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# Racial and Community Wealth Disparity the Bane of HBCUs: A Wealth Ecology Model Relational Perspective

By Ebenezer Seisie-Amoasi & Oliver Jones, Ph.D.

*Hampton University*

**Abstract-** Racial wealth disparities in the U.S. continues to persist despite community, state and federal governments programs to arrest the slide. Contemporary community wealth creation approaches using anchor institutions concepts to bridge the gap assume the wealth improvement duality of the community and the anchor institution coming together with external agents of support.

For an HBCU (Historical Black Colleges and Universities) as anchor institution, the improvement duality assumption links its fortunes with that of its community served. The study performs a regression analysis to determine the degree of the relationship and its direction. Measured African American family wealth status using the SCF data on median US household wealth and HBCU school choice by annual enrollment numbers from NCES digest of educational statistics, the analysis yields significant positive effects of student wealth status on HBCU school choice.

**Keywords:** racial wealth disparity, median household wealth, anchor mission, behavioral intention, school choice.

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Ebenezer Seisie-Amoasi<sup>α</sup> & Oliver Jones, Ph.D.<sup>σ</sup>

**Abstract-** Racial wealth disparities in the U.S. continues to persist despite community, state and federal governments programs to arrest the slide. Contemporary community wealth creation approaches using anchor institutions concepts to bridge the gap assume the wealth improvement duality of the community and the anchor institution coming together with external agents of support.

For an HBCU (Historical Black Colleges and Universities) as anchor institution, the improvement duality assumption links its fortunes with that of its community served. The study performs a regression analysis to determine the degree of the relationship and its direction. Measured African American family wealth status using the SCF data on median US household wealth and HBCU school choice by annual enrollment numbers from NCES digest of educational statistics, the analysis yields significant positive effects of student wealth status on HBCU school choice.

This positive direction finding does not support the research question that a decrease in African American students' perceived wealth status leads to a corresponding increase in their HBCU school choice. The assumption that the catchment community served by HBCUs is the source of the school's financial and growth challenges is not supported by the findings. The result shines a light on the benefits of the anchor mission to HBCUs and informs HBCUs' student recruitment strategies.

**Keywords:** racial wealth disparity, median household wealth, anchor mission, behavioral intention, school choice.

## I. INTRODUCTION

Racial wealth disparities among minority communities in the U.S. and around the globe have persisted despite the improvement in global democratic norms and the proliferation of market and capitalist principles. Most have attributed the phenomena to inferior culture (Lavoie, 2002), values and planning (the lack thereof) and aptitude of African Americans (Galenson, 1972; Wilson, 1987; Brimmer, 1988; Lawrence, 1991; Szydlik, 2004; Frazier, 1957; Lewis, 1963; Banfield, 1974; Charles et al. 2009). Lavoie (2002) says, African Americans need to “tell good stories” about the markets to inject the values system

integral to the enterprise school of thought inherent in capitalist society. Thus, appreciating culture's role in economics could provide likely different paths toward economic prosperity for different cultures.

More importantly, others have attributed the wealth gap to knowledge and to structural and unequal ownership opportunity. Including, discriminatory practices and racialized policies in labor markets (Herring & Henderson, 2016), income inequality (Wolff, 2017) and of human capital (Robb & Fairlie, 2007). Thus, the importance of human capital, education, knowledge driving income form significant ingredients to improving the wealth status of minority communities.

Racial income inequality is disproportionately affecting African Americans as data from the Federal Reserve survey of household wealth shows African Americans income have consistently lagged all races (Wolff, 2017). Coupled with higher debt proportions (Rodney & Mincey, 2020), the wealth wellbeing of most African American families and communities continues to be significantly under pressure. Within most African American communities sit Historical Black Colleges and Universities (HBCUs) with the sole purpose to educate Black Americans and have continued to produce increasing proportion of all African American college graduates (Wilson, 2007; Harper, 2019). HBCUs have shouldered systematic equity challenges financially and academically for decades due to both internal and external barriers (Harper, 2019; Simms et al., 1993). Inequitable federal and specifically state funding rates, stagnant and declining enrollments partially spurred by increasing college operating cost, have had significant impact (Kim & Conrad, 2006). Brown and Burnette (2014) find that PWIs have higher capital spending patterns, for example, than HBCUs. HBCUs have been plagued with declining economic status and have student retention challenges (Harper, 2019; Cheatham et al, 1990).

Higher education costs have increased dramatically requiring most African American students to use loans (Rodney & Mincey, 2020) with attendant student loan burden impacting negatively on income or wealth (Espinosa et al. 2019). Financial assistance availability and cost of attendance are substantial predictors of African American students' decision to attend higher education as well as success and

Author <sup>α</sup> σ: James T. George School of Business, Hampton University.  
e-mails: ebenezer.seisieamoasi@my.hamptonu.edu,  
oliver.jones@hamptonu.edu

performance (Simms et al., 1993; Harper, 2019). All these pointing to vulnerable universities and colleges that are especially hampered when located in vulnerable communities (Goddard et al., 2014).

To change their vulnerable status, HBCUs have options to improve their enrollment rates (from their 'anchored' regions as well as widening their catchment areas), retention rates and fees charged (Goddard et al., 2014) for a better bottom line. By leveraging their resources as anchor institutions for their community's development (Clarke, 2017) through Community Wealth Creation (CWC) initiatives, such as the Wealth Ecology™ Model (WEM) (Source Energy Global, 2022), they may enhance their close connection with their communities in a mutually beneficial relationship. In so doing, improve their competitiveness (Garton, 2021) in recruiting and retaining students and faculty. Goddard et al. (2014) find "no specific incentives" (p.321) in their review showing any specific bottom line benefits to anchor institutions' community development or wealth creation initiatives in their local economies. This may be due to the non-profit status of most of the institutions under the study and their heavy dependence on government and external funding.

The Wealth Ecology™ Model is an anchor-based CWC model based on the Revolution Wealth (RW™) (Source Energy Global, 2022) principles that brings Regimes of Support (RoS) and communities (Lumpkin & Bacq, 2019) together to generate economic enterprises. Anchor institutions (such as Universities, research institutions, local and community banks and financial services, hospitals, etc.) as part of RoS network enable money flows through the community to be anchored within the community to enhance a wider sharing of created wealth. The HBCU-CDFI anchored by Hope credit union is a typical collaboration example (Hope Enterprises, 2022). Other RoS may include, for-profit and non-profit organizations, fund managers, government agencies, philanthropic organizations, wealthy individuals and families, etc.) that have the financial resources and initiative to collaborate with the community for democratized wealth (Dubb, 2016). The community brings its natural and/or human resources to the enterprise.

Acting as anchor institutions within WEM, HBCUs may expect to increase their enrollments, for example, from the key communities they serve the most. Underlying this expectation is the observation and assumption that HBCUs challenges reflect the fortunes of the core communities they serve – African Americans and minorities. The purpose of this study is to understand the nature of this relationship using relation regression techniques. It is found that HBCUs challenges go beyond the wealth status of their students and communities.

This understanding can inform the debate on the mutuality of the benefits of the anchor mission to

HBCUs and help strengthen or weaken the need to accept the anchor mission broadly across HBCUs in participation in the WEM initiative or any CWC. It could inform HBCUs strategies on student and faculty recruitment. It adds to the literature on community wealth creation initiatives, anchor institutions and refines the mutual benefits of the anchor mission. Understanding this observed link can help substantiate and fashion out appropriate approaches as part of WEM or any CWC program targeting HBCUs as anchor institutions and inform HBCU policy on contemplating the anchor mission.

The rest of this paper follows with a review of current literature including some definitions of operational variables and hypothesis development. This is followed by sections on data and methodology, and results and discussion. The last section concludes with policy implications.

## II. LITERATURE REVIEW

### a) Definitions

Historically Black Colleges and Universities (HBCUs) –are defined by the Higher Education Act of 1965 as institutions of higher learning established before 1964 whose principal mission is the (higher) education of African Americans (Wilson, 2007).

School choice –School choice, as an operational variable, is school choice achievement represented by annual fall enrollment as recorded by the NCES. Most admissions occur in the fall semester, and this acts as a good estimate and indicator of enrollment strength.

Student Wealth status – is an operational variable using the median household net worth for a typical HBCU student household.

Wealth accumulation type is an operational variable representing the specific type(s) of household wealth components such as business equity, financial assets, savings bonds, investment funds, certificate of deposit, home ownership and equity, stock holdings, debt obligations, etc. (Wolff, 2017). The elements aggregate to the median household net worth estimation.

### b) Wealth and Minority Communities

Economists define wealth in terms of marketable assets, such as real estate, stocks, bonds, etc. More recent studies have identified knowledge and IP as the new currency explaining some of the wealth gaps. As an economy, ownership structures drive how its resources are allocated (Domhoff, 2020). Therefore, the lack of ownership of the sources of wealth (Klein, 2017; Kotlowski, 1998) within a community by its members could entail declining community wealth stock and its competitiveness in supporting its student population to persist and achieve in their college educational drive.

To overcome the increasing cost of education, declining sources of financial aid (grant, scholarship, etc.) and school funding, students have had to rely more on private and public loans and family support. With African American communities mostly suffering from racial wealth disparities (Wolff, 2017; Herring & Henderson, 2016, Robb & Fairlie, 2007; Cavalluzzo & Wolken, 2005), the availability of family support becomes the most supportive and differential determinant that influences college enrollment. This is assuming financial aid and public funding are available to all students and based on achievement, should be the same opportunity to all incoming students without potential racialized differential. Most African Americans have negligible impact from inheritance (Herring & Henderson, 2016; Robb & Fairlie, 2007) and therefore depend mostly on acquired wealth from immediate and close family circles.

The average wealth stocks of all members of a community can be effectively used as a determinant of the wealth status of a community as far as that measure constitute majority of the wealth builders, drivers or indicators. A study by Herring and Henderson (2016) finds Stock ownership, inheritance, Income, business ownership, home ownership, college level education, and retirement asset investments are the highest wealth indicators and creators. Additionally, social and community-based wealth improvement initiatives identify human, intellectual, social, cultural, and environmental capital as sources of wealth (Lumpkin & Bacq, 2019). Any measure that includes a sizable proportion of the above indicators should provide an effective proxy for a community's wealth.

Here, the wealth concept by Wolf (2017) is used. Defining ...

"wealth (or net worth) ... as the current value of all marketable or fungible assets less the current value of debts. Where total assets are defined as the sum of: (1) the gross value of owner-occupied housing; (2) other real estate owned; (3) cash and demand deposits; (4) time and savings deposits, certificates of deposit, and money market accounts; (5) government bonds, corporate bonds, foreign bonds, and other financial securities; (6) the cash surrender value of life insurance plans; (7) the value of defined contribution (DC) pension plans, including IRAs, Keogh, and 401(k) plans; (8) corporate stock and mutual funds; (9) net equity in unincorporated businesses; and (10) equity in trust funds. Total liabilities are the sum of: (1) mortgage debt, (2) consumer debt, including auto loans, and (3) other debt such as educational loans. This measure reflects wealth as a store of value and therefore a source of potential consumption (2017, p.6).

The student wealth status is measured using the median household net worth of HBCU students. This is that represented by their racial group annual median. This data is compiled by the Survey of Consumer Finance (SCF) sponsored by the US Federal Reserve.

### c) *HBCUs and School Choice*

HBCUs' challenges seem to be reflective of the fortunes of the core communities they serve - African Americans and minorities. HBCUs have, shouldered systematic equity challenges financially and academically for decades. Founded as a place for African Americans to be educated, HBCUs have experienced growth and recognition as institutions and expanded their research and degree offerings. The advancement of these institutions has transformed the lives of many African Americans, but they continue to face challenges academically and financially. External systemic and structural influences and barriers as afore discussed, student loan crisis, dwindling grant funding, and federal budget cuts have contributed to the lack of resources at HBCUs (Kim & Conrad, 2019, Wilson, 2007). Internal barriers, including rising cost of college education, low achievement of incoming students ((Maxey et al. 1995; Kim & Conrad, 2019), low alumni giving, and low-income students seem to have impacted.

School choice is discussed to be reliant on several factors categorized into behavioral, econometric and sociological (Pitre et al., 2006). An expanded model of categories includes personal and parental effects, economic effects, academic effects and social effects (Dial, 2014). Pegini and Staffolani (2015) finds that cost and geographical dispersion are critical to disadvantaged students but at the same time, high quality institutions attract talented students irrespective of their wealth status. That is, student achievement is the determinant without mentioning that achievement at the pre-entry levels may be determined by quality of the learning environment that may depend heavily on availability of funding and the wealth of the student community. Most traditional school choice models focus on the student characteristics as input for understanding student choice (Hossler et al., 1999). An earlier model by Hossler and Gallagher (1987, as cited in Hossler et al., 1999) has the broad components of the school choice process stages as predisposition, search and the choice decisioning.

Pitre et al. (2006) using the theory of reasoned action provided an enhanced model with additional behavioral concepts. They laid out the broad components of the school choice process as student attitude, subjective norms (beliefs and influences of significant others), and the student-college perceptive behaviors that shape the decision process. Thus, the choice process is not only shaped by student characteristics like achievement scores but also by student predisposition behaviors such as personal assessment of ability to afford (wealth status, cost, etc.), perception of readiness for college, the perception of others within their circle of influence and control, etc. Pitre et al. (2006) further indicate other studies that show that African American students have an intention to

achievement gap as compared to other racial groups. This they attributed to differential behavioral norms that negatively impacts African Americans. This highlights the importance of subjective norms and perceptions pertaining to the African American student's immediate environment as an important driver than what occurs nationally.

For African American students, Maxey et al. (1995) indicate school choice as mostly dependent on programs offered, their location, quality of housing system and education offered, commute distance, academic reputation and financial aid availability. Their research finds that cost of education is of highest influence for African American students followed by family income. And that African American students with lower achievement scores are more likely to attend HBCUs. And by implication, from majority poor neighborhoods and communities.

Low achieving students are linked to low wealth communities where student preparation for college is considered poor (Cheatham et al., 1990; Brown & Burnette, 2014). School systems within low income and poor communities are said to be without some education enhancing structures and resources generally available in affluent communities that aid student learning and development. Are HBCUs stuck with underachieved students they need to spend more on average to develop their full potential to be able to be competitive?

Sissoko and Shiau (2005) investigated the factors influencing African American students HBCU choice with the findings suggesting African Americans HBCU enrollment is influenced more by tuition and fees (education cost), the availability of financial aid, African American population trends, school retention rates and federal policies. They did not find student household wealth as a significant influence on choice of HBCU attendance though there is a positive relationship which they find as not significant. This they attributed to the general real median income decline over the study period. This outcome seems to be at odds with Maxey et al. (1995) finding that student family income, that contributes to student achievement levels, has influence on HBCU choice.

These studies agree that cost of attendance is the highest consideration to the African American student preparing for college education. However, the verdict on household wealth (that has elements of attitude – perception of level of wealth and subjective norms – perception of family support) is mixed. That is, students' ability to afford college education and have intention to attend is not yet agreed to depend upon their perceived wealth status.

A major proportion of schools' revenue comes from students' tuition and fees and therefore the quantity of students admitted become important. The level of student population in a particular school also affects all

other school financial receipts - grants and awards. Most HBCUs have struggled with dwindling student rolls (Sissoko & Shiau, 2005) exacerbated by the reducing African American male (Simms et al., 1993) proportion and the quality of students they receive. Schools struggling with student enrollment, are known to struggle financially, with some closing (Harper, 2019). The enrollment numbers for schools could be used to gauge the struggles of institutions especially, HBCUs who tend to face dwindling external funding sources. Strong enrollment numbers are therefore boon to the school all around.

