined the structural relationship between fiscal health and developmental outcomes of BRICS nations with the aim of coming up with the evidence-based prediction of development outcomes of BRICS nations as induced by fiscal irregularities. Findings reveal that debt to GDP ratio, government revenue, the ratio of cost of debt service to revenue, and welfare standard of the populace induces developmental outcomes in BRICS nations in the short-run. Based on the findings, we recommend concerted and prudent fiscal actions should be undertaken to ensure fiscal balance needed to guarantee sustained developmental outcomes in the BRICS nations.

Keywords: Fiscal Health; Development Outcomes; Dynamic Ordinary Least Square; BRICS

JEL Classification: E62

1. Introduction

The BRICS Club (Brazil, Russia, India, China, and South Africa), which was known for its enormous potential for growth, is now in the midst of serious economic and political problems. In addition to the increase in the interest rate that contributed to the increase in the debt burden for these economies, world commodity prices have affected these emerging markets, which are largely dependent on export-led growth (Arezki, Loungani, van der Ploeg, & Venables, 2014). China's structural transformation, which was the main engine of this group, from an export-driven economy to another based on domestic consumption, added to the current woes of BRICS (Herrerias & Orts, 2010). Among these economies, India is the only country that has shown signs of strong growth potential. It has benefited greatly from a net importer of gross and other products whose prices have declined and also has the advantage of being less sensitive to market volatility, as it is less dependent on exports for its growth (Medas, Poghosyan, Xu, Farah-Yacoub, & Gerling, 2018). The share of exports of goods and services in GDP in 2014 was 23.2% in India, while that of Russia was 30% and South Africa was 31.3% (BRICS, 2012).

In terms of social development, the BRICS economies showed a mixed performance. In the Social Progress Index (SPI) developed by the Social Progress Imperative, a nonprofit organization based in Washington, Brazil (70.89) surpasses all other member countries, followed by South Africa (65.64), Russia (63.64), China (59.07) and India (53.06) (Sandrey et al., 2013).

Meanwhile, Russia surpasses the rest of the economy in terms of basic human needs (nutrition and basic medical care, air, water and sanitation, shelter and personal safety), Brazil leads the group on the foundations of well-being (access Basic knowledge, access to information and communication, health and well-being, and sustainability of ecosystems and opportunities (personal rights, access to higher education, personal freedom and choice and tolerance and inclusion) dimensions of the IPS. India, which belongs to the group of countries with low social progress, is behind the other BRICS countries in basic human needs

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and the foundations of well-being and does not stay ahead of China in the opportunity dimension (BRICS Post, 2013).

Despite high overall economic growth rates in BRICS countries in the past two decades, policymakers around the world have become increasingly concerned by the recent unevenness in growth that is often accompanied by rising income disparity.[4] In addition, it appeared that disadvantaged groups, including members of ethnic minorities, people in remote rural locations, and women, have not benefited proportionately from rapid economic growth and subsequent development in this BRICS nations.[5] The possibility that growth might leave the poor and disadvantaged people behind was highly relevant in political debates concerning the BRICS nations. The question then becomes, how relevant is fiscal healthiness to government ability to ensure broad based growth in the form of development outcomes in BRICS nations?

Rising health care, education, and infrastructure costs are placing pressures on annual budgets of BRICS nations. The ways in which policymakers confront these challenges will determine the fiscal health of the BRICS nations. A government is considered fiscal healthy if her resources meet her obligation and if it does not, it experiences fiscal stress. As times have become harder, the fiscal performance, solvency, and inclusiveness of growth in all countries and other governmental agencies under the BRICS have been attracting more attention around the world because of the enormous export potentials and home to the largest supply of consumer goods around the world (Tien, 2011). Interest in this subject in the BRICS nations have been shallow and producing dull empirical analysis with respect to how fiscal health can trigger development and not just growth in these nations.

In this paper, we attempt to measure the predictive substance of fiscal health in a number of ways that can guarantee economic development in BRICS nations with accurate data and appropriate methodology. Much of the current interest in measuring fiscal health arises from a concern with the national fiscal stress that hinders the extension of substantial government expenditures to the grassroots and most importantly has been limited to country-specific analysis. For especially gloomy views of fiscal health and development outcomes appraisals in BRICS nations, the current state of government finance and its long-run prospects which is "*go-to*" international organization has long been the International Monetary Fund (IMF), so it is not surprising that the IMF has also in recent years been paying increasing attention to such problems at the national level. All in all, the fiscal news for the nation has infrequently been well in recent years and how it leads to the development outcomes remains grossly understudied in the extant literature.

Few studies of fiscal health and development outcomes viewed from different perspectives have been produced in the literature of public sector economics in recent years. In particular, concern has recently been expressed about the fiscal health of Brazil, India and South Africa. At first glance, such concern seems a bit puzzling because most of the available evidence suggests that BRICS nations as a whole are experiencing varying fiscally stress.[6] The fundamental fiscal health of a nation has less to do with balancing its budget than with the quantity and quality of services provided and the state of basic infrastructure. In India and South Africa, there is evidence of continuing and perhaps even increased problems in terms of poverty and homelessness as well as increasing awareness that investment in the infrastructure needed to support continued economic growth. In Brazil, transit, roads, water, and sewers, for example, falls short of what seems to be required. It is against this background that this study seeks to unravel the potential development effect of effective fiscal health measures that will guarantee economic growth and development that remains ghostly in BRICS nations. Against this backdrop, this study proposes an empirical investigation on the alternative form of achieving development outcomes through adequate national fiscal health measures in the BRICS clubs.