#### d) Objectives and Hypothesis

Do HBCU students' represented communities determine HBCUs wealth status? The community served by HBCUs is represented by students coming from diverse communities but mostly the African American communities facing racial and structural discriminatory wealth disparities. Here, the community-institution relationship is between the institution and its student population primarily. Since students come from different minority communities and are not homogeneous, the implication of the relationship is in general across all such communities from which HBCU students are based. Given the purpose of establishing the relationship between HBCUs and their served community's wealth, this requires determining the relationship between HBCUs and their students' wealth. This may answer whether HBCU students' wealth status is a source of the struggles of HBCUs. On the surface, this seems so. Further, HBCUs student body are, majority African American with some level of minority groups and more recently, some white students (Harper, 2019; Kim & Conrad, 2006). The objective is to determine how HBCUs struggle with African American students' enrollment is linked to their students' wealth status. The result will help shed light on whether HBCUs served communities' wealth status influences HBCUs speculated non-competitive status while adding to the literature on HBCU school choice and clarifying the dimension of wealth.

School enrollment occurs as a result of prospective students' school choices. There are multiple reasons for students' school choices. There is need to know whether the African American student wealth status has a relationship to African American students' choice of HBCU attendance or whether African American students of HBCUs do have a different wealth profile than African American students who attend non-HBCUs. There is the fact that African American students make their initial intention school choice based on their perceived achievement level and may choose HBCU (Maxey et al. 1995) as a result of their low achievement. Simms et al. (1993) find personal and pre-college factors are better predictors of college attendance by African American male students. Whereas Pigini and



Staffolani (2015) find that perceived quality institutions accept talented students irrespective of their wealth status. Thus, does a student or a student's family wealth status or type of wealth accumulation influence their choice of HBCU over for example, a Predominantly White Institution (PWI). For African American students to choose HBCUs because they are poor and/or from poor communities, then as wealth status deteriorates, HBCUs should see enrollment grow.

Based on the theory of reasoned action, per Pitre et al. (2006) analysis, a graduating high school student's behavioral attitude and subjective norms play roles in students' school choices. Students attitude to school choice may be influenced by their perception of their wealth status. This perceptive behavior on wealth seems to affect the student's attitude as well as their held norms of support they can receive from their immediate circle (family, family friends). As individuals, their wealth perception or expected income level may tell them they cannot afford the school they may want to attend, and this contributes to their behavioral attitude. Their perception of their family or family members wealth and coupled with their ability or intention or potential to support may increase the student's intention to attend and choose a particular college.

The following two propositions suffice: African American students' perceived low wealth status leads to their choice of HBCU post-secondary education. And that, the type of wealth accumulation influences their HBCU choice. The propositions lead to the following relational testing hypotheses. The first null hypothesis,  $H_{a0}$  and its alternative,  $H_{a1}$  are:

$H_{a0}$ : African American students' wealth increases with their HBCU enrollment (HBCU school choice).

$H_{a1}$ : African American student wealth status decreases, their HBCU enrollment increase.

The second null and its alternative hypotheses are:

$H_{b0}$ : African American students HBCU enrollment is not related to any specific type of wealth component (or wealth accumulation type).

$H_{b1}$ : African American students HBCU enrollment is influenced by at least one specific type of wealth component.

### III. DATA AND METHODOLOGY

This study uses archival data research from available survey data on behavioral choices in relation to prevailing economic status to test the hypotheses. From the hypotheses, the dependent variable is school choice (HBCU enrollment) with the independent variables as family wealth (household wealth) status and its decomposed contributing components.

Data for school enrollment (fall semester enrollment) is taken from the National Center for Educational Statistics' (NCES) 2019 Digest of

Educational Statistics (DES). The 2019 edition of the DES is the 55th in a series of publications initiated in 1962. The DES provides a compilation of statistical information on the broad fields of American education from prekindergarten through graduate school (de Brey et al., 2021). It contains data on varieties of education delivery topics with post-secondary enrollments for HBCU and non-HBCUs in separate sections, the main dataset used for this study.

The DES has data over a long period but do not show enrollment figures for each year since its inception. However, it provides comprehensive data on the periodic data collection years. The period for the study is from 1989 to 2017 with enrollment figures for fall semesters only.

Data for household wealth is taken from the Survey of Consumer Finances (SCF) for the same time periods. The SCF is a triennial survey sponsored by the Federal Reserve with the cooperation of the Department of the Treasury. It is designed to provide detailed information on U.S. families' balance sheets and their use of financial services, as well as on their pension rights, labor force participation, and demographic characteristics at the time of the survey interview. The survey also collects information on total family income, before taxes, for the calendar year preceding the survey. The family term in family income is similar to the U.S. Bureau of the Census definition of household that excludes single people (Kennickell et al., 1997). It is a fully representative data on the broader financial status of U.S. households. The SCF is unique in that there is no any other survey that collects data on the household finances of a probability sample of Americans. The underlying statistical methodology of the surveys has largely stayed the same since its inception making all the periodic data more comparable (Kennickell et al., 1997).

#### a) Sample Size

The target population is African American students who attended or chose to attend HBCU and non-HBCU post-secondary education during the targeted period from 1989 to 2017. The study is a longitudinal study of period cross-sectional samples as per the design of the surveys forming the database from which the research test data is sourced.. The sample size in terms of the number of periods covered is ten based on available data at the survey's periodic collection years. This constricted number of periods for the study may introduce validity concerns but the broad-based nature of the data sets and their randomness of cases from the larger population minimizes the effects.

#### b) Methodology for Data Analysis

In this analysis, use is made of both descriptive and regression statistics for the variables: enrollment and median household wealth. To determine the significant association effects and determinants of

enrollment levels by household wealth, the Ordinary Least Squares (OLS) method is used. Many proxies have been used to measure wealth. Here, the wealth of African American households is estimated by the median household wealth as published by the SCF. This measure of wealth is used to measure student wealth status. The data represents a comprehensive measure of all reportable and measurable aspects of a family's wealth and therefore has the strongest indication of an individual student's wealth status. It represents most of the elements of wealth.

Wealth accumulation occurs along the various dimensions of wealth. Each wealth dimension or type may have a differential influence on students' perception of wealth or their liquidity potential to support their intent to attend higher education. The types of wealth accumulation applied here are the major elements of the median household wealth as published by the SCF. See Table C.1 in Appendix C for the applied elements.

Student choice of a school leads to enrollment rolls of schools and using this measure as an indication of students' choice behavior should provide an excellent fit. Sissoko and Shiau (2005) established that even though non-African Americans' proportion in HBCU enrollment increased in proportion to HBCU total enrollment, the proportion of African Americans held steady. This allows enrollment levels to be generalized to African American enrollment change without loss of accuracy.

c) *Data Analysis*

The objective of this study is to understand how HBCU students' wealth status influences their behavioral choice of HBCUs for higher education attendance. The first hypothesis focuses on how the median household wealth of African American students influences their HBCU enrollment patterns which is a directional correlation investigation. The second is whether school choice is influenced more by specific wealth accumulation types and this portents to a correlational size effect determination.

On the first hypothesis  $H_a$ , based on the sample data obtained from the survey results sourced from NCES and the SCF, the regression analysis between the dependent variable, African Americans (AA) HBCU enrollment and the independent variable, African American median household wealth (net worth) is performed. As a basis for this analysis, it is assumed that school choice is made on the perception of family income. This necessitates the assumption that at year 0, the enrollment effect of current year perceived wealth status would determine year one (1) enrollment intention. The result leads to the following regression relationship:

$$Y_i = \beta_0 + \beta_1 * X_{i-1} \forall i \in (1,10) \dots \dots \dots \text{Eq. 1}$$

where  $i$  is year  $i$ , the antecedent  $X$  is African American student (median household) income, and the outcome  $Y$  as African American students (AA HBCU) annual enrollment.  $\beta_0$  and  $\beta_1$  are the regression coefficients.

To test the relationship in Eq. (01), ten dataset points were selected from the two databases CFS and NCES matching the periodic survey years between 1989 and 2017 with the networth data selected a year ahead of the enrollment years. That is, for the starting year of 1990, the income dataset is selected at year 1989 to align with the enrollment dataset in year 1990. The combined data set is presented in Table A.3 (a & b) in appendix A.

Since a directional and strength of correlational relationship investigation is being conducted, Ordinary Least Squares regression analysis is used to process the data with SPSS software. To account for a possible biasing of the net worth effect, the average national median and the non-African American students' net worth data were collected. This helps to understand if there is any moderating effect from the national wealth trend.

For the second hypothesis,  $H_b$  the same sample data obtained from the survey results from NCES and the CFS as applied in the previous analysis is used. There are multiple independent variables representing African American wealth accumulation elements that combined to produce the median wealth values, a decomposition of household net worth. The selected key components of wealth, aligning with the findings from the work of Herring and Henderson (2016) are shown in Table A.5 in appendix A. Multiple regression analysis is performed to identify which wealth elements show significant correlation and explanation (coefficient of determination) of the variation in enrollment (school choice). In this test, size effects were determined to identify the dominant variables impacting the dependent variable, the African American HBCU school choice as represented by school enrollment numbers. This is shown in Eq. (02) below.

$$\hat{Y}_i = \beta_0 + \beta_1 * \bar{X}_{i-1}^1 + \dots + \beta_n * \bar{X}_{i-1}^n \forall i \in (1,10) \dots \text{Eq. 2}$$

Where  $i$  is year  $i$ ,  $\beta_n$  is the relative size effect of each wealth element,  $X_i$  at year  $i$  and  $n$  is the number of wealth elements selected.

The elements with the dominant size effects are considered as the main drivers of the wealth effects on enrollment. Further analysis of the main elements informs understanding the wealth accumulation patterns that focus African American students' wealth perception. This leads to understanding which wealth accumulation trend drives African American students' enrollment and thus, college school choice.



## IV. RESULTS

### a) Descriptive Statics

The descriptive statistics in Table 01 shows the means of the key variables used for investigating the Hypothesis from the research questions.

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
HBCU AA Annual Enrollment	237512.20	17890.434	10
African American Median Household Net Worth	20.165	6.2408	10
National Average Net Worth	68.600	12.6191	10
Non-African American Ave Household Net Worth	81.970	13.9368	10

The above Table 01 shows that on the average, the African American student generally has the lowest median household wealth relative to other racial groups and the national average.

### b) Analyzing Correlation between the Variables

First, the relationships between the key variables AA median household net worth, national median household net worth, non-AA median household net worth, and AA HBCU enrollment are analyzed. The results of the correlation test as shown in Table B.1 in appendix B based on data in Table A.3b, establishes that African American HBCU enrollment shows high correlation with AA net worth and non-African American

average net worth of .681 and .559 respectively with all  $p < .05$ . However, National average median relationship strength of .436 is insignificant at  $p > .05$  (95% CI). The preliminary assessment is that the most effect or influence on HBCU enrollment is exhibited by AA net worth.

The net worth variables show relatively higher correlation relationships among them indicating their expected circular relationships as following the national household wealth trend. A stepwise regression modeling is used to examine their explanatory effects on HBCU enrollment. The result is shown in Table 02.

Table 2: Wealth stepwise regression modeling

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F Change	df1	df2	Sig. F Change	
1	.681 <sup>a</sup>	.464	.397	13888.383	.464	6.934	1	8	.030	1.001

a. Predictors: (Constant), African American Median Household Net Worth

b. Dependent Variable: HBCU AA Annual Enrollment

The effects of the two independent variables on AA enrollment is investigated by adding each independent variable step-wisely to the regression modeling process. This helped to check and validate the strength of each variable's effect or influence on the outcome variable AA HBCU enrollment. As shown in

Table 02, no-AA net worth has no significant explanatory effect and did not appear in the stepwise regression modeling result. AA net worth with  $r = .681$ ,  $p < .01$  demonstrated the highest change in AA HBCU enrollment of 46.4% (95% CI). See Appendix B, Table B.2 for excluded variables.

Table 3: Stepwise regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
		B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	198122.372	15589.881		12.708	<.001	162172.041	234072.703						
	African American Median Household Net Worth	1953.388	741.808	.681	2.633	.030	242.776	3664.000	.681	.681	.681	1.000	1.000	

a. Dependent Variable: HBCU AA Annual Enrollment

The regression coefficients are shown in Table 03 with their significance. In supporting the previous analysis on the explanatory effects of the variables, the resulting model constant and  $\beta_1$  coefficients are

statistically significant,  $t > 2.6$ ,  $p < .05$  (95% CI) confirming the relationship that African American household wealth is a determinant of the changes in African American HBCU enrollment. This establishes the following

direction relational relationship between AA Wealth status  $\bar{X}$ , and the outcome  $\hat{Y}$ , AA HBCU enrollment in Eq. (03).

$$\hat{Y}_i = 198122.372 + 1953.388 * \bar{X}_{i-1} \dots\dots \text{Eq. 3}$$

Eq. (03) shows that AA enrollment in HBCUs denoted by  $\hat{Y}$  at year  $i$  is dependent upon the prior year's ( $i-1$ ) African American student's median household wealth, denoted by  $\bar{X}$ .

For the second hypothesis  $H_b$ , the association effects with the major categories of wealth accumulation are studied. The main categories selected include Income, Assets, Debts and Loans as shown in Appendix A, Table A.4. The results of the correlation analysis is shown in Table 04 below. All the categories of wealth, except Loans, seem to show significant relationship with AA HBCU enrollment,  $r > .791$  (95%,  $p < .05$ ). No significance with Loans,  $p > .05$ .

Table 4: Correlation between AA enrollment and wealth categories

		Correlations				
		AA HBCU Enrollment	Total Assets	Total Debt	AA Median Income	All Loans
Pearson Correlation	AA HBCU Enrollment	1.000	.845	.801	.791	.331
	Total Assets	.845	1.000	.658	.592	.166
	Total Debt	.801	.658	1.000	.887	.713
	AA Median Income	.791	.592	.887	1.000	.776
	All Loans	.331	.166	.713	.776	1.000
Sig. (1-tailed)	AA HBCU Enrollment	.	.001	.003	.003	.175
	Total Assets	.001	.	.019	.036	.324
	Total Debt	.003	.019	.	.000	.010
	AA Median Income	.003	.036	.000	.	.004
	All Loans	.175	.324	.010	.004	.
N	AA HBCU Enrollment	10	10	10	10	10
	Total Assets	10	10	10	10	10
	Total Debt	10	10	10	10	10
	AA Median Income	10	10	10	10	10
	All Loans	10	10	10	10	10

The results of regression analysis between AA HBCU enrollment and the significant correlated wealth categories as independent variables are the shown in Table 05 below. The model establishes only significance

of Assets and Income as antecedents explaining 84.4% of the variation in AA HBCU enrollment,  $r = .919$ ,  $p < .05$ . However, the change due to the additional effect of Income of 13.0% is significant,  $p < .05$ .

Table 5: Wealth categories regression result

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.845 <sup>a</sup>	.714	.678	10148.016	.714	19.972	1	8	.002
2	.919 <sup>b</sup>	.844	.799	8012.403	.130	5.833	1	7	.046

a. Predictors: (Constant), Total Assets

b. Predictors: (Constant), Total Assets, AA Median household Income

Now, considering the decomposed constituent elements of these categories, as shown in Table A.5 in appendix A, the decomposed constituents correlation test is shown in Table C.2 in appendix C. From the preliminary results, AA median household income (Med\_Inc), credit card debt (CCdt), homeownership (HOsh), Stockholdings (Stockh), and business ownership (Buseq) are found to have statistically significant association,  $\neq 0$  ( $p < .05$ , CI 95%), with AA HBCU enrollment (AAenrl).

The preliminary correlation indicates some order of association strength between the independent variables and AAenrl. To establish a dependency relationship between the variables, the order determined under the correlation analysis is used to perform a stepwise regression modeling of the five variables with the dependent variable. This approach enables the cumulative strength effects of each antecedent variable to be appraised. The model result is shown in Table 06 below.

Table 6: Strength of association modeling

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.884 <sup>a</sup>	.781	.754	8872.071	.781	28.596	1	8	<.001

a. Predictors: (Constant), Credit Card Debt

Table 7: Strength of association combination modeling

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.791 <sup>a</sup>	.625	.578	11616.641	.625	13.346	1	8	.006
2	.922 <sup>b</sup>	.850	.807	7859.222	.225	10.478	1	7	.014

a. Predictors: (Constant), AA Median household Income  
 b. Predictors: (Constant), AA Median household Income, Credit Card Debt

Credit card debt (CCdt) shows the most significant effect,  $r=.884$ ,  $p<.001$  (CI=95%) of about 78.1% explanatory power of the changes in AAenrl from Table 06. In support of this analysis result on the explanatory effects of the variables, the coefficients analysis is in Table 08. The coefficients of all other

variables except credit card debt in models 2 to 4 are insignificant at  $t<1.0$ ,  $p>0.05$  (CI=95%) and cannot reject the possibility of their being zero. And hence, the other antecedents acting concurrently may not have any significant effect on changes in AAenrl.