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[4] See (Baldacci, Mchugh and Petrova, 2011; Kalirajan and Otsuka, 2012; Debrun & Jonung, 2018).
[5] See (Kahn, 2011; Vom Hau, Scott & Hulme, 2012; Carmody, 2015).
[6] See (McHugh, Petrova & Baldacci, 2011; Neyapti, 2013; Medas et al., 2018).

2. Literature Review

Economic Development

Economic development is sometimes referred to as inclusive or broad-based growth. Inclusive growth as a strategy of economic development received attention owing to a rising concern that the benefits of economic growth have not been equitably shared (Krugman & Venables, 1995). Growth is inclusive when it creates economic opportunities along with ensuring equal access to them. Economic Development, as the literal meaning of the two words connote, refers to both the pace and pattern of the economic growth (Nafziger, 2012).

There is no universal definition of economic development, but the term development is often used interchangeably with a suite of other terms, including "broad-based growth", "shared growth", and "pro-poor growth". Economic development basically means making sure everyone is included in growth, regardless of their economic class, gender, sex, disability and religion (Lei et al., 2015).

Growth is said to be of development dimension when the growth is to be sustainable in the long-run and it should be broad-based across the sectors and inclusive of the larger part of a country's labour force. Emphasis on development, especially in terms of opportunity in terms of access to markets, resources, and unbiased regulatory environment, is an essential ingredient of successful growth (Alford, Simkins, Rembert & Hoyte, 2014). In line with the World Bank definition, (Lucas, 1988) referred to economic development as long-term sustained economic growth that is broad-based across sectors and inclusive of a large part of a country's labour force, thereby reducing unemployment significantly. Policies that encourage inclusive growth tend to emphasise removing constraints to growth, creating opportunity, and creating a level playing field for investment.

(Annison, 1987) defined economic development as that growth which can reduce poverty and allow people to contribute to economic growth and benefit from the growth process. They pointed out that rapid pace of growth is unquestionably necessary for substantial poverty reduction but for growth to be sustainable in the long-run should be broad-based across the sectors and inclusiveness is a concept that encompasses equity, equality of opportunity and protection in market and employment transitions. Growth is inclusive and becomes economic development if it supports high levels of employment and rising wages (Mitchell, 2018).

(Deaton, 2003), argued that economic development is both an outcome and a process. On one hand, it ensures that everyone can participate in the growth process, both in terms of decision making for organising the growth progression as well as in participating in the growth itself. On the other hand, it makes sure that everyone shares equitably the benefits of growth. (Ali, 2007) opined that the key elements in inclusive growth are employment and productivity, development in human capabilities and social safety nets and the targeted intervention. (Adler, 1959) defined economic development as gross domestic product growth that leads to significant poverty reduction.

(Fotourehchi, 2017) posited that economic development entails achieving sustainable growth that will create and expand economic opportunities and ensure broader access to these opportunities so that members of society can participate in and benefit from growth. (Dehesh, 1994) defined economic development as economic growth that results in a wider access to sustainable socio-economic opportunities for a broader number of people, regions or countries while protecting the vulnerable, all being done in an environment of fairness, equal justice and political plurality. (Anand & Sen, 2000) argued that economic development has become the government's objective, but debates have refined the meaning of the term, as creating conditions for the masses to contribute to and participate in growth. This requires pro-poor growth, access to quality public services and jobs. Examples of government initiatives that can contribute to active inclusion are improving infrastructure, financial inclusion, health, education, technology and public service delivery.

Fiscal Health

Fiscal sustainability analysis is an important component of macroeconomic health analysis of countries (Ghosh, Kim, Mendoza, Ostry & Qureshi, 2013). The sustainability of fiscal deficits is defined as the government's ability to raise the necessary funds by borrowing or as the government's budget is balanced in present value terms (Dibangoye, Buffet & Simonin, 2015; Rose, 2010). Although the sustainability of public finances has been discussed for more than a century now, it is still an imprecise concept. While it is intuitively clear that a sustainable policy must be such as to eventually prevent bankruptcy, there is no generally agreed upon definition of what precisely constitutes a sustainable debt position. The literature has proposed several methods to define and assess debt sustainability, differing in both time horizons and choice of variables. Debt sustainability can be regarded as a short, medium, or long-term concept, with the open question of how to define these horizons, and debt and deficits can be measured gross or net, including or excluding the liabilities of social security systems and other items (Chalk & Hemming, 2012). Fiscal sustainability, or public finance sustainability, is the ability of a government to sustain its current spending, tax and other policies in the long run without threatening government solvency or defaulting on some of its liabilities or promised expenditures (Checherita-Westphal, Hughes & Rother, 2014).

The structural or cyclically adjusted budgetary balance is defined as the fiscal balance that would arise provided that output was at its potential level and, therefore, not reflecting the cyclical aspects of economic activity. (Nordhaus, 2010) defines the structural fiscal balance as the residual balance after removing the balance of the estimated budgetary consequences of the business cycle. Therefore, the calculation of the structural fiscal balance is useful, as it provides a clearer picture of the underlying fiscal situation by subtracting from the impact of the business cycle. As a result, it can be used to guide fiscal policy analysis. One approach to examining the impact of discretionary fiscal policy over the cycle is to link the fiscal policy stance, generally measured as the change in the structural fiscal balance, to the cyclical conditions measured by the output gap.