Table 8: Wealth decomposed elements regression coefficients

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	175034.649	12015.586		14.567	<.001	147326.659	202742.639
	Credit card debt	36008.377	6733.650	.884	5.348	<.001	20480.553	51536.202
2	(Constant)	173198.695	13418.094		12.908	<.001	141469.944	204927.447
	Credit card debt	31998.322	11902.895	.786	2.688	.031	3852.448	60144.195
	Home ownership	72.411	172.383	.123	.420	.687	-335.210	480.032
3	(Constant)	172781.396	14060.442		12.288	<.001	138376.733	207186.059
	Credit card debt	31381.886	12497.690	.770	2.511	.046	801.140	61962.631
	Home ownership	-7.397	221.154	-.013	-.033	.974	-548.541	533.747
	Stock holdings	943.398	1511.665	.187	.624	.556	-2755.515	4642.310
4	(Constant)	175692.781	16473.468		10.665	<.001	133346.383	218039.178
	Credit card debt	24793.612	20028.121	.609	1.238	.271	-26690.312	76277.536
	Home ownership	91.232	325.502	.155	.280	.790	-745.497	927.961
	Stock holdings	314.790	2156.009	.062	.146	.890	-5227.409	5856.989
	Business equity	148.856	335.721	.166	.443	.676	-714.143	1011.855

a. Dependent Variable: AA enrollment

When CCdt is combined with other variables taken first, only Med\_Inc accumulates a combined significant relationship of 85.0% effect change,  $r=.922$ ,  $p<.05$  shown in Table 09. Evaluating the combined coefficients of the association, the coefficient of Med\_Inc is insignificant,  $p>.05$  and cannot reject the possibility of it being zero. See Table 08. Hence, credit

card debt is the only statistically significant wealth element that influences AAenrl (AA HBCU enrolment).

Table 9: Wealth elements combination regression coefficients

		Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	141375.275	26570.530		5.321	<.001	80103.523	202647.027
	AA Median household Income	2888.398	790.635	.791	3.653	.006	1065.190	4711.607
2	(Constant)	148817.485	18122.684		8.212	<.001	105964.146	191670.824
	AA Median household Income	1298.152	726.273	.355	1.787	.117	-419.212	3015.516
	Credit Card Debt	26216.179	8098.973	.644	3.237	.014	7065.150	45367.207

a. Dependent Variable: AA HBCU Enrollment

Table 10: Wealth decomposed elements regression coefficients

		Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	175034.649	12015.586		14.567	<.001	147326.659	202742.639
	Credit Card Debt	36008.377	6733.650	.884	5.348	<.001	20480.553	51536.202

a. Dependent Variable: AA HBCU Enrollment

The resulting significant model with coefficients in Table 10 above leads to the following regression prediction equation. By inputting the coefficients from Table 10 in Eq. (02) gives the relationship between credit card debt (CCdt) and AA HBCU enrolment (AAEnrl) as Eq.(04):

$$AAEnrl_1 = 175034.649 + 36008.377 * CCdt_0 \quad \dots \text{Eq. 4}$$

Thus, higher credit card debt seems to have a higher and most effective signaling effect on the perception of family wealth than all the other wealth indication elements. Thereby, having a higher and most effective signaling effect on the perception of AA family wealth than all other wealth indication elements.

## V. DISCUSSION

The results from the descriptive statistics confirmed the widely held and validated view that African Americans generally hold the lowest wealth of all races and earns less for the same dimensions of wealth (Herring & Henderson, 2016; Brimmer, 1988)). Maybe, that influences their behavioral intentions of post-secondary education school choice.

The correlation test provides the expected relationship between the African American students' HBCU school choice as measured by enrollment and wealth as measured by the median household wealth. This seems to suggest that the research question is satisfied. However, there is the need to identify the direction of change effects between the variables per the hypothesis  $H_a$ .

From the test of dependency analysis, there is 95% confidence that the national wealth level changes do not have any statistically significant effect on AA HBCU enrollment patterns unless there is a

corresponding correlated positive change in African American student wealth as a moderating effect. This is an important result to differentiate what happens nationally and within local African American communities. This shows the extent the national wealth trend may have on the African American student HBCU enrollment patterns as inconsequential.

The relationship established from the regression Eq. (03) based on analysis of the regression coefficients shows a positive correlational relationship between school choice and African American student wealth status. The positive relationship as determined by  $\beta_1=1953.388$ ,  $t>2.6$ ,  $p<.05$ , 95% CI, implies the null hypothesis  $H_{a0}$  cannot be rejected. The alternate hypothesis  $H_{a1}$  is rejected. The result does not answer the research question of whether a decrease in HBCU student wealth status using the median household wealth as proxy increases their behavioral intentional choice of HBCU attendance using annual fall enrollment.

In respect of hypothesis  $H_b$ , correlation is established between wealth indication elements of income, credit card debt, homeownership, Stockholdings, and business ownership with student enrollment. However, from the dependency test, only credit card debt had any significant explanatory effect,  $R^2 = 78.1\%$ ,  $p<.001$ (CI95%) of the changes in African American HBCU student enrollment. Also, the correlation with wealth categories yielded Assets and Income as the significant signaling categories of wealth with 84.4% change effect.

Based on the size effect, the null hypothesis  $H_{b0}$  is rejected since there is at least one wealth category (Assets, Income) or wealth element (credit card debt as



shown by Eq. (04)) that demonstrates positive changes in AA HBCU enrollment. Thus, more assets, higher income and credit card debt seems to have a greater and most effective signaling effect on the perception of family wealth than all other wealth indication elements and categories. Thereby, having the most statistically significant effect on African American HBCU enrollment. Another explanation can be seen as African American students attending college based on their low wealth status causes their families to enter into higher debts, and mostly credit card debt. Many findings indicate that African Americans rely on credit card debt more than bank loans or other loan sources (Klein, 2017; Robb & Fairlie, 2007; Cavalluzzo & Wolken, 2005) to fund improvement initiatives including education. Further, higher credit card debt with satisfactory progress payments is generally associated with higher credit worthiness and could be an indication to prospective students of their wealth basis and ability to pay for college.

a) *Recommendations for Future Research*

The results of this study only present the potential explanatory power of student wealth status on African American students' choice of HBCU as a place of higher education. There may be more significant variables that shape the school choice dilemma in addition to the wealth status. As this effort did not focus on the causation effects of wealth status on specifically AA students' HBCU choice, given that most HBCUs cost of attendance is not much different than TWIs (Sissoko & Shiau, 2005; Dial, 2014; Wilson, 2007), there is need for an empirical study that can establish the causal relationship.

Future studies may use a self-administered survey method to confirm the results from this study. A more in-depth qualitative study to understand the key behavioral intentions (of subjective norms and attitude) (Pitre et al., 2006) that not only predisposes an African American student to choose an HBCU for post-secondary education but also moves the choice process beyond the intention stage may prove more comprehensive. It may settle the general inconclusiveness of the wealth causation, moving the research on school choice forward while adding to the usefulness of the theory of reasoned action as a basis for understanding school choice.

## VI. CONCLUSIONS AND POLICY IMPLICATIONS

The results of the study show that the wealth status of African American HBCU students is positively correlated with and positively affects the choice of HBCUs as higher education preferences of African American students at 46.4% (95% CI,  $p < .05$ ) explanatory power. This revealing outcome does not support the research objective of a negative relationship that will

support the notion that the wealth status of African American communities is a cause of HBCU fiscal challenges.

The main objective is the need to know if African American students choose HBCUs because of their low wealth. A negative relationship reinforces the fact that, as African American students perceive family wealth to decrease or to be low, more African American students will flock to HBCUs. The positive relationship results show that African American students' HBCU school choice may follow similar pattern as for those who attend other schools. And that, other behavioral intention drivers could be the main determinants of why a prospective African American student will choose an HBCU for post-secondary education. The outcome here is that African American students do not choose HBCU just because they are of low wealth.

Moreover, the fact that the national median wealth and income had no significant effect on African American HBCU enrollment assures the accuracy of the prediction. This provides that national improvements in income and wealth do not show the same signal effect as do what happens within the African American communities. Thus, community economic or wealth factors are the more dominant perceptive determinants of wealth for the African American student school choice decisioning than what happens nationally. This is supported by the results of hypothesis  $H_b$  with signaling effect of credit card debt as the most significant wealth indicator for the African American HBCU student.

The above analyses by no means establish that wealth status is the only condition of the African American student that through their attitudes, influences their behavioral choices on higher education school attendance. Previous studies either showed no influence of African American students' wealth or income on African American students' HBCU choice or some effect. The findings from this study demonstrate the relationship with more than 44.6% explanatory share. This may be due to a general positive following effect from the population environment that student wealth benefits from rather than just their wealth status (Sissoko & Shiau, 2005).

The theory underpinning this study is based on the notion that the school choice process is volitional (Pitre et al., 2006). There could be a state in the process where student attributes may take precedence like after choosing alternatives and the need to match attributes and perceptions to making a choice. Thus, the practical application may not be fully supported.

With this finding, the overall objective of establishing the assumption that the wealth status of HBCU students and their catchment communities have effects on HBCU financial and growth state is found not to exist. The fact that HBCU students make their school choice not because they are poor implies that improving the community wealth status may not automatically lead

to significant improvement on the wealth status of HBCU students. That through improvement in school enrollment levels can HBCUs improve their fiscal state. This understanding will inform the base theory of any community-based wealth creation (CWC) concept with HBCUs as anchors to focus on enrollment measures as part of the CWC concept and not as a benefit.

As such, the key finding highlights policy implications for HBCUs considering the anchor mission to boost their school choice potential. Thus, additional policy and promotional actions may be required in addition to the anchor mission of improving the wealth of the communities most served by HBCUs, directed towards improving the attractiveness of HBCUs as a competitive choice to the communities' students. This should help drive the duality objective of anchor-institution-based CWC initiatives.

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## APPENDICES

*Appendix A:* Analysis Datasets selected from SCF and NCES data bases.

*Table A.1:* SCF Wealth Data

Net worth by race or ethnicity

Date	White, non-Hispanic (US\$ Thousands)	Black, non-Hispanic (US\$ Thousands)	Hispanic (US\$ Thousands)	Other (US\$ Thousands)
1989	143.56	8.55	9.94	72.00
1992	124.60	17.70	12.14	66.41
1995	128.20	18.23	20.87	51.88
1998	150.96	24.38	15.46	60.40
2001	177.50	27.87	16.90	75.82
2004	191.11	27.66	20.80	96.12
2007	211.73	25.92	26.05	75.18
2010	152.88	18.73	19.50	50.31
2013	155.83	14.36	15.15	44.98
2016	181.87	18.24	22.04	68.73
2019	189.10	24.10	36.05	74.50

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Source: [https://www.federalreserve.gov/econres/scf/dataviz/scf/table/#series:Net\\_Worth;demographic:racecl4;population:all;units:median](https://www.federalreserve.gov/econres/scf/dataviz/scf/table/#series:Net_Worth;demographic:racecl4;population:all;units:median)

Table A.2: NCES HBCU Enrollment dataset

Enrollment Data from NCES Digest statistics		
HBCU Enrollment		
Year	African American	All races
1990	208,682	257,152
1993	231,198	282,856
1996	224,201	273,018
1999	226,592	274,321
2002	247,292	299,041
2005	256,584	311,768
2008	258,402	313,491
2011	263,435	323,648
2014	231,889	294,316
2017	226,847	298,134

Source: [https://nces.ed.gov/programs/digest/2019menu\\_tables.asp](https://nces.ed.gov/programs/digest/2019menu_tables.asp)

Table A.3a: Combined Enrollment and Wealth data

Wealth year	Enrollment Year	School Choice Year i	Net Worth	HBCU AA Annual Enrollment	All (Races Annual Enrollment)
1989	1990	1	8.6	208,682	257,152
1992	1993	2	17.7	231,198	282,856
1995	1996	3	18.2	224,201	273,018
1998	1999	4	24.4	226,592	274,321
2001	2002	5	27.9	247,292	299,041
2004	2005	6	27.7	256,584	311,768
2007	2008	7	25.9	258,402	313,491
2010	2011	8	18.7	263,435	323,648
2013	2014	9	14.4	231,889	294,316
2016	2017	10	18.2	226,847	298,134

Table A.3b: Combined enrollment and wealth racial mix data

School Choice Year, i	AA Median Household Net Worth	Non-AA Median Household Net Worth	National Median Household Net Worth	HBCU AA Annual Enrollment	All (Races Annual Enrollment)
1	8.6	75.2	58.5	208,682	257,152
2	17.7	67.7	55.2	231,198	282,856
3	18.2	67.0	54.8	224,201	273,018
4	24.4	75.6	83.7	226,592	274,321
5	27.9	90.1	74.5	247,292	299,041
6	27.7	102.7	83.9	256,584	311,768
7	25.9	104.3	84.7	258,402	313,491
8	18.7	74.2	60.4	263,435	323,648
9	14.4	72.0	57.6	231,889	294,316
10	18.2	90.9	72.7	226,847	298,134

Table A.4: Main wealth categories

		African American Median Household Income - Main categories (in thousands)						
Wealth year	Enrollment Year	School Choice Year i	Median Income	Assets	Debt	Loans	African American Enrollment	
1989	1990	1	22.8	53.4	9.9	15.9	208,682	
1992	1993	2	31.1	54.3	10.0	18.2	231,198	
1995	1996	3	29.1	50.1	10.3	18.0	224,201	
1998	1999	4	30.3	55.1	18.9	17.9	226,592	
2001	2002	5	35.6	84.2	27.4	25.4	247,292	
2004	2005	6	37.6	74.6	40.7	24.5	256,584	
2007	2008	7	38.1	87.6	37.5	22.6	258,402	
2010	2011	8	35.9	73.2	36.6	24.4	263,435	
2013	2014	9	34.5	58.4	28.6	26.4	231,889	
2016	2017	10	37.7	49.5	33.4	34.5	226,847	

Table A.5: Selected key wealth elements

		African American Median Household Wealth and Income- Some main components																HBCU Enrollment	
School Choice Year i	Wealth year	Enrollment Year	Net Worth	Income	Assets	Financial Assets	Investment Funds	Life Insurance	Retirement	Stock Holdings	Home Ownership	Vehicles Owned	Business Equity	Debt	Loans	C.Card Debt	Education Loans	African American	All
1	1989	1990	8.6	22.8	53.4	4.0	89.5	4.0	11.9	8.0	89.5	9.9	4.0	9.9	15.9	1.2	4.0	208,682	257,152
2	1992	1993	17.7	31.1	54.3	4.6	17.9	5.4	9.8	10.4	82.2	8.2	20.6	10.0	18.2	1.3	5.2	231,198	282,856
3	1995	1996	18.2	29.1	50.1	7.4	7.3	8.3	13.4	7.3	96.8	11.7	12.5	10.3	18.0	1.7	5.8	224,201	273,018
4	1998	1999	24.4	30.3	55.1	9.9	12.6	7.9	17.3	11.8	110.1	12.6	7.9	18.9	17.9	1.4	8.0	226,592	274,321
5	2001	2002	27.9	35.6	84.2	12.4	18.8	8.7	12.3	14.4	115.5	14.4	72.2	27.4	25.4	2.2	7.2	247,292	299,041
6	2004	2005	27.7	37.6	74.6	5.6	24.4	4.7	20.3	15.6	141.0	11.3	39.9	40.7	24.5	1.9	11.5	256,584	311,768
7	2007	2008	25.9	38.1	87.6	9.0	27.2	6.2	32.1	18.5	185.2	12.2	30.9	37.5	22.6	2.5	11.4	258,402	313,491
8	2010	2011	18.7	35.9	73.2	7.2	35.3	4.2	21.2	10.6	141.4	12.5	35.3	36.6	24.4	2.2	15.3	263,435	323,648
9	2013	2014	14.4	34.5	58.4	5.5	16.5	3.3	20.9	9.1	120.8	12.1	15.4	28.6	26.4	1.6	16.5	231,889	294,316
10	2016	2017	18.2	37.7	49.5	4.3	28.7	4.0	26.3	12.8	131.9	13.8	29.5	33.4	34.5	1.5	21.3	226,847	298,134