Theoretical Review

We attempt a chronological review of fiscal sustainability theories and their main proposition for economic development with the aim of coming up with a threshold to gauge the empirical realities of development outcomes in BRICS nations as induced by their corresponding fiscal health.

The Domar's Theory

The most sophisticated analysis of fiscal sustainability was developed by (Domar, 1946). Domar (1946) proposed larger budget deficits, which in his view should stimulate the economy. According to him, a higher deficit generates a higher economic growth, which in turn, generates enough tax revenue to annually service the debt. If the tax generated through the higher deficit did not sufficiently service it in total, the problem does not lie with the deficit financing as such, but in its failure to raise the national income. Domar (1944) clearly placed his trust in the effect government deficits will have on economic growth through the Keynesian income multiplier. Thus, the government had to 'grow the economy out of its public debt burden'. He demonstrated that, given a large enough income multiplier, the deficit used to stimulate the economy would not cause an increase in the public debt/GDP ratio. A prerequisite for this is that the fiscal stimulus must raise the real economic growth rate above the real interest rate.

The Solow Growth Model

The neoclassical growth model of Solow (1956) provides a convenient framework for analysing economic growth and subsequent development as it seeks to understand the determinant of long-term economic growth rate through the accumulation of factor inputs such as physical capital and labour. Solow (1956) places greater emphasis on the role of technological change. The Solow model of economic growth assumes an aggregate production function which exhibits constant returns to scale in labour; reproducible capital; one composite commodity is produced; output is regarded as net output after allowance for capital depreciation; labour and capital are paid according to their marginal physical productivities; flexibility of prices and wages; full employment of the available stock of capital; diminishing returns as capital and labour increases. It implies that economies will conditionally converge to the same level of income, given that they have the same rates of savings, depreciation, labour force growth, and productivity growth.

The model shows that with a variable technical coefficient, there will be a tendency for the capital-labour ratio to adjust itself through time in the direction of equilibrium ratio. It posits that a long run per capita growth rate depends entirely on the exogenous rate of technological progress. Increase in savings rate will lead to a temporary increase in per capital $\frac{K}{L}$ and per capita output. However, both would return to a steady-state of growth at hithe gher level of per capita output. Increase in savings rate will lead to a temporary increase in per capital $\frac{K}{L}$ and per capita output. Savings has no impact on long-run per capita output growth rate but has an impact on the long-run level of per capita output.

Keynesian Theory of Income Determination

In response to business cycle fluctuations, the Keynesians propose government intervention in order to stabilise aggregate demand and thereby minimise the negative effects of welfare loss inherent in business cycle fluctuations and which can instigate social disequilibria. However, the major shortcoming of this school of thought is the inability of the model to incorporate dynamic effects, rational expectations and microeconomic foundation criteria to support their position. According to the Keynesians, business cycles are results of the failure of the economic system due to frictions or market imperfections. Consequently, the economy experiences depressions and fails to achieve the efficient level of output and employment. In their postulations, financial frictions, sticky prices and other adjustment failures constitute the propagation mechanism. Thus, both technology and monetary shocks are considered to be important sources fluctuations.

Keynesian propositions on the heel of the 1930's Great Depression, cyclical revenues and expenses were proposed to mimic automatic market stabilisation policies during a recessionary period when a balanced budget is favoured. This proposition is predicated on the Keynesian thought that market forces alone cannot be trusted to solely regulate the market and, thus, progressive tax rates and unemployment benefits are means through which the government regulates the market. The Keynesian's view suggests a short-term intervention to a fiscal policy where diverse policy-mix-including bail-out measures are employed during the recessionary period to sustainability (Marnefee et. al., 2011).

Empirical Review

(Belin & Guille, 2008) assessed fiscal sustainability; both in theory and practice. The study summarised the general analytical background especially those that focused on present value budget constraint; the various tests of sustainability (including sustainability indicators) and sustainability with uncertainty. They further assessed the way in which these methods have been approached on the different studies by the International Monetary Fund (IMF). In this context, various indicators such as non-increasing government debt – as an indicator of solvency, and an enduring current fiscal policy which is devoid of government solvency; were employed. The study found a discount between theoretical and empirical works on fiscal sustainability and concluded that most IMF studies in this regard were largely based on a theoretical technique with less attention paid to the present value budget constraint (PVBC) as an indicator of sustainable fiscal policy.

(Kantorowicz, 2017) examined fiscal sustainability for OECD countries. They employed panel cointegration test and observed the structural breaks for these countries over the period 1970-2010. In the study, they traced the causal relationship between government expenditures and revenues and sought to confirm the panel cointegration test with time series trend for fiscal sustainability for robustness and completeness purpose. The result showed lack of cointegration as well as absence of sustainability between government revenues and expenditures for most countries (except for Austria, Canada, France, Germany, Japan, Netherlands, Sweden and the UK) and improvements of the primary balance after previous worsening debt ratios for Australia, Belgium, Germany, Ireland, Netherlands and the UK. Causality link occurred from government debt to the primary balance for 12 countries (suggesting the existence of the Ricardian regime). Overall, fiscal policy has been less sustainable for several countries, and panel results corroborate the time series findings.