Appendix B

Table B.1: Correlation between dependent and independent variables

Correlations				
	HBCU AA Annual Enrollment	African American Median Household Net Worth	National Average Net Worth	Non-African American Ave Household Net Worth
Pearson Correlation	HBCU AA Annual Enrollment	1.000	.681	.436
	African American Median Household Net Worth	.681	1.000	.792
	National Average Net Worth	.436	.792	1.000
	Non-African American Ave Household Net Worth	.559	.657	.824
Sig. (1-tailed)	HBCU AA Annual Enrollment	.	.015	.104
	African American Median Household Net Worth	.015	.	.003
	National Average Net Worth	.104	.003	.
	Non-African American Ave Household Net Worth	.046	.020	.002
N	HBCU AA Annual Enrollment	10	10	10
	African American Median Household Net Worth	10	10	10
	National Average Net Worth	10	10	10
	Non-African American Ave Household Net Worth	10	10	10

Table B.2: Excluded antecedents

		Excluded Variables <sup>a</sup>			Collinearity Statistics			
Model		Beta In	t	Sig.	Partial Correlation	Tolerance	VIF	Minimum Tolerance
1	National Average Net Worth	-.277 <sup>b</sup>	-.629	.549	-.231	.373	2.679	.373
	Non-African American Ave Household Net Worth	.196 <sup>b</sup>	.546	.602	.202	.568	1.759	.568

a. Dependent Variable: HBCU AA Annual Enrollment

b. Predictors in the Model: (Constant), African American Median Household Net Worth

Appendix C

Table C.1: Correlation among enrollment and wealth categories

		Correlations				
		AA HBCU Enrollment	Total Assets	Total Debt	AA Median Income	All Loans
Pearson Correlation	AA HBCU Enrollment	1.000	.845	.801	.791	.331
	Total Assets	.845	1.000	.658	.592	.166
	Total Debt	.801	.658	1.000	.887	.713
	AA Median Income	.791	.592	.887	1.000	.776
	All Loans	.331	.166	.713	.776	1.000
Sig. (1-tailed)	AA HBCU Enrollment	.	.001	.003	.003	.175
	Total Assets	.001	.	.019	.036	.324
	Total Debt	.003	.019	.	.000	.010
	AA Median Income	.003	.036	.000	.	.004
	All Loans	.175	.324	.010	.004	.
N	AA HBCU Enrollment	10	10	10	10	10
	Total Assets	10	10	10	10	10
	Total Debt	10	10	10	10	10
	AA Median Income	10	10	10	10	10
	All Loans	10	10	10	10	10

Table C.2: Correlation among the wealth elements

		Correlations											
		AA Median household Income	AA HBCU Enrollment	Financial Assets	Investment Funds	Life Insurance Value	Retirement Assets	Stock Holdings	Home Ownership	Vehicles Owned	Business Equity	Credit Card Debt	Education Loans
AA Median household Income	Pearson Correlation	1	.791**	.243	-.510	-.092	.694*	.735*	.770**	.534	.651*	.676*	.706*
	Sig. (2-tailed)		.006	.499	.132	.801	.026	.016	.009	.112	.042	.032	.023
	N		10	10	10	10	10	10	10	10	10	10	10
AA HBCU Enrollment	Pearson Correlation	.791**	1	.397	-.320	.022	.492	.687*	.753*	.305	.663*	.884**	.322
	Sig. (2-tailed)		.006	.256	.367	.952	.149	.028	.012	.392	.037	<.001	.364
	N		10	10	10	10	10	10	10	10	10	10	10
Financial Assets	Pearson Correlation	.243	.397	1	-.426	.803**	.013	.423	.258	.596	.547	.596	-.223
	Sig. (2-tailed)		.499	.256	.220	.005	.972	.224	.472	.069	.102	.069	.535
	N		10	10	10	10	10	10	10	10	10	10	10
Investment Funds	Pearson Correlation	-.510	-.320	-.426	1	-.482	-.105	-.204	-.125	-.286	-.247	-.242	-.181
	Sig. (2-tailed)		.132	.367	.220	.159	.774	.572	.730	.423	.492	.501	.617
	N		10	10	10	10	10	10	10	10	10	10	10
Life Insurance Value	Pearson Correlation	-.092	.022	.803**	-.482	1	-.305	.148	-.134	.292	.273	.226	-.539
	Sig. (2-tailed)		.801	.952	.005	.159	.392	.684	.712	.413	.445	.530	.108
	N		10	10	10	10	10	10	10	10	10	10	10
Retirement Assets	Pearson Correlation	.694*	.492	.013	-.105	-.305	1	.625	.917**	.434	.090	.536	.729*
	Sig. (2-tailed)		.026	.149	.972	.774	.392	.053	<.001	.210	.805	.110	.017
	N		10	10	10	10	10	10	10	10	10	10	10
Stock Holdings	Pearson Correlation	.735*	.687*	.423	-.204	.148	.625	1	.790**	.365	.599	.663*	.239
	Sig. (2-tailed)		.016	.028	.224	.572	.684	.053	.007	.300	.067	.037	.506
	N		10	10	10	10	10	10	10	10	10	10	10
Home Ownership	Pearson Correlation	.770**	.753*	.258	-.125	-.134	.917**	.790**	1	.467	.366	.802**	.558
	Sig. (2-tailed)		.009	.012	.472	.730	.712	<.001	.007	.173	.298	.005	.094
	N		10	10	10	10	10	10	10	10	10	10	10
Vehicles Owned	Pearson Correlation	.534	.305	.596	-.286	.292	.434	.365	.467	1	.541	.507	.523
	Sig. (2-tailed)		.112	.392	.069	.423	.413	.210	.300	.173	.107	.134	.121
	N		10	10	10	10	10	10	10	10	10	10	10
Business Equity	Pearson Correlation	.651*	.663*	.547	-.247	.273	.090	.599	.366	.541	1	.663*	.163
	Sig. (2-tailed)		.042	.037	.102	.492	.445	.805	.067	.298	.107	.037	.653
	N		10	10	10	10	10	10	10	10	10	10	10
Credit Card Debt	Pearson Correlation	.676*	.884**	.596	-.242	.226	.536	.663*	.802**	.507	.663*	1	.232
	Sig. (2-tailed)		.032	<.001	.069	.501	.530	.110	.037	.005	.134	.037	.519
	N		10	10	10	10	10	10	10	10	10	10	10
Education Loans	Pearson Correlation	.706*	.322	-.223	-.181	-.539	.729*	.239	.558	.523	.163	.232	1
	Sig. (2-tailed)		.023	.364	.535	.617	.108	.017	.506	.094	.121	.653	.519
	N		10	10	10	10	10	10	10	10	10	10	10

\*\* Correlation is significant at the 0.01 level (2-tailed).  
\* Correlation is significant at the 0.05 level (2-tailed).



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## How Political Stability Affects Economic Growth in India

By Dr. Shreya Raval & Dr. Prakash Salvi

*Abstract-* This paper attempts to answer the question – ‘Whether the economic growth in India is affected by stability at the Central and States level political stability?’ A Political Stability Index (PLSI) is constructed using four political stability measures at Central and States level for both the Houses of the Legislatures. This index, the independent variable, is tested on two dependent economic growth variables Per Capita Income and Gross Capital Formation. The time for the study is 1981-2017 (37 years) at India (Central) level and 1991-2015 (25 years) at the States level according to the availability of data with a lag period of 1 year, as policies bear results, the following year. The analysis very modestly supports the hypothesis at the Central level. However, the impact is more robust at the States level, evident from continuous governmental stability of many States. Principal Component Analysis method is used to construct the index and then Regression Analysis is used to measure the impact on dependent variable.

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# How Political Stability Affects Economic Growth in India

Dr. Shreya Raval<sup>α</sup> & Dr. Prakash Salvi<sup>σ</sup>

**Abstract-** This paper attempts to answer the question – ‘Whether the economic growth in India is affected by stability at the Central and States level political stability?’ A Political Stability Index (PLSI) is constructed using four political stability measures at Central and States level for both the Houses of the Legislatures. This index, the independent variable, is tested on two dependent economic growth variables Per Capita Income and Gross Capital Formation. The time for the study is 1981-2017 (37 years) at India (Central) level and 1991-2015 (25 years) at the States level according to the availability of data with a lag period of 1 year, as policies bear results, the following year. The analysis very modestly supports the hypothesis at the Central level. However, the impact is more robust at the States level, evident from continuous governmental stability of many States. Principal Component Analysis method is used to construct the index and then Regression Analysis is used to measure the impact on dependent variable.

## I. INTRODUCTION

For the last half century, the early years of each decade saw a major turning point in the world economy and markets. Each country began with a global mania for some big idea, some new change agent that reshaped the world economy and generated huge profits. It was the boom of the major economies around the world. The 2010s brought in the era of emerging markets: Brazil, Russia, India, China and South Africa. These poor economies were growing rapidly as well as erratically from 4 percent to 12 percent a year. However, this was so far the fastest growth spurt to be ever experienced across the world (Sharma, 2012). Thus, the question of political regimes came forward, as each of these five newly emerging economies has a different political system. The newly emerging economies portrayed a different political system – from authoritarian China to socialist Russia to democratic South Africa, Brazil to a multi-party parliamentary system in India. Thus, it becomes imperative to assess the impact of political system and its stability on economic growth. The political system of a nation is described in its Constitution. Constitutions establish the governance structures of nation states, provinces, and supranational organizations such as the

European Union. In designing constitutions, arguably the most important issue is to determine the extent to which collective decision-making should be centralized (Bodenstein and Ursprung, 2001).

Political stability plays a very important role in achieving economic growth. Many studies have been undertaken to determine the impact of political stability on economic growth. Most of the studies have attempted to establish this relationship by taking countries from a particular region or countries having similar pattern of governance (Alesina et al, 1992; Feng, 1997; Barro, 1994; Bildirici, 2004; Salvi, 2005; Jhee, 2006; Hazama, 2009; Aisen and Veiga, 2011; Acemoglu and Robinson, 2012; Nomor and Iorember, 2017).

In a country like India, the federal structure of political system ensures that the Constitution is well guarded and abided by the rule-makers. With the multitude of parties that exists in India, coalition government becomes necessary.

In the economic literature the interest in the relationship between political instability and economic performance is very well established. This leads to inefficient public expenditure, deficit and debt accumulation, distorted investment and ultimately lower economic growth. However, the large amount of contributions in the political science literature on coalition politics suggest that a few other mechanisms could be active and that the definition of political instability should also account for the interaction between the executive and the legislature (Carmignani, 2001).

The question that we try to answer here is – whether the economic growth that takes place in India is affected by stability at the central and states level political situation.

## II. THEORETICAL UNDERPINNING

This section provides the theoretical justification for the analysis of political stability and economic growth in India with its federal structure in background.

In India, Salvi (2005) attempted to establish a relationship between political stability and economic growth with Lok Sabha election results (Lower House of the Parliament). However, Rajya Sabha (Upper House of the Parliament) results have been left out of the scope. India has a federal structure and both the Houses play an important role in passing of a Bill, which ultimately becomes a Law. Hence, in order to estimate the political

Author <sup>α</sup>: PhD holder, Mumbai School of Economics and Public Policy, Kalina, Mumbai – 400098. e-mail: shreyab77@gmail.com

Author <sup>σ</sup>: D.G. Ruaprel College, Mahim, Mumbai – 400098. e-mail: prakashsalvi.eco@gmail.com



stability, the strength of the ruling party/ruling alliance needs to be gauged in both the Houses.

Furthermore, no study has been attempted to establish the relationship of political stability and economic growth for the states in India. Many theoretical studies have attempted to define political stability at the state level; but none of them have attempted to measure the impact of political stability and economic growth/development. (Salvi, 2005; Nooruddin and Chhibber, 2008).

Let us understand first, the structure of Indian Federalism, the formation of Indian states and the existing multi-party system of Indian polity.

#### a) *Indian Polity: Federal Structure*

After independence, India adopted the parliamentary form of democracy with a federal character. The Constituent Assembly or the Parliament

in India is bi-cameral in nature. The Lower House is the House of the People, called as Lok Sabha; and the Upper House is the Council of States, called as Rajya Sabha (Nag, 2013).

Lok Sabha is representative of people in India. The members are elected representatives by simple majority in general elections. The maximum number of elected membership for Lok Sabha is 552 elected members and 2 Anglo-Indian members nominated by the President, if not already returned through election. Seats are allotted to each state in proportion to its population. Presently, there are 543 members of the Lok Sabha. The tenure of Lok Sabha is of five years (Nag, 2013).

The List of Lok Sabha seats from each of the states is given in Table 1.

*Table 1: Lok Sabha Seats in each State*

No.	Name of States/Union Territories	No. of Constituencies
1	Andhra Pradesh	25
2	Arunachal Pradesh	2
3	Assam	14
4	Bihar	40
5	Chhattisgarh	11
6	Goa	2
7	NCT of Delhi	7
8	Gujarat	26
9	Haryana	10
10	Himachal Pradesh	4
11	Jammu and Kashmir	6
12	Jharkhand	14
13	Karnataka	28
14	Kerala	20
15	Madhya Pradesh	29
16	Maharashtra	48
17	Manipur	2
18	Meghalaya	2
19	Mizoram	1
20	Nagaland	1
21	Odisha	21
22	Punjab	13
23	Puducherry	1
24	Rajasthan	25
25	Sikkim	1
26	Tamil Nadu	38
27	Telangana	17
28	Tripura	2
29	Uttar Pradesh	80
30	Uttarakhand	5
31	West Bengal	42
32	Andaman and Nicobar Islands	1
33	Chandigarh	1
34	Dadra and Nagar Haveli	1
35	Daman and Diu	1
36	Lakshadweep	1
	Total	542

Source: <https://loksabha.nic.in/members/StateWiseStatisticalList.aspx>

Rajya Sabha members are elected by the elected members of the State Legislative Assemblies. It is not subject to dissolution as Rajya Sabha is the permanent body. However, one third of its members retire every two years and are replaced by newly elected members. Yet, each member is elected for a term of six years. The maximum strength of Rajya Sabha is 250

members. Currently, the strength is 245 members; out of which 233 are elected from States and Union territories and 12 are nominated by the President from distinguished fields. The number of members is in proportion to the population of the States (Nag, 2013).

The state wise List of Rajya Sabha seats is given in Table 2.

*Table 2:* Rajya Sabha Seats in each State

No.	State/Union Territories	No of Seats	No of Members	Vacancies
1	Andhra Pradesh	11	11	
2	Arunachal Pradesh	1	1	
3	Assam	7	7	
4	Bihar	16	15	1
5	Chhattisgarh	5	5	
6	Goa	1	1	
7	Gujarat	11	11	
8	Haryana	5	5	
9	Himachal Pradesh	3	3	
10	Jammu & Kashmir	4	4	
11	Jharkhand	6	6	
12	Karnataka	12	12	
13	Kerala	9	9	
14	Madhya Pradesh	11	11	
15	Maharashtra	19	19	
16	Manipur	1	1	
17	Meghalaya	1	1	
18	Mizoram	1	1	
19	Nagaland	1	1	
20	National Capital Territory of Delhi	3	3	
21	Nominated	12	12	
22	Odisha	10	9	1
23	Puducherry	1	1	
24	Punjab	7	7	
25	Rajasthan	10	9	1
26	Sikkim	1	1	
27	Tamil Nadu	18	17	1
28	Telangana	7	7	
29	Tripura	1	1	
30	Uttar Pradesh	31	30	1
31	Uttarakhand	3	3	
32	West Bengal	16	16	
	Total:	245	240	5

Source: [https://rajyasabha.nic.in/rsnew/member\\_site/memberstatewise.aspx](https://rajyasabha.nic.in/rsnew/member_site/memberstatewise.aspx)

#### b) Working of the Parliament

Legislative proposals can be introduced in either Houses of the Parliament in the form of a Bill. When passed by both the Houses and assented by the President, the Bill becomes a Law, an Act of the Parliament. Money Bills can be introduced only in the Lok Sabha; the Rajya Sabha can only make

recommendations over the Bills, within a period of fourteen days (Nag, 2013).

Thus, in measuring political stability, both the Houses of the Parliament are taken into consideration. The ruling party's strength in both the houses needs to be measured as it affects the policy-decisions through legislative procedures.

At the state level, the corresponding bodies are Vidhan Sabha (Legislative Assembly or the Lower House) and Vidhan Parishad (Legislative Council or the Upper House). All the states in India have a Vidhan Sabha. However, only a few major states with a high population have bi-cameral state legislature. These

states are Andhra Pradesh, Bihar, Jammu and Kashmir, Karnataka, Maharashtra, Telangana and Uttar Pradesh (Nag, 2013).

The list of Vidhan Sabha seats according to states is given in Table 3

Table 3: Vidhan Sabha and Vidhan Parishad Seats in each State

No.	States	Vidhan Sabha		Vidhan Parishad	
		1952	2019	1952	2019
1	Andhra Pradesh	-	175	-	58
2	Arunachal Pradesh	30 ('78)	60	-	-
3	Assam	105	126	-	-
4	Bihar	330	243	72	75
5	Chhattisgarh	-	90	-	11
6	Goa	30 ('67)	40	-	-
7	Gujarat	154 ('62)	182	-	-
8	Haryana	81 ('67)	90	-	-
9	Himachal Pradesh	36	68	-	-
10	Jammu & Kashmir	75 ('62)	87	-	36
11	Jharkhand	-	81	-	14
12	Karnataka	99	224	63	75
13	Kerala	126 ('67)	140	-	-
14	Madhya Pradesh	232	230	-	-
15	Maharashtra	315	288	40	78
16	Manipur	30 ('67)	-	-	2
17	Meghalaya	60 ('72)	60	-	-
18	Mizoram	30 ('72)	40	-	-
19	Nagaland	40 ('64)	60	-	-
20	Orissa	140	147	-	-
21	Punjab	126	117	-	-
22	Rajasthan	160	200	-	-
23	Sikkim	32 ('79)	32	-	-
24	Tamil Nadu	375	234	-	-
25	Telangana	-	119	-	40
26	Tripura	30 ('67)	60	-	-
27	Uttar Pradesh	430	403	72	100
28	Uttarakhand	-	70	-	-
29	West Bengal	238	294	-	-
<b>Union Territories</b>					
30	Andaman & Nicobar	-	NA	-	-
31	Chandigarh	-	NA	-	-
32	Dadra & Nagar Haveli	-	NA	-	-
33	Daman & Diu	-	NA	-	-
34	Delhi	48	70	-	-
35	Lakshadweep	-	NA	-	-
36	Pondicherry	30 ('64)	30	-	-

Source: <https://www.nriol.com/india-statistics/vidhansabha-vidhanparishad.asp>

c) *Reorganisation of the states*

India is a country of a wide variety of ethnic groups and minorities. By the time India attained freedom in 1947, it was partitioned. This was not anticipated by the then Congress leaders who had a prominent role in nation-building. They had to join a territorially disjoint country characterised by huge diversity, into a single union of a nation state. It is under this backdrop that India chose to adopt a federal

structure and the Constitution was drafted accordingly (Sarangi, 2013). Ultimately, the Constitution was framed in such a way that most of the powers for law-making decisions were kept with the central state. Thus, the leaders gave a federal, parliamentary, and democratic constitution on 26th January, 1950. The Constitution divided governmental powers and responsibilities into three distinct lists:

1. The first - exclusively under the jurisdiction of the central state called as Union List;
2. The second- largely under the jurisdiction of the state units called as State List; and
3. The third - to be shared by the central and the states governments called as Concurrent List.

This distribution was meant to accommodate differences in strong central government (Chadda, 2002).

After the consolidation of the Indian Union in 1950, there had been three major waves of reorganisation of the states. First major reorganisation occurred in 1956, following a nationwide movement for

the creation of linguistically compact provinces by Tamils, Sikhs and the Muslim Community (Kashmir). The second major initiative came in the 1970s, when the Northeast was split up and several new states were created. The third phase was inaugurated with the creation of Jharkhand, Uttaranchal and Chhattisgarh in the northern Hindi-Hindu belt provinces (Chadda, 2002). At present, there are 28 States and seven Union Territories. The dates of the formation of States and the Union Territories is shown in the table.

The list of dates of formation of the States and Union Territories is given in Table 4.

*Table 4:* Date of formation of each State

No.	States/Union Territories	Date of Formation
1.	Andhra Pradesh	1 November 1956
2.	Arunachal Pradesh	20 February 1987
3.	Assam	15 August 1947
4.	Bihar	1 April 1936
5.	Chhattisgarh	1 November 2000
6.	Goa	30 May 1987
7.	Gujarat	1 May 1960
8.	Haryana	1 November 1966
9.	Himachal Pradesh	25 January 1971
10.	Jammu & Kashmir	26 October 1947
11.	Jharkhand	15 November 2000
12.	Karnataka	1 November 1956
13.	Kerala	1 November 1956
14.	Madhya Pradesh	1 November 1956
15.	Maharashtra	1 May 1960
16.	Manipur	21 January 1972
17.	Meghalaya	21 January 1972
18.	Mizoram	20 February 1987
19.	Nagaland	1 December 1963
20.	Odisha	1 April 1936
21.	Punjab	1 November 1956
22.	Rajasthan	1 November 1956
23.	Sikkim	16 May 1975
24.	Tamil Nadu	26 January 1950
25.	Telangana	2 June 2014
26.	Tripura	21 January 1971
27.	Uttar Pradesh	26 January 1950
28.	Uttarakhand	9 November 2000
29.	West Bengal	1 November 1956
<b>UNION TERRITORIES</b>		
1.	Andaman & Nicobar	1 November 1956
2.	Chandigarh	1 November 1966
3.	Dadra & Nagar Haveli	11 August 1961
4.	Daman & Diu	23 May 1987
5.	Delhi	1 November 1992 (NCT)
6.	Lakshadweep	1 November 1956
7.	Puducherry	1 July 1963

Source: <https://www.india.gov.in>

#### d) General Lok Sabha Elections

The federal structure of the Indian state took a backseat in the initial years immediately after

independence. The Indian National Congress (INC) party was India's party of government in the first five successive parliamentary elections: 1951, 1957, 1962,

1967 and 1971. It was like a one-party dominant system (Booroah, 2006). The Congress government under Nehru was the need of the hour for an India that had been totally messed up by British misrule (Rai and Kumar, 2017).

The general election in 1971 was contested by Indira Gandhi on the slogan "GaribiHatao" and her pro-poor posturing created an electoral wave in her favour. The elections sorted out the leadership issue once and for all with Indira Gandhi acquiring a larger than life image equated with the Indian goddess Durga and starting a new chapter that became known as the personality cult in Indian politics (Rai and Kumar, 2017). The second tier leadership in the party and voice for constructive criticisms was destroyed as she replaced state leaders with people who had no political base and were completely loyal to her. The electorates had no way of communicating with the Congress leadership like it previously could. Due to this, the Congress party lost many bye-elections subsequently. There was high inflation due to Pakistan war and 1973 oil crisis, led to decline in faith of people on the Congress party. Her falling popularity and Allahabad High Court ruling on electoral malpractices led to the declaration of emergency in 1975. She circumvented the parliament and ruled the country by imposing her dictatorship by sacrificing parliament and democratic rights of the people (Rai and Kumar, 2017).

The Congress Party was overthrown in general elections, 1977 by unification of opposition parties as the Janata Party. Just before 1977 elections, four national parties, viz. Indian National Congress (O), Bhartiya Lok Dal, Bhartiya Jan Sangh and the Socialist Party, merged formally to form Janata Party (Salvi, 2005). The Janata Party came to power from 1977-1979. By July, 1979, Janata Party split into two – one led by Chandrashekhar (JP) and other led by Charan Singh (JP(S)). JP(S) soon became Lok Dal (Chander, 2004, Salvi, 2005).

After a brief period out of power, following the 1977 elections; the Congress stormed back winning the next two elections (1980 and 1984) handsomely (Chander, 2004; Booroah, 2006). After the assassination of Indira Gandhi, Congress party won 1984 elections under the leadership of Rajiv Gandhi with 415 seats mainly due to the sympathy wave. The party lost its political presence and single party dominance in the 1989 General elections due to Bofors scam. The BJP won a considerable number of seats in 1989 elections only to form a coalition with the Janata Dal (JD) led National Front (Chander, 2004; Salvi, 2005; Rai and Kumar, 2017).

The decade of 1990s was a turmoil in Indian politics due to frequent elections and weak coalitions at the Centre as regional parties came, gained importance and raised to power.

In 1991, Congress came back to power and remained the largest political party till 1996. However, the BJP attained the status of the second-largest party in the 1991 elections. In the 1996 elections, the Congress, emerged as the single-largest party but short of majority. Therefore, it chose to sit on the opposition benches. The minority government which was a coalition of 13 parties came to power under the leadership of H. D. Deve Gowda. The Congress gave outside support to this government. Congress pulled out its support due to Rajiv Gandhi assassination issue. Thus in 1996, the Congress party was the supporter of the minority government being on the opposition bench (Chander, 2004).

Mid-term elections were called for in the 1998, when BJP led coalition government was formed under the leadership of A. B. Vajpayee. However, AIADMK chief Jayalalitha pulled out due to a minor issue for a minister and the Vajpayee government lost confidence motion by just one vote (Chander, 2004).

Once again, elections were called in 1999. The BJP emerged as a dominant party, however, was way short of majority. The coalition government was formed with 24 parties forming an alliance. This government survived its five year term (Chander, 2004).

Congress was again able to form a government after the 2004 elections in coalition with other parties and supported, by the communists, from outside government.

The UPA II government was inundated by numerous scams, high inflation and unemployment rates and the policy paralysis that hit the country in the last two years of its regime by middle of 2009 (Chander, 2004; Salvi, 2005; Sridharan, 2005; Booroah, 2006).

The Congress was wiped out in the general election in 2014. The BJP came to power with comfortable majority. The BJP received support from regional parties like Shiv Sena, Telugu Desam Party, Shiromani Akali Dal, and other smaller parties. The alliance of these parties is called as National Democratic Alliance (NDA); whereas, in the opposition, there were Congress, BahujanSamajwadi Party, Communist Party of India, Nationalist Congress Party, All India Trinamool Congress and many other smaller parties (Rai and Kumar, 2017).

The coalition era has created a pattern of tide. Relative centralization of power at first, followed by a steady erosion of power as the results of the state elections (held almost every two years) alters the composition of parliamentary majority for the ruling coalition (Chadda, 2002).

#### e) *State Assembly Elections*

The regional parties in India play a very important role in the state as well as central politics. This is due to three major reasons. First, it was the decline of the Congress party as the dominant party in terms of its

traditional social support base, organizational presence, and ideology that paved the way for state parties to emerge. Second, in seven consecutive Lok Sabha elections (1989–2009) no single party could win a majority of seats, resulting in “minority situations”; and hence, minority governments were dependent on external support. Third, the Bharatiya Janata Party (BJP) has been instrumental in making alliances with state parties even agreeing to become a junior ally. Though these alliances have helped the BJP, they have also helped state parties confront the weakened Congress and allowed their bosses to gain in stature at the national level. A national/regional/multi-state party confines itself to a coded ethnic card in selection of candidates, but not openly in its identification of issues. As a result, state-level parties have greater power to create and retain a core social constituency, which in turn, becomes a distinct voting community. This is the politics of vote bank which gets them elected. A large number of state parties are set up by leaders from the same caste and communities. They launch their “own” parties which dominate state politics and influence as a coalition ally at the state level with no significant role at the Centre (Chandra, 2005).

Important links have been identified between political leadership and economic development. In post-1991 India, state-level leaders such as Chandrababu Naidu, Chimanbhai Patel, and S.M. Krishna took advantage of the new economic climate to think of novel ways to encourage growth in the states under their command, instead of looking towards the Centre for policy directions and all their funds as in the old “socialist” days. It was in the 1990s that states under such dynamic leadership grew much faster than others; whereas, Bihar under Lalu Yadav registered a zero growth rate in the same decade. The Congress has suffered many defeats in Andhra Pradesh and Telangana after losing Y.S. Rajsekhar Reddy (YSR) and Jaganmohan Reddy, who formed the YSR Congress party after being denied a leadership role by the Congress. Even in a cadre-based party like the BJP, which takes pride in being a disciplined party, powerful state-level leaders (like Narendra Modi and Vasundhara Raje Scindia, to name a few) have taken up posts of high importance within the party high command (Rai and Kumar, 2017).

Captain Amarinder Singh, the present chief minister of Punjab, had threatened to start his own party. The success of the BJP in the 2014 elections had much to do with the popularity of its state leaders (in Chhattisgarh, Madhya Pradesh, and Rajasthan). The Congress high command consciously encouraged factionalism within the party’s state units to weaken its state leaders and hence, lost. It would be far-fetched to overemphasize the ability of state-level leaders, however, especially from polity-wide parties such as the

BJP and Congress to shape out independent political spaces.

The Karnataka Janata Paksha, the party set up by the BJP leader and former chief minister (erstwhile rebel) Yeddyurappa, performed poorly, winning only six assembly seats and polling about 10 percent of the votes in the 2012 assembly elections. The Gujarat Parivartan Party, founded by the former chief minister Keshubhai Patel, another disgruntled powerful state-level BJP leader belonging to the dominant Patel community, failed miserably in electoral terms in the 2012 assembly elections with just two seats and 4 percent of the vote share. The Himachal Lokhit party, founded by BJP rebel Maheshwar Singh in Himachal Pradesh, was another failure. Thus, there is always a question mark on the extent to which state-level leaders belonging to a polity-wide party, howsoever popular and powerful they may be when in power, can influence/mobilize voters without the umbrella of the big party. (Rai and Kumar, 2017).

There are other non-Congress political leaders such as E.M.S.Namboodiripad or even Jyoti Basu, both essentially state-level leaders with a national presence due to their influence over the Communist party. Chaudhary Charan Singh thrived in becoming famous at national level after becoming Prime Minister.

As the boundaries between state-level parties and the state units of national parties have become hazy, one found state leader such as Mamata Banerjee is trying to affect national-level policy decisions. Despite nurturing national ambitions, however, what remains a handicap for state-level leaders such as Mulayam Singh Yadav, Mayawati, Mamata Banerjee, or Nitish Kumar is their lack of nation-wide stature, given their perceived susceptibility to falling prey to regional and parochial interests to the detriment of national cause (Chander, 2004).

The Dravidian parties have been very vocal about their regionalism. The AIADMK and the DMK in Tamil Nadu have allocated seats to ensure majorities for themselves. This has prevented the emergence of coalition governments in the state so far. The AIADMK and the DMK can also represent themselves as natural parties of government, as they alone have been able to rule the state with a democratic mandate since 1967. This is particularly important where voters esteem the prospect of winning when deciding how to cast their vote. The ideological discipline of the parties has, for a number of reasons, been brought into question. The willingness of both parties to ally with the BJP does not reflect well on their rationalist background. (Chander, 2004).