(Checherita-Westphal et al., 2014) provided estimates for the structural fiscal balance for the Romanian economy over the period 1998-2008. The calculation of the structural fiscal balance is useful since it provides a clear picture of the fiscal stance of the economy and it is essential in the context of a medium-term fiscal framework. In order to ensure the robustness of the estimation, we employed two methodologies for the computation of the elasticities of various categories of government revenues and expenditures with respect to the output gap. The two approaches issued similar results, the overall average budget sensitivity being equal to 0.285 and 0.290, respectively. The amplitude of the cyclical budget balance is around 1% of GDP. After constant improvement, the structural balance worsened in 2008, due mainly to the current crisis.

(Kalirajan & Otsuka, 2012) investigated sustainability of fiscal policy of West African Monetary Zone (WAMZ) countries using annual time series data to perform cointegration for the period 1980 to 2008, their empirical result revealed that fiscal policy was weakly sustainable for all the countries under investigation, including Nigeria, except Sierra Leone whose fiscal policy was found to be unsustainable. However, the author's result was in doubt as they failed to provide information about the statistical significance of the β through which weak or strong sustainability can be determined Quintos (1995). They used the Johansen co-integration method instead of Engle-Granger 2-step procedure that could afford to test for statistical significance of the vector β.

(Onifade, Nyandoro, Davidson, & Campbell, 2010) investigated the sustainability of the current account balances of ten ECOWAS economies from 1980 to 2006. According to the authors, the empirical investigation was carried out with a view to providing an insight into the possibility of achieving ECOWAS's goal of a common currency in the region. The study employed Vector- Auto Regression technique of analysis. The results showed that, out of the ten countries, only Burkina Faso, Ghana and Nigeria had their current account balances sustainable. Although, Nigerian current account sustainability provided an insight into the economic relationship between Nigeria and the outside world. However, the author was not in line with the internal consistency of fiscal policies unarguably relied upon to generate stability of the economy.

(Fotourehchi, 2017) examined the position the fiscal stance for 2006-2010 in Turkey by calculating the structural budget balance and determine the extent to which budget balance is affected by cyclical movements. In this study, where the structural budget balance is calculated in three stages; firstly, the sensitivity of budget items to national income is estimated; secondly, potential national income series are obtained; and lastly, the structural budget balance is calculated. Findings of the study are briefly stated as follows: the weighted tax elasticity coefficient for the Turkish economy is estimated to be 1.07. The share of structural primary budget surplus in GDP has declined in recent years. Fiscal policy is observed to be pro-cyclical in 2007, counter-cyclical in 2009 and cyclical in 2008 and 2010. The fiscal authority gave more importance to economic stabilisation in 2009 due to global financial crises.

(Muhanji & Ojah, 2011) gauged the effect of governance infrastructures on debt sustainability in Africa reviewed a large retinue of sustainability thresholds computed by Manasse and Roubini (2009); Paltillio, Poirson and Ricci (2002) and those advanced by Highly Indebted Poor Countries (HIPC) initiatives. They employed simple Ordinary Least Square (OLS) to confirm the impact factor of debt indicators on institutional and macroeconomic variables. Specifically, they employed the external debt to GDP measure – as the solvency indicator – and short-term debt to international reserves ratios – as the liquidity indicator; both serving as dependent variables respectively while political and legal infrastructures stood for institutional variables. After deriving an appropriate threshold level, they pointed to the failure of appropriate levels of sustainable external debt, inadequate effective governance infrastructure and ineffective management of external shocks as important reasons why Africa's external debt problems have persisted.

(Tapsoba, 2012) investigated whether national numerical fiscal rules (FRs) really shaped fiscal behaviours in 74 developing countries over the period 1990-2007 also found the same conclusion as he controlled for self-selection problem in policy evaluation. He employed a treatment effect evaluation and found that the effect of FRs on structural fiscal balance is significantly positive, robust to a variety of alternative specification and varies with the type of FRs. In terms of policy implication, the paper suggested that the introduction of rule-based fiscal policy frameworks remain a credible remedy for governments in developing countries against fiscal indiscipline.

(Pavone et al., 2016) applied the conventional linear cointegration test, tested the asymmetry relationship between revenue and expenditure i.e. making a distinction between the adjustment of positive (budget surplus) and negative (budget deficit) deviations from equilibrium. They used quarterly data on South Africa. The study found that fiscal policies were sustainable through the authorities in South Africa were more likely to react faster when the budget was in deficit than when in the surplus and that the stabilisation measures by the government were fairly neutral at low deficit levels, that is, at quarterly deficit levels of 4% of GDP and below. They submitted that the increasing tension amongst local communities complaining about poor service delivery by the government could be a recipe for fiscal unsustainability.

(Teragawa, Aso, Tadanaga, Hayashi, & Tatsumisago, 2014) examined theoretical models that underpin studies on "sustainability of budget deficits", which have been drawing interest in recent years, and also explains methods of empirical tests. The study starts with a discussion on the intertemporal government budget constraint in a certainty model and then expands the discussion to under uncertainty. Under uncertainty, the issue of whether or not Ponzi schemes are feasible in a dynamically efficient economy is theoretically important.