#### f) *Research design*

##### i. *Variables and Data*

With this political backdrop, an attempt is made here to measure political stability in India and in its



states. Political stability is measured by constructing an index by using the following variables.

a. *General Elections and Raya Sabha Elections: (India level)*

*Absolute Concentration of Power in Lok Sabha:* Concentration of power is the number of seats that a party wins from the total seats in the House. It is also the proportion of seats that the major party or the alliance enjoys in the House (Salvi, 2005; Younis et al, 2008; Bernal-Verdugo et al, 2013). Absolute Concentration of Power is the number of seats that a party/alliance – ruling or opposite – wins in proportion to the total number of seats in the House. Absolute Concentration of Power is measured with respect to ruling party/alliance as well as opposition party/alliance. Absolute Concentration of Power (A1) is given as below:

$$\text{Absolute Concentration of Power} = \frac{\text{Total Seats won}}{\text{Total seats of the House}} \times 100$$

India enjoyed single party government till 1989 election where the Congress was the only and major ruling party at the Centre. After 1989 election, the era of coalition governments dawned upon Indian politics. Thus, the number of seats that major ruling party (MRP) along-with the coalition parties that it has partnered with (Ruling Alliance) in proportion to the total number of seats in the House is called as Absolute Concentration of Power (ACP). The Absolute Concentration of Power of the Ruling Party/Alliance variable (A1) is essential to measure political stability as it judges the ability/strength

of the Ruling Party to pass a law in the Parliament. On the other hand, the Absolute Concentration of Power of the Opposition party/alliance variable (A2) helps to judge the strength of the opposition/hurdle that the government faces in passing of the Bill.

Thus, for Ruling Party/Alliance, Absolute Concentration of Power (A1) is given as:

$$\text{ACP (A1)} = \frac{\text{Total Seats won by Ruling Party/Alliance}}{\text{Total seats of the House}} \times 100$$

For Opposition Party/Alliance, Absolute Concentration of Power (A2) is given as:

$$\text{ACP (A2)} = \frac{\text{Total Seats won by Opposition Party/Alliance}}{\text{Total seats of the House}} \times 100$$

For example, in 1984 Lok Sabha General Election, the Congress party won absolute majority in the House. It won 404 seats out of 514 seats. There was no alliance formed. Hence, Congress was the major ruling party. The Ruling Alliance's Absolute Concentration of Power (A1) is given as 66.37 percent. (404/514\*100=0.6637\*100=66.37 percent) This shows that the government at the Centre is strong enough and stability can be sustained. Higher the value of A1, better is the political stability. Therefore, A1 has a positive relationship with political stability as government formed will be stronger.

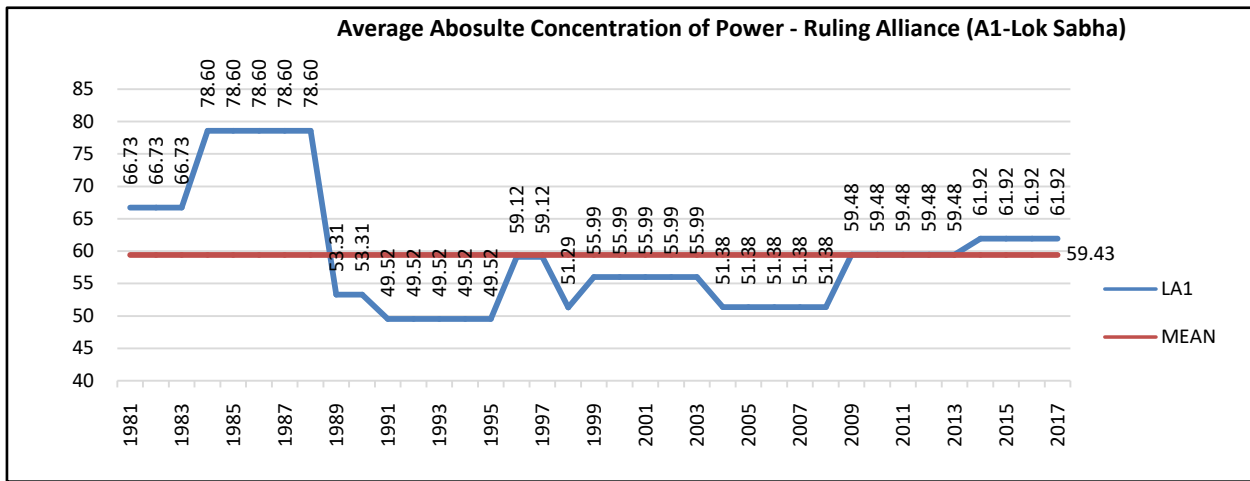


Figure 1: India mean chart of A1-Lok Sabha

In 1984 election, the major opposition party (BJP) won only 22 seats. Whereas, the opposition coalition parties won 55 seats. Hence, a coalition of opposition parties was formed (22+55=77seats). The Opposition Alliance's Absolute Concentration of Power (A2) is given as 14.98 percent (77/514\*100 =0.1498\*100=14.98 percent). This shows that

opposition is weak enough to stall/halt the daily working and decision-making of the Parliament. This ensures more political stability. Lower the value of A2, better is the political stability. Therefore, A2 has a positive relationship with political stability as opposition will be weaker, not affecting the longevity or continuity of policies and also, of the government formed.

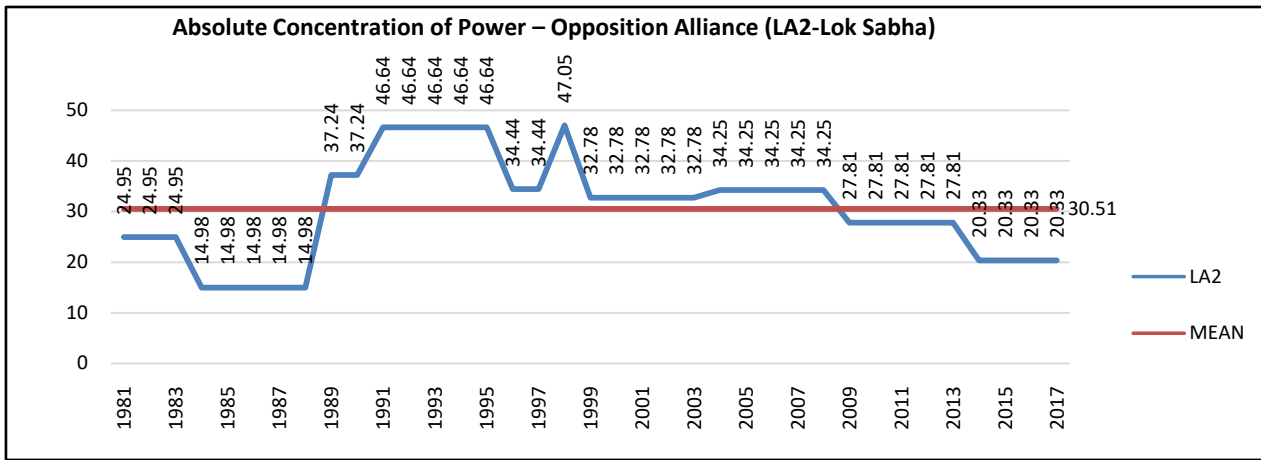


Figure 2: India mean chart of A2-LokSabha

Absolute Concentration of Power in Rajya Sabha: Similarly, for 1984 Rajya Sabha election, the ruling party (Congress) had 159 seats out of total of 244 seats. Hence, the Ruling Alliance's Absolute Concentration of Power (A1) is given as 65.16 percent ( $159/244 \times 100 = 0.6516 \times 100 = 65.16$  percent).

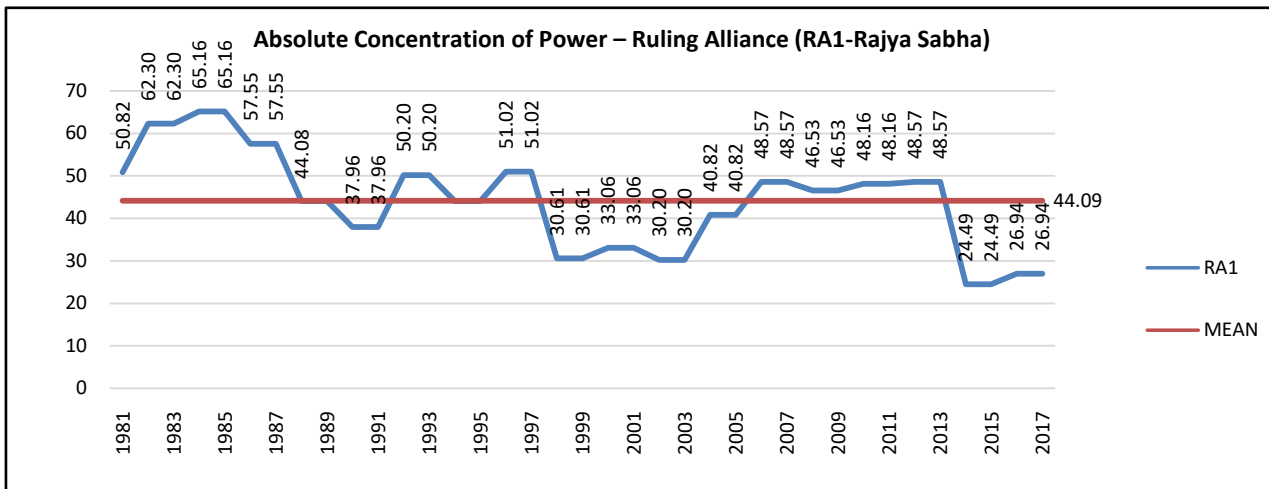


Figure 3: India mean chart of A1-RajyaSabha

The major opposition party (BJP) won only 12 seats. Whereas, the opposition coalition parties won 14 seats. Hence, a coalition of opposition parties was formed ( $12 + 14 = 26$  seats). The Opposition Alliance's Absolute Concentration of Power (A2) is given as 10.66 percent ( $26/244 \times 100 = 0.1066 \times 100 = 10.66$  percent).

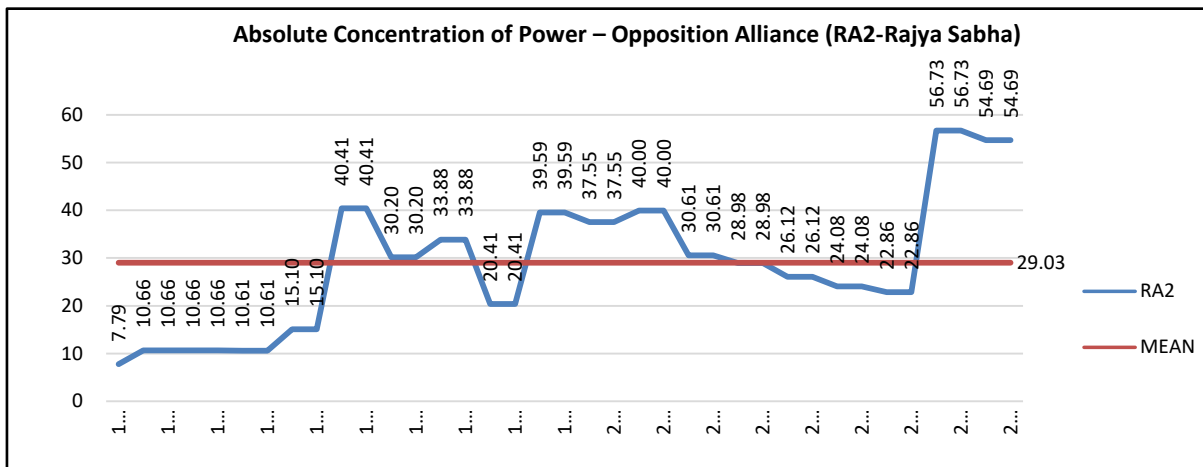


Figure 4: India mean chart of A2-RajyaSabha

*Relative Concentration of Power in Lok Sabha:* In order to form the government, a simple majority or a coalition majority is required in the House. This is measured by the Absolute Concentration of Power variable. However, for effective and smooth functioning of the government, Relative Concentration of Power (RCP) is essential. Relative Concentration of Power is the number of seats that the major ruling party wins in proportion to the total number of seats of the alliance it has formed in the House (Salvi, 2005; Younis et al, 2008; Bernal-Verdugo et al, 2013). A non-protected policymaker (party not having majority in the House, or having small majority) may have very little interest in trying to “push through” reform if he knows that ex-post, he can easily be blocked. On the other hand, a much protected leader may have stronger motivations to reform and legislative activity (Aghion et al, 2002).

For the Major Ruling Party, Relative Concentration of Power (R1) measures its strength within the coalition that it enters to form the government.

Major Ruling Party’s Relative Concentration of Power within the Total Ruling Coalition (R1) is given as:

$$RCP(R1) = \frac{\text{Total Seats of the Major Ruling Party}}{\text{Total seats of the Ruling Alliance}} \times 100$$

The Major Ruling Party’s Relative Concentration of Power variable (R1) is essential to measure political

stability of the major ruling party as it judges the ability/strength of the Ruling Party to form the cabinet, pass a law in the Parliament and also, to control internal disputes and bickering within the alliance.

Also, in order to assess the Total Ruling Alliance’s strength, comparatively to total opposition seats; the Relative Concentration of Power is measured with respect to Total Opposition Alliance (Salvi, 2005).

Thus, Ruling Alliance’s Relative Concentration of Power with respect to Opposition Alliance is given as:

$$RCP(R2) = \frac{\text{Total Seats of the Ruling Alliance}}{\text{Total seats of the Opposition Alliance}}$$

On the other hand, the Ruling party/Alliance’s Relative Concentration of Power variable (R2) helps to judge the strength of the Ruling alliance in the overall working of the House.

For example, in 1984 Lok Sabha General Election, the Congress party won absolute majority in the House. It won 404 seats out of 514 seats. There was no alliance formed. Hence, Congress was the only ruling party. The Major Ruling Party’s Relative Concentration of Power (R1) is given as 100 percent (404/404\*100 = 1\*100=100 percent). In this case, the Major Ruling Party is at its strongest. Higher the value of R1, better is the political stability as the major ruling party will have better decision-making powers.

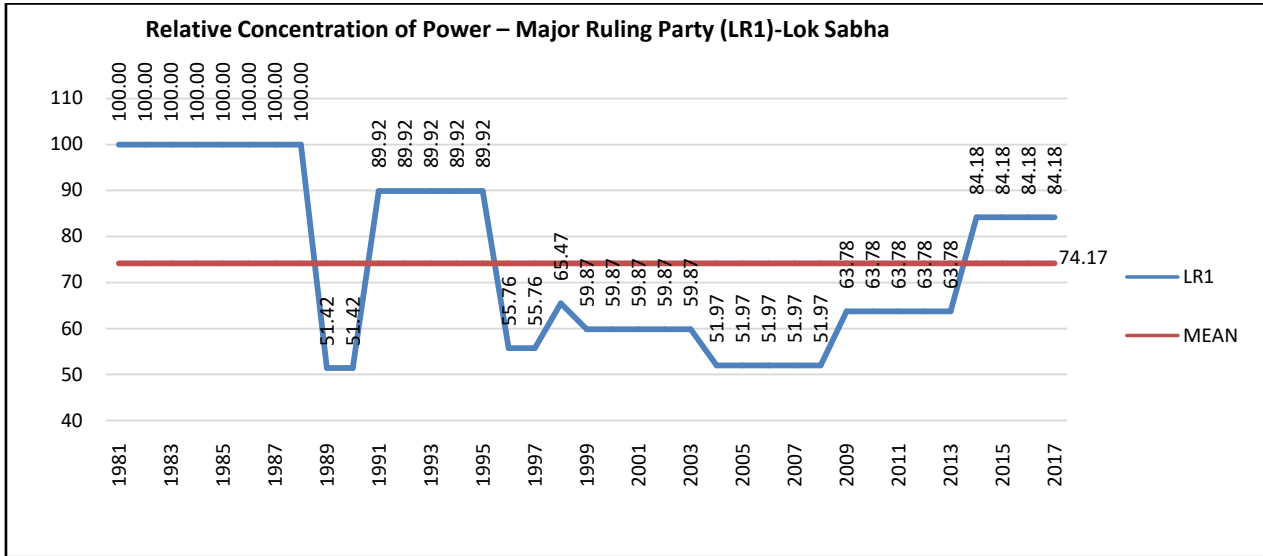


Figure 7: India mean chart of R1-Lok Sabha

In 1984 election, the major opposition party (BJP) won only 22 seats. Whereas, the coalition parties won 55 seats. Hence, a coalition of opposition parties was formed. (22+55=77seats) The Ruling Alliance’s Relative Concentration of Power (R2) is given as 5.25 times (404/77=5.25 times). This shows that the Ruling Alliance is 5.25 times stronger than the Opposition Alliance in terms of seats won.