(Onyewotu et al., 2003) investigated fiscal sustainability in Nigeria over the period 1970 to 1990, using sustainability indicators. He found that the policy of fiscal deficit was not sustainable due to post-civil war reconstruction efforts that occasioned the protracted increase in fiscal deficit. However, it is on record that the deficit continues even a long period after the war. It should be noted also that the transition to democratic administration could definitely change the fiscal behaviour of the government which has implication for the debt profile. More importantly, a lot of events have taken place after 1990 when the study was conducted such as debt forgiveness and increasing revenue from oil exports which could have brought reduction to the fiscal deficit in Nigeria.

(Ofeimun et al., 2014) examines sustainable fiscal management in Nigeria for the period 1970- 2011. Going by the proliferation of investigation techniques in the empirical literature due to the multi-dimensional nature of fiscal sustainability, we employed a barrage of tests such as the descriptive statistics, threshold parameters, unit root and cointegration tests to, on the one hand, ascertain if fiscal sustainability holds in Nigeria and, on the other hand, cover the gap in empirical literature where these investigations were undertaken exclusively. Our results show that fiscal policy is both strongly and weakly unsustainable in Nigeria; given the disaggregated components of government expenditure. Although sustainability is attained between capital expenditure and government revenue the government has to contend with liquidity problems since the growth of capital expenditure is higher than that of its revenue counterpart. More so, the fiscal operations of government remained cyclically intoned with changing policies and regimes in Nigeria. Despite the existence of fiscal rules as enunciated in the Fiscal Responsibility Bill (FRB) and various constitutional provisions; the sustainability of fiscal policies in Nigeria still remains elusive. This suggests that the mere existence of fiscal rules does not guarantee its sustainability.

(Rutayisire, 1987) offered a theoretical perspective on how monetary policy can enhance inclusive growth in the economy through the Central Bank of Nigeria (CBN). The study constructed a theoretical model for inclusive growth in Nigeria and provides the drivers of inclusive growth in the economy. It also identified and discussed major challenges to the conduct and implementation of monetary policy in Nigeria which undermine the effectiveness of monetary policy to include non-monetized Nigerian rural sector, underdeveloped money and capital markets, and a large quantity of money outside the banking system. Others include poor data quality, the proliferation of illegal financial houses, and poor banking habits in the economy. The study, however, noted that monetary policy, when developed and conducted efficiently, has the capacity to influence the real sectors of the economy and positively influences all the key drivers of inclusive growth in Nigeria. To make monetary policy more effective and responsive to inclusive growth in

(Enright et al., 2015) explores the level of financial inclusion and its potential impact on the inclusive growth of the Nigerian economy, using relevant inclusive growth indices and indicators. The results revealed that the depth of financial inclusive is shallow even among African economies and more-so with emerging economies. It, therefore, recommends amongst others, the deployment of enhanced mobile banking and internet services by financial institutes to improve access to bank accounts and other services as well as the active participation of educational institutes in furthering financial

(Godard, Mac Aodha, & Brostow, 2017) provided an empirical analysis of the relationship between inclusive growth and its determinants as studies in this area are limited. Against this backdrop, the study utilised annual data from 1981 till 2014 and employed both the autoregressive distributed lag model (ARDL) and the error correction method (ECM) to investigate the long-run and the short-run parameters among the variables. The findings suggest a negative relationship between government consumption, education expenditure and inclusive growth both in the short-run and the long-run. In contrast, inflation and population growth variable indicate a positive effect on inclusive growth in the short-run but turned out negative in the long-run. Finally, initial capital and FDI showed a negative relationship in the short run, but a significantly positive contribution to inclusive growth in the long-run. Based on these findings, the study recommends that policymakers should take appropriate steps to increase the inflow of foreign direct investment, reduce inflation, while they work at improving the quality of the population in order to achieve inclusive growth.

The gap in the Literature

Empirical researchers have documented macroeconomic consequences of fiscal policy unsustainability (Bi, Leeper, & Leith, 2013; D'Erasmo, Mendoza, & Zhang, 2016; J. Ghosh, 2010; Hussain, Berg, & Aiyar, 2009; Langdana, 2009; Leeper, Richter, & Walker, 2012). However, the majority of studies in BRICS countries concentrated on fiscal deficit and its implications on other macroeconomic variables (Alt & Lassen, 2006; Brück, 2001; Chalk & Hemming, 2012; Feltenstein & Iwata, 2005; Hsing, 2011; Wosowei, 2013). Apparently, studies have not examined the consequences of fiscal health on development outcomes in BRICS nations. This study is motivated to address this gap by examining fiscal health and development outcomes with a view of coming up with findings that can redefine policy and research on the subject matter.

3. Methodology

In gauging fiscal health as a barometer for development outcomes in BRICS nations, this paper adopts the Domar proposition model as in (Sato, 1964)**.** This is because it characterizes the relationship between deficit and debt as a predictor of growth and development outcomes. Domar (1946) showed that the continuing budget deficit does not necessarily lead to the default of government when the economy grows which implies development is not at risk. The budget deficit in this context is a conventional one (the gap between government expenditure including interest payment and tax revenue), not a primary deficit. As is often confused, Domar's proposition always holds if the growth rate of the economy is positive, irrelevant to a relative magnitude between interest rate and economic growth rate.