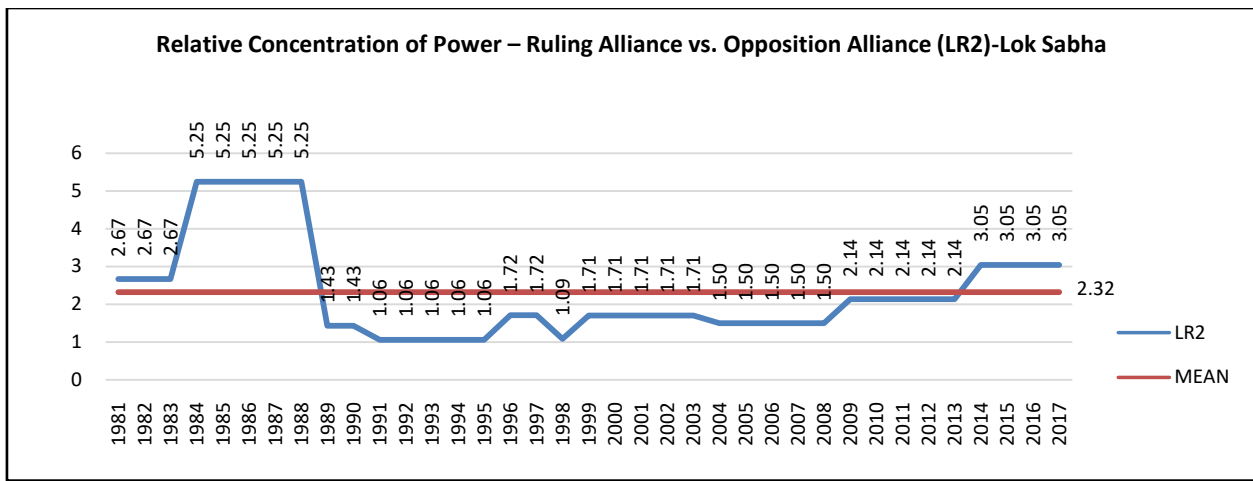


Figure 8: India mean chart of R2-LokSabha

Relative Concentration of Power in Rajya Sabha: Similarly, for Rajya Sabha, the ruling party had 159 seats out of total of 244 seats and there was no alliance. Hence, the Major Ruling Party's Relative Concentration of Power (R1) is given as 100 percent (159/159\*100=1\*100=100 percent).

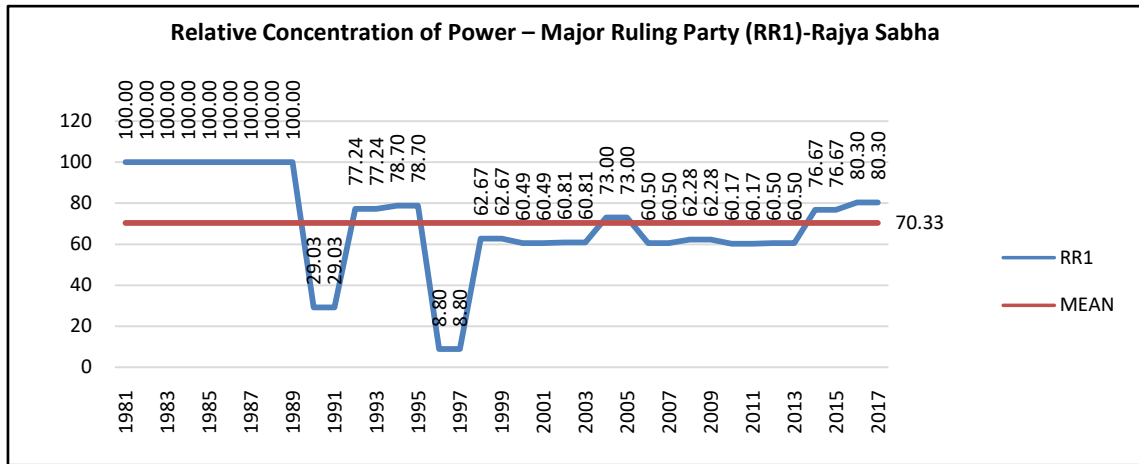


Figure 9: India mean chart of R1-RajyaSabha

The major opposition party (BJP) won only 12 seats. Whereas, the opposition coalition parties won 14 seats. Hence, a coalition of opposition parties was formed (12+14=26 seats). The Ruling Alliance's Relative Concentration of Power (R2)) is given as 6.12

times (159/26=6.12 times). The Ruling Alliance is 6.12 times stronger than total opposition alliance in terms of seats won. Higher the value of R2, better is the political stability as government formed will be stronger.

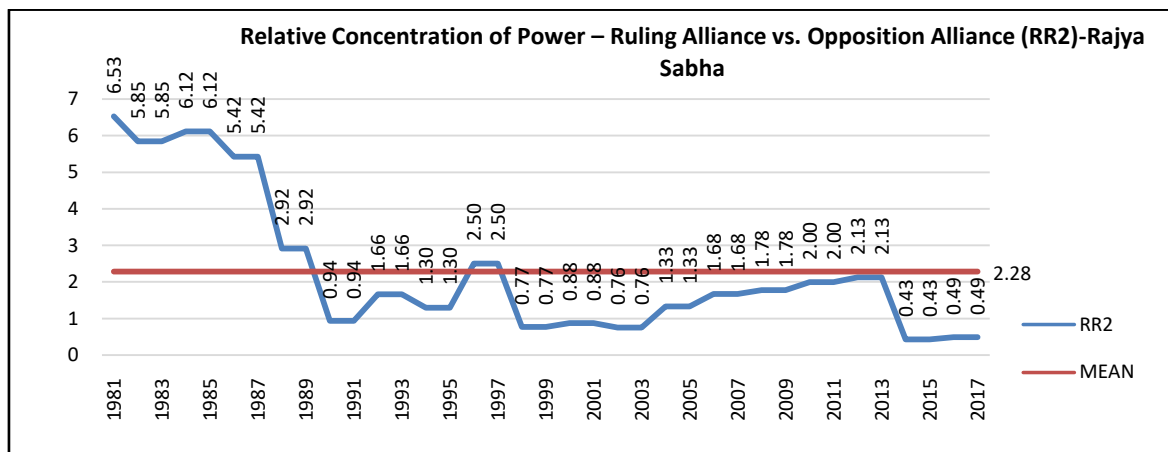


Figure 10: India mean chart of R2-RajyaSabha

b. State Elections

On the same basis, for the state elections, the seats won by the ruling part/ alliance or opposition party/alliance are taken in proportion to the total seats of the Vidhan Sabha (State Legislative Assembly) for absolute concentration of power (ACP).

For example, for 1987 West Bengal state election which corresponds to the year 1990, the total

seats of the Vidhan Sabha were 294. The Major Ruling Party won 187 seats and its alliance partners won 64 seats. Thus, total Ruling Alliance won 251 seats (187+64=251). Hence, the Ruling Alliance's Absolute Concentration of Power (A1) is given as 85.37 percent (251/294\*100=0.8537\*100=85.37 percent).

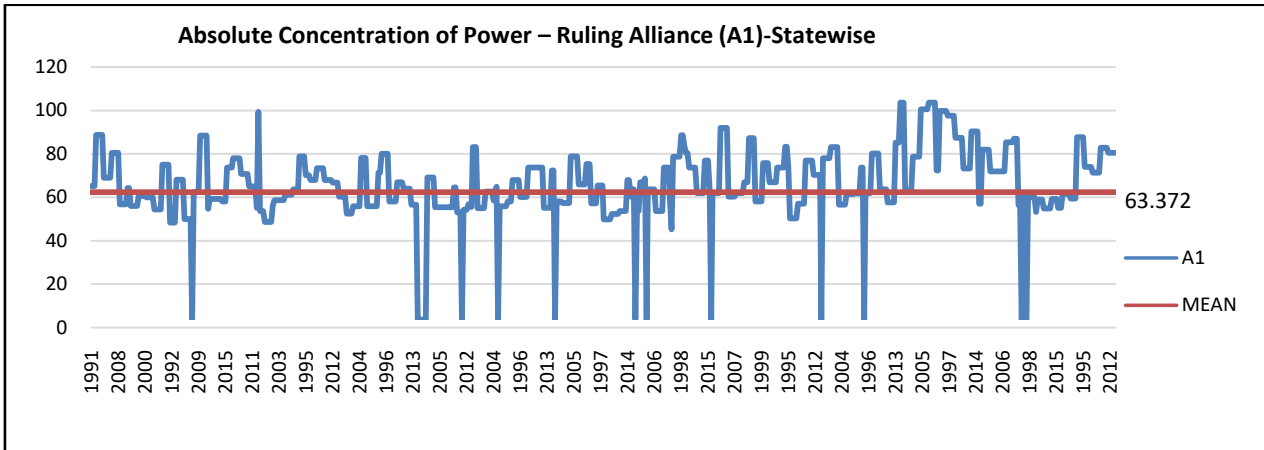


Figure 5: State-wise mean chart of A1

Whereas the Major Opposition Party won 40 seats and its alliance partners won 3 seats. Thus, the Opposition Alliance won 43 seats (40+3=43). Hence,

the Opposition Alliance's Absolute Concentration of Power (A2) is given as 14.63 percent (43/294\*100=0.1463\*100=14.63 percent).

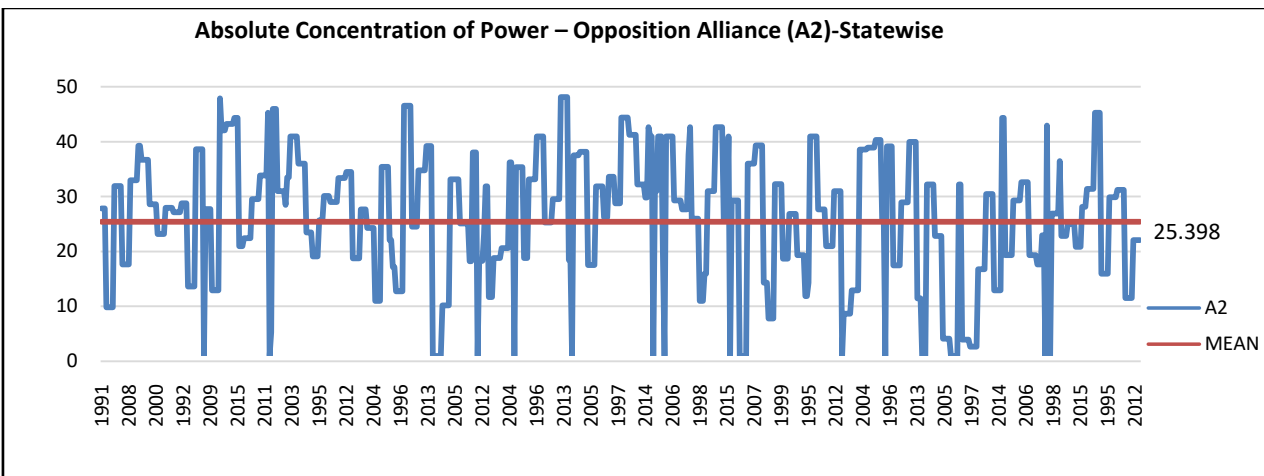


Figure 6: State-wise mean chart of A2

On the same basis, for the state elections, the seats won at the Vidhan Sabha (State Legislative Assembly) by the ruling party/alliance or opposition party/alliance are taken in consideration.

For example, for 1987 West Bengal state election, corresponding to the year 1990, the total seats of the Vidhan Sabha were 294. The Major Ruling Party won 187 seats and its alliance partners won 64 seats. Hence, total Ruling Alliance won 251 seats (187+64=251). Hence, the Major Ruling Party's Relative Concentration of Power (R1) is given as 74.50 percent (187/251\*100=0.745\*100=74.50 percent).



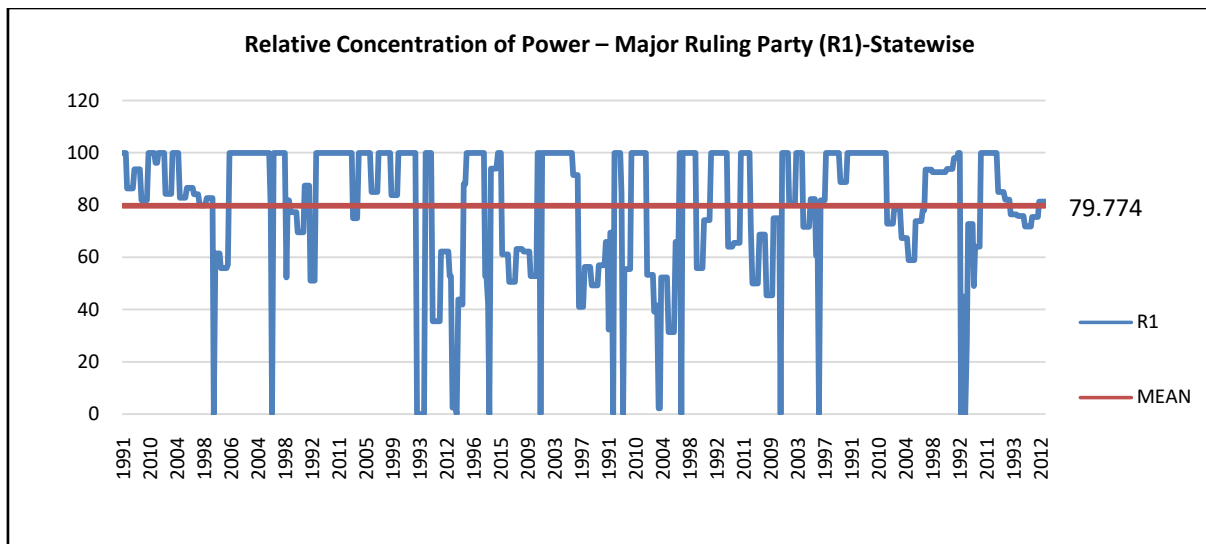


Figure 11: State-wise mean chart of R1

Whereas the Major Opposition Party won 40 seats and its alliance partners won 3 seats. Hence, the Opposition Alliance won 43 seats (40+3=43). Hence,

the Ruling Alliance’s Relative Concentration of Power (R2) is given as 5.84 times (251/43=5.84 times).

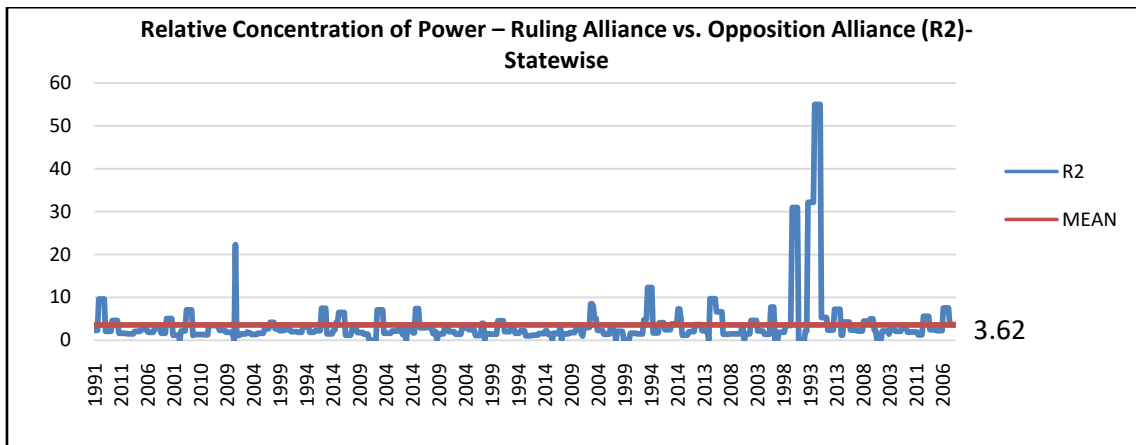


Figure 12: State-wise mean chart of R2

The electoral data has been collected from statistical reports of all the General Lok Sabha elections (national level) as well as Vidhan Sabha elections (States level) since 1981 onwards; available on the Election Commission of India website ([http://eci.nic.in/eci\\_main1/ElectionStatistics.aspx](http://eci.nic.in/eci_main1/ElectionStatistics.aspx)).