(Domar, 1946) showed that debt-GDP ratio δ converges to a certain finite value when the growth rate of the economy is positive, and the government does not fail if the udget deficit remains to be constant relative to GDP. This proposition is easily derived.

$$\delta_{t+j} = \sum_{i=1}^{j} . \frac{\delta_{t+j-i}}{(1+n)^i} + \frac{\delta_t}{(1+n)^j} \qquad \textbf{(1)}$$

Where $\delta_t = r\delta_t + g_t - T_t$

Domar considered the case where $\delta_t$is a constant. By substituting $\delta_t = \delta$ into equation (1), and by using the formula for the sum of the geometric series, it can be easily shown n must be positive in order for δ_t to converge to a finite value. In this case, the following equation is derived from the equation above:

$$\lim_{j} \rightarrow \infty \, \delta_{t+j} = \frac{\delta}{n} \qquad \textbf{(2)}$$

That is, when the growth rate of the economy is positive, the debt-GDP ratio will converge to$\frac{\delta}{n}$, and the government will never fail if the government can keep dethe ficit to a constant relative to GDP. Moreover, it is also important that the convergent value of δ is independent from the initial position. Debt GDP ratio becomes low as the growth rate of the economy becomes high. However, even if public deficit is kept constant relative to GDP, fiscal management is not so easy.

Nevertheless, since our focus is on the structural relationship between fiscal health and developmental outcomes in BRICS nations, we introduce key explanatory variables that are theory consistent in explaining variations in developmental outcomes in BRICS nations. We employ the most recent and extensive panel data on developmental outcomes (GDP per capita) provided by the World Bank from 1986 through 2016. The source of data on gauging fiscal health is also the World Bank, which, based on formal and objective evaluation criteria, classifies fiscal health as debt to GDP ratio ($\frac{DEBT}{GDP}$), government revenue ($GREV$), ratio of cost of debt service to revenue $\frac{INT}{REV}$, and welfare standard of the populace $\frac{POP}{WELF}$.

The empirical model in this study mainly followed the work of (Martinez-Vazquez & McNab, 2003). Hence, the model for this study is specified as follows:

$$GDPPC_{it} = f(\frac{DEBT_{it}}{GDP_{it}}, GREV_{it}, \frac{INT_{it}}{REV}_{it}, \frac{POP_{it}}{WELF_{it}}) \qquad \textbf{(3)}$$

In order to make the regression model be in an estimation form, the model is reformulated to include the stochastic error term ample enough to make it a white noise error term.

$$GDPPC_{it} = \beta_0 + \beta_1 \frac{DEBT_{it}}{GDP}_{it} + \beta_2 \, GREV_{it} + \beta_3 \frac{INT_{it}}{REV}_{it} + \beta_4 \frac{POP_{it}}{WELF_{it}} + \mu_{it} \qquad \textbf{(4)}$$

Rewriting it in growth form with a panel analysis specification such that it adjusts for the disparity in units and measurement yields the following:

$$lnGDPPC_{it} = \beta_0 + \beta_1 \frac{DEBT_{it}}{GDP}_{it} + \beta_2 \, lnGREV_{it} + \beta_3 \frac{INT_{it}}{REV}_{it} + \beta_4 \frac{POP_{it}}{WELF_{it}} + \mu_{it} \qquad \textbf{(5)}$$

The rationale for these controls which is in tandem with economic theory is as follows. Low debt to GDP ratio will result in fiscal stress since no investor will be willing to lend out their resources without an imposing repayment structure. Government revenue is expected to aid the smoothening of government intertemporal budget constraints tending towards fiscal balance. Ratio cost of debt service to revenue is expected to exhibit a positive relationship with development outcomes. Ratio welfare to population is also expected to show a positive relationship with growth and development.

From the model, $lnGDPPC_{it}$is the logarithm of GDP per capita, β_0 is the fixed effects and denotes heterogeneity among cross-sections; $\frac{DEBT_{it}}{GDP}_{it}$ debt to GDP ratio, $lnGREV$ is the logarithm of government revenue, $\frac{INT}{REV}$is the ratio of cost of debt servicing to revenue generated, $\frac{POP}{WELF}$represent standard of welfare of the populace, subscript *i* and *t* denotes cross-sections (country) and periods (years). Assuming all data follow a panel unit root process and the error terms were a stationary process $(\mu_{it} \sim I(0))$, model (5) therefore depicts a panel cointegration model with a panel vector error correction model (PVECM) as follow:

$$\Delta lnGDPPC_{it} = \varphi ECM_{i,t-1} + \sigma\Delta \frac{DEBT_{it}}{GDP}_{it} + \theta\Delta lnGREV_{it} + \pi\Delta \frac{INT_{it}}{REV}_{it} + \omega\,\Delta\frac{POP_{it}}{WELF}_{it} + \varepsilon_{it} \qquad \textbf{(6)}$$

where $ECM_{i,t-1}$is the error term of the cointegration model in a panel setting; $\varphi$is the short-term adjustment effect. $\varphi < 0$ implies that long term relationship does not inhibit changes in economic development in the short term while a greater than sign implies the opposite. $\varphi, \sigma, \theta, \pi, and\ \omega$ are parameter estimate of the dynamic panel ordinary least square model.

The model is estimated using a balanced panel. The estimation of the above model calls for several cautions. First, we employ the panel unit root test to reveal whether a co-integration relationship exists between the variables. Analysis using panel unit root test have higher precision than unit root tests based on individual time series data. Panel unit root test is developed from a time-series unit root test. This development emphasized to combine the asymptotic characteristics of the time-series dimension *T* and cross-sectional dimension *N*. There are several procedures to analyze the panel unit root tests. Among them, we use the Levin–Lin–Chu test (LLC) and Im–Pesaran–Shin test (IPS) test. Secondly, we estimate the Dynamic Panel Ordinary Least Square to account for the dynamic relationship between the variables.

4. Results

Table 1. Summary Statistics

	GDPPC	*DEBT_GDP*	*GREV*	*INT_REV*	*POP_WELF*
Mean	5.366004	2.62E+10	2.14E+09	3.54E+09	8.81E+09
Median	4.411065	2.90E+10	1.49E+09	2.43E+08	4.96E+08
Maximum	33.73578	9.99E+10	8.81E+09	4.45E+09	9.67E+08
Minimum	-0.617851	3.62E+09	4.96E+08	1.23E+07	3.45E+06
Std. Dev.	6.422722	8.22E+09	1.88E+09	2.45E+08	4.82E+07
Skewness	3.370708	-0.522757	2.330129	1.482934	3.542363
Kurtosis	1.642764	2.115936	7.939672	1.744158	2.362006
Jarque-Bera	1886.010	17.57501	267.7623	432.3596	142.5492
Probability	0.280899	0.149289	0.436254	0.314157	0.293987
Observations	160	160	160	160	160

Source: Authors computation (E-views), 2018

Table I shows the mean and median values of the variables in the panel dataset lie within the maximum and minimum values indicating a high tendency of the normal distribution. All the variables are positively skewed. The kurtosis statistics showed that all the variables were platykurtic, suggesting that their distributions were flat relative to a normal distribution (values are less than 3). The Jarque-Bera statistics shows that the series is normally distributed since the p-values of all the series are not statistically significant at 5% level. Thus, informing the acceptance of the alternate hypothesis that says each variable is normally distributed.

Levin–Lin–Chu (LLC) Test

One of the first-panel unit root tests formulated by (Levin, Lin, & Chu, 2002) suggests the following hypotheses for testing stationarity in panel data. Under the null hypothesis, LLC test shows that each time series contains a unit root, i.e., $H_0 : \rho_i = 0 \;\forall\; i,$ and for altethe rnative hypothesis, each time series is stationary, i.e., $H_A : \rho_i = \rho < 0 \;\forall\; i$. Like other unit root tests in the literature, LLC assume that the individual processes in each cross section are independent. The LLC test is mainly based on the estimation of the following equation;

$$\Delta Y_{it} = \alpha_i + \delta_{it} + \theta_t + \rho_i y_{it-1} + \varsigma_i, t \qquad \textbf{(7)}$$

where i=1, 2 …. N, t=1, 2 …T

This test might be treated as a pooled Dickey-Fuller or augmented Dickey-Fuller test potentially with different time lags across the units of the panel.

Im–Pesaran–Shin (IPS) test

The IPS test formulated by (Im, Pesaran, & Shin, 2003) is the extension of LLC test incorporating heterogeneity in the dataset under the alternative hypothesis. Here, IPS test estimation is also based on Eq. **(6)**. The null hypothesis is stated as $H_0 : \rho_i = 0 \;\forall\; i$ against the alternative hypothesis of $H_A : \rho_i < 0$ where $i = 1, 2, 3, \ldots, N_1$; $\rho_i = 0$, $i = N_1 + 1, N_1 + 2, \ldots, N$.

In the IPS test, it is presumed that all series is non-stationary under the null hypothesis and a fraction of the series is stationary under the alternative hypothesis. It is the difference with LLC test, in which all series are supposed to be stationary under the alternative hypothesis.

Table 2. Panel Unit Root Test

Variables	GDPPC	DEBT_GDP	GREV	INT_REV	POP_WELF
Levin–Lin–Chu (LLC)	1.16852*	2.81667*	0.40493**	2.85117**	-2.46882*
Im–Pesaran–Shin (IPS)	-1.74269*	0.83097**	-0.77889*	-0.04328**	2.30854**

Source: Authors computation (E-views), 2018

*Significant at 1%; ** significant at 5%

The outcomes of Levin-Lin (LL) and the Im-Pesaran-Shin (IPS) test are shown in Table II above. All test confirmed that variables were non-stationary at levels and are stationary after first difference. It is hereby inferred that variables are first differenced stationary. These empirical outcomes did not only uncover the non-stationary properties of all the variables but also established a solid foundation for panel cointegration analysis. This is indispensable in this research because applying regressions on non-stationary variables can give misleading parameter estimates in the economic relationship among variables

Dynamic OLS (DOLS) and Cointegration test

A synopsis for panel dynamic ordinary least square for equation (6) is presented as follows and for the sake of clarity, let $y_{it} = (lnGDPPC_{it})$be a scalar and

$(x_{it} = \frac{DEBT_{it}}{GDP_{it}}, lnGREV_{it}, \frac{INT_{it}}{REV}_{it}, \frac{POP_{it}}{WELF_{it}})$ be a k dimensional factor, then $(y_{it}, x'_{it})'$is a $(k + 1)$ dimensional vector of observations that satisfies the following:

$$y_{it} = \alpha_i + \delta t + \emptyset_t + y' x_{it} + u^*_{it} \qquad \textbf{(8)}$$

where $(1, -y')$ is a vector of co-integration between $y_{it}$and x_{it}, $y_{it}, -y' x_{it}$is a composite equilibrium error that comprises of α_i(individual specific effect), δt (individual specific linear trend) and $\emptyset_t$(time specific factor). $u^*_{it}$is the idiosyncratic error term that is independent across *i* with a possibility of dependence across *t.*

Setting $\delta t = 0$and $\emptyset_t = 0 \forall i \text{ and } t$ in **(8)** yields

$$y_{it} = \alpha_i + y' x_{it} + u^*_{it} \qquad \textbf{(9)}$$

To control for any endogeneity that might arise assuming that $\mu_{it}$is correlated with at most $\rho_i$leads and lags of $v_{it} = \Delta x_{it}$, we projected μ_{it}on the leads and lags and obtained the following $u^*_{it} = \sum_{s=-\rho_i}^{\rho_i} \delta'_i, s^{v_{it-s}} + \mu_{it} = \sum_{s=-\rho_i}^{\rho_i} \delta'_i, s^{x_{it-s}} + \mu_{it} = \delta'_i Z_{it} + \mu_{it}$ **(10)**

where δ_i, s is the projection coefficients that is a $k \times 1$ vector. Substituting the orthogonal projection of μ_{it} in **(10)** into **(9)** yields

$$y_{it} = \alpha_i + y' x_{it} + \delta'_i Z_{it} + u^*_{it} \qquad \textbf{(11)}$$

Equation (11) gives the panel dynamic OLS estimator.

In estimating the dynamic OLS with a residual $\widehat{\mu_{it}}$, we assumed that

$$\varepsilon_{it} = \left\{ (\Delta \frac{DEBT_{it}}{GDP_{it}}, \Delta lnGREV_{it}, \Delta \frac{INT_{it}}{REV}_{it}, \Delta \frac{POP_{it}}{WELF}_{it}) \right\}$$

Secondly, for $\widehat{\mu_{it}}$and ε_{it} , the long run covariance matrix was adjusted by adopting Barlett kernel function with a bandwidth of three in order to get a consistency estimator. All explanatory variable was adjusted accordingly and using equation (11), the DOLS that estimates the regression equation (6) is a consistent estimator and the results are shown in the tables below.

Table 3. Panel Cointegration Test

Method		**Statistics**
Pedroni Residual Co-Integration Test	Within Dimension	
	Panel v-Statistics	-1.888277
	Panel rho-Statistics	0.408393
	Panel PP-Statistics	-2.187596
	Panel ADF-Statistics	-1.972961
	Within Dimension	
	Group rho-Statistics	1.596688
	Group PP-Statistics	-3.802426
	Group ADF-Statistics	-3.031206
Kao Residual Cointegration Test	ADF t-Statistics	-5.688362

Source: Author's Computation from Eviews 9.5, 2018

Table III affirms that cointegration relationship exists using Pedroni and Kao residual cointegration test. Therefore, it is concluded that the dynamic panel regression model reveals the long-term relationship among economic variables for BRICS nations. Hence, we proceed to estimate the dynamic panel ordinary least square regression to gradually adjust back to short-run equilibrium from their long-run convergence.

Table 4. Panel Vector Error Correction Model (PVECM)

Variable	Coefficient	t-Statistics	Prob
$\boldsymbol{ECM_{i,t-1}}$	-0.2354	-3.1039	0.0423**
$\Delta\dfrac{\boldsymbol{DEBT_{it}}}{\boldsymbol{GDP_{it}}}$	0.2357	2.7101	0.0077*
$\Delta\boldsymbol{lnGREV_{it}}$	0.0111	1.099	0.0889***
$\Delta\dfrac{\boldsymbol{INT_{it}}}{\boldsymbol{REV_{it}}}$	0.0924	0.8804	0.0933***
$\Delta\dfrac{\boldsymbol{POP_{it}}}{\boldsymbol{WELF_{it}}}$	0.0101	1.3011	0.5105
F-test	6.6452		

Source: Authors computation (E-views), 2018

*Significant at 1 %; ** significant at 5 %; *** significant at 10 %

Table IV shows that the coefficient of the error correction term was negative and statistically significant confirming the existence of panel cointegration relationship and implying that the speed of adjustments of economic development is 24% towards long-run equilibrium. Short-run dynamics revealed that fiscal health indices debt to GDP ratio ($\frac{DEBT}{GDP}$), government revenue ($GREV$), ratio of cothe the st of debt service to revenue $\frac{INT}{REV}$, and welfare standard of the populace $\frac{POP}{WELF}$ induces developmental outcomes in BRICS nations. The significance of the F-test also corroborates the short run dynamics in model.

5. Conclusions

This paper examines the fiscal health of BRICS nations as a prerequisite for their developmental outcomes from 1986 through 2017. In evaluating its objectives, the paper adopts the dynamic panel ordinary least square regression techniques to account for the short-run dynamics of the model. The empirical result reveals that fiscal health indices debt to GDP ratio, government revenue, the ratio of cost of debt service to revenue, and welfare standard of the populace induces developmental outcomes in BRICS nations. The findings of this study are in consonance with the findings of (Atale, 2011; Mauro, Romeu, Binder, & Zaman, 2015; Nayyar, 2016; Pant, 2013). It is therefore recommended that short-run policies should be tailored towards the stability of fiscal expenditure such that the objective of fiscal policy which is to maintain the condition of full employment, economic stability and to stabilize the rate of growth can be optimized and sustained.

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