For Rajya Sabha, data has been collected from ‘Rajya Sabha Statistical Information 1952-2013’ and also from the Election Commission of India website ([http://eci.nic.in/eci\\_main1/ElectionStatistics.aspx](http://eci.nic.in/eci_main1/ElectionStatistics.aspx)).

The information on the alliances of the Ruling and Opposition parties over all the General elections till 2004 election as well as states of West Bengal and Kerala elections till 2004, has been collected from Chander (2004). Various news reports of prominent magazines, newspapers and media channels were referred for Lok Sabha 2009 and 2014 Alliances and as well as state elections. (Detailed List provided at the end).

We construct an index of political stability using all the dependent variables at the India level as follows:

- Political stability Index (PLSI):
- India Level Political Stability Index (PLSI\_IND)

First, we construct four indicators to measure political stability at all India using election data of the lower house of the Parliament i.e. Lok Sabha. Another four indicators are constructed using data from the upper house of the Parliament i.e. Rajya Sabha. Thus, we have eight variables at India level. They are:

1. Absolute Concentration of Power – Ruling Alliance (LA1)
2. Absolute Concentration of Power – Opposition Alliance (LA2)
3. Relative Concentration of Power – Major Ruling Party (LR1)
4. Relative Concentration of Power – Ruling Alliance vs. Opposition Alliance (LR2)

5. Absolute Concentration of Power – Ruling Alliance (RA1)
6. Absolute Concentration of Power – Opposition Alliance (RA2)
7. Relative Concentration of Power – Major Ruling Party (RR1)
8. Relative Concentration of Power – Ruling Alliance vs. Opposition Alliance (RR2)

In order to find which prominent indicators of political stability have a significant impact on the economic growth of the nation, Principal Component Analysis is carried out (Filmer and Pritchett, 2001; Hatcher et al, 2013).

Technically, Principal component analysis is a variable reduction procedure, defined as a linear combination of optimally-weighted observed variables. These variables, thus obtained, may then be used as predictor or criterion variables in following analyses. (Filmer and Pritchett, 2001; Hatcher et al, 2013). It is useful when there is some redundancy in those variables. In this case, redundancy means that some of the variables are correlated with one another, possibly because they are measuring the same constructor when data is obtained on a number of variables (possibly a large number of variables). Due to this redundancy, the observed variables can be possible to reduce into a smaller number of principal components (artificial variables) that will comprise most of the variance in the observed variables (Filmer and Pritchett, 2001; Hatcher et al, 2013). The number of components extracted in a principal component analysis is equal to the number of observed variables being analysed (Filmer and Pritchett, 2001; Hatcher et al, 2013). This means that an analysis of n-variables would actually result in n components. However, in most analyses, only the first few components account for meaningful amounts of variance (usually, with values higher than one). Hence, only these first few components are retained, interpreted, and used in subsequent analyses (such as in multiple regression analysis) (Filmer and Pritchett, 2001; Hatcher et al, 2013).

The first principal component has the maximum value of loading. This loading is squared and is used as weight to construct the political stability index. The Principal Component analysis is carried out in order to reduce the matrix and find the most effective indicators which explain almost 80% of the variance. Then, the relevant artificial variables are defined on the basis of eigenvalues which account for most of the variance. Usually, it is first three to four variables that define up to approximately 80-85% of the variance. In our analysis, first three values are defined as pc1, pc2 and pc3 (Principal Components). (Usually the components with eigenvalues greater than one are selected to define the new components.) (Filmer and Pritchett, 2001; Hatcher et al, 2013)

The loadings (eigenvectors multiplied by square root of eigenvalues) are extracted. The loadings are the covariances between the original variables and the unit scaled components. The eigenvalues are magnitude/variances of the variables while the eigenvectors are the direction of the variables. The value of squared loadings of each of the variables serve as weight for construction of the political stability index. The square of loadings portrays the contribution of a principal component into that variable. (Filmer and Pritchett, 2001; Hatcher et al, 2013)

Since, the first principal component (pc1) usually defines most of the variance; the loading of each of the variables under pc1 is squared. These respective squared loadings serve as weights for that respective variable. Thus, each variable is multiplied by the respective squared loading under pc1. The sum of the weighted variables, thus derived, form the political stability index.

Thus, higher value of political stability index means better stability and lower value means political stability is weak, i.e. considerable extent of political instability exists in the system. (Filmer and Pritchett, 2001; Hatcher et al, 2013).

For example, for India in 1981, the variables value (and loadings; squared loadings after the Principal Component Analysis) are as under:

1. LA1 = 66.73 (0.413; 0.170569)
2. LA2 = 24.95 ((-0.337); 0.113569)
3. LR1 = 100 (0.318; 0.101124)
4. LR2 = 2.67 (0.395; 0.156025)
5. RA1 = 50.82 (0.312; 0.097344)
6. RA2 = 7.79 ((-0.318); 0.101124)
7. RR1 = 100 (0.308; 0.094864)
8. RR2 = 6.53 (0.406; 0.164836)

The new values are derived after multiplying the variables' original value with the values of squared loadings as shown below:

1. IA1 = 11.38 (66.73\*0.170569)
2. IA2 = 2.83 (24.95\*0.113569)
3. IR1 = 10.11 (100\*0.101124)
4. IR2 = 0.42 (2.67\*0.156025)
5. rA1 = 4.95 (50.82\*0.097344)
6. rA2 = 0.79 (7.79\*0.101124)
7. rR1 = 9.48 (100\*0.094864)
8. rR2 = 1.08 (6.53\*0.164836)

These weighted values are added to construct the political stability index as under:

$$\text{PLSI\_IND} = \text{IA1} + \text{IA2} + \text{IR1} + \text{IR2} + \text{rA1} + \text{rA2} + \text{rR1} + \text{rR2}$$

$$\text{PLSI\_IND} = 11.38 + 2.83 + 10.11 + 0.42 + 4.95 + 0.79 + 9.49 + 1.08 = 41.04$$

For the remaining years of time series (1981-2017), the PLSIND index is constructed with similar method.

Table 5: descriptive statistics of Political indicators – India

Summary Statistics, using the observations 1981 - 2017				
Variable	Mean	Median	Minimum	Maximum
LA1	59.429	59.116	49.520	78.599
LA2	30.511	32.781	14.981	47.048
LR1	74.169	63.777	51.418	100.00
LR2	2.3208	1.7166	1.0617	5.2468
RA1	44.093	46.531	24.490	65.164
RA2	29.029	28.980	7.7869	56.735
RR1	70.334	73.000	8.8000	100.00
RR2	2.2821	1.6761	0.43165	6.5263
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
LA1	9.1858	0.15457	1.0094	0.051564
LA2	9.9179	0.32506	0.086387	-0.76971
LR1	18.852	0.25418	0.20953	-1.6071
LR2	1.3170	0.56751	1.3470	0.67197
RA1	11.427	0.25915	-0.019749	-0.76814
RA2	13.878	0.47808	0.33108	-0.59494
RR1	23.950	0.34052	-0.77697	0.61077
RR2	1.8958	0.83075	1.1940	0.00062371
Variable	5% Perc.	95% Perc.	IQ range	Missing obs.
LA1	49.520	78.599	10.541	0
LA2	14.981	46.682	11.796	0
LR1	51.418	100.00	32.107	0
LR2	1.0617	5.2468	1.3598	0
RA1	24.490	65.164	17.451	0
RA2	10.330	56.735	21.837	0
RR1	8.8000	100.00	29.647	0
RR2	0.43165	6.1565	1.8290	0

Source: compiled by the authors using GRETL Software.

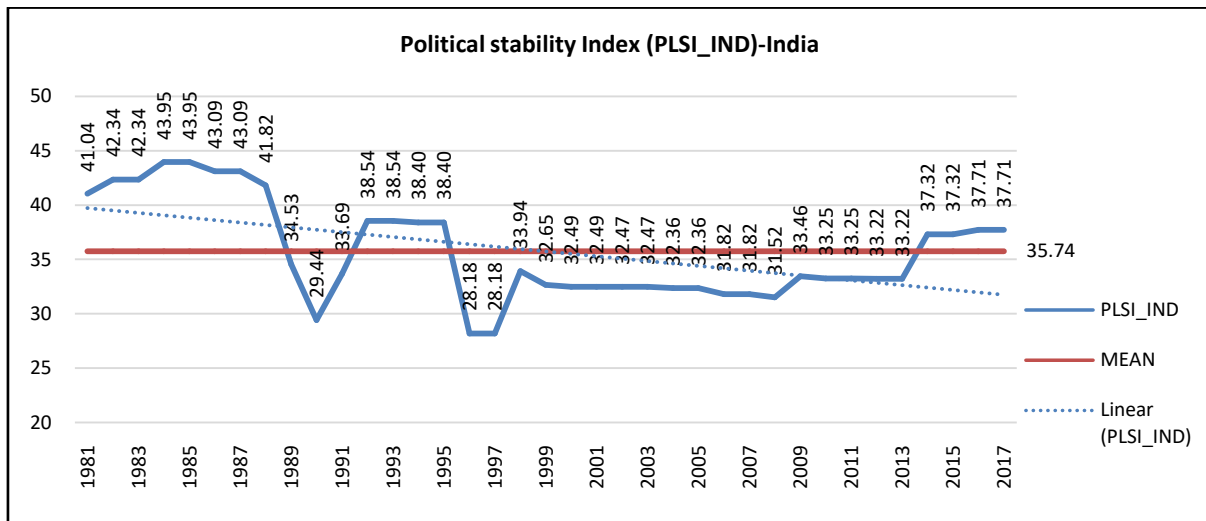


Figure 13: India mean chart of PLSI\_IND

Then, independent 'Regression Analysis' is carried out to determine the effect of the political stability index on each of the economic growth indicators at the

India level; The model articulates that the independent variables may have a significant impact on the dependent variable.

OLS Regression is carried out at India level to assess the impact of PLSI on economic growth indicators.

Secondly, the analysis carried out at India level within the same time period as General election results are taken into consideration.

The analysis is carried out using 'Gretl' software.

➤ State Level Political Stability Index (PLSI\_STE)

At the state level, only six major states have an upper house of the Legislative Assembly. Hence, the state level upper house is kept out of the purview of the scope of the study. Thus, we have four variables measuring political stability at the state level (due to consideration of only Vidhan Sabha) and independent Panel Regression is carried out to find the dependence of each of the economic growth indicators on political stability index at the States level.

At the States level, the indicators constructed are:

1. Absolute Concentration of Power – Ruling Alliance (A1)
2. Absolute Concentration of Power – Opposition Alliance (A2)
3. Relative Concentration of Power – Major Ruling Party (R1)
4. Relative Concentration of Power – Ruling Alliance vs. Opposition Alliance (R2)

Correspondingly, at states level, the Political Stability Index (PLSI\_STE) is developed in the similar way using the four indicators that we have constructed.

For example, for Andhra Pradesh in 1991, the variables values (and loadings; squared loadings after the Principal Component Analysis) are as under:

1. A1 = 61.56 (0.6; 0.36)
2. A2 = 26.87 ((-0.463); 0.214369)
3. R1 = 100 (0.3; 0.09)
4. R2 = 2.29 (0.579; 0.335241)

The new values are derived after multiplying the variables' original value with the values of squared loadings as shown below:

1. A1I = 22.16327 (61.56\*0.36)
2. A2I = 5.76025 (26.87\*0.214369)
3. R1I = 9 (100\*0.09)
4. R2I = 0.768084 (2.29\*0.335241)

These weighted values are added to construct the political stability index as under:

$$PLSI\_STE = A1I + A2I + R1I + R2I$$

$$PLSI\_STE = 22.16327 + 5.76025 + 9 + 0.768084 = 37.69$$

For the remaining years of time series (1991-2015) and rest of the states' cross-sections (28), the PLSI\_STE is constructed with similar method.

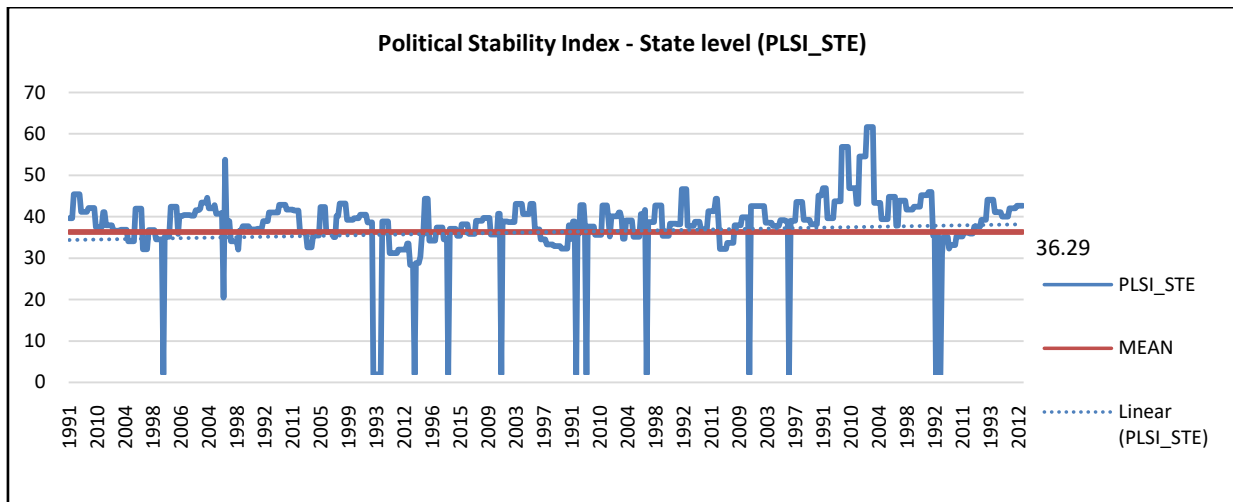


Figure 14: State-wise mean chart of PLSI\_STE

Table 6: Descriptive statistics of Political indicators – States

Variable	Mean	Median	Minimum	Maximum
A1	62.372	60.147	0.00000	100.00
A2	25.398	27.143	0.00000	47.143
R1	79.774	86.400	0.00000	100.00
R2	3.6268	2.1579	0.00000	55.000
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
A1	16.219	0.26004	-1.0373	4.3142
A2	11.619	0.45750	-0.44454	-0.44715
R1	24.441	0.30638	-1.4189	1.8915

R2	6.1484	1.6953	6.0094	41.404
Variable	5% Perc.	95% Perc.	IQ range	Missing obs.
A1	46.181	86.752	18.034	0
A2	0.94017	42.222	15.739	0
R1	35.556	100.00	34.409	0
R2	0.55000	8.2250	1.9169	0

Source: compiled by the authors using GRETL Software.

However, at the States level, a lag of one year is taken into consideration due to the fact that different states have Assembly elections in different years. Hence, the term of State Assemblies is also different. Hence, considering this discrepancy in the frequency of the Assembly elections, we have taken a lag period of one year.

Since, the time series (1991-2015) as well as cross-sections (28 states) remain fixed, fixed-effect model is estimated. As Judson and Owen (1996), discussed that for most macroeconomic dataset, fixed-effect model is more appropriate as the dataset is fixed in terms of the time-period as well as cross-sections.

To study the impact of political stability on economic growth, first an attempt is made to estimate variables through which economic growth is measured. These variables are as follows:

c. Dependent (Economic Growth) Variables

➤ India Level

**Growth rate of the real Per Capita Income (PCI\_GR):** The real GDP per capita income is considered as a broad and the most basic indicator of economic development of a nation. The real per capita GDP is calculated from the nominal Gross State Domestic Product data. The nominal GDP and GSDP data on Indian states was collected from the RBI's 'Handbook of Statistics of Indian States (2017-18)' and also Niti Aayog website (<http://niti.gov.in/state-statistics#>). Also, the reports available on the Planning Commission of India website were accessed (<http://planningcommission.nic.in/data/>

datatable/). Lastly, the various State Economic Survey reports were accessed for the missing data/figures.

The GSDP data at current prices (with base 2011=100) was, then, calculated from the available GSDP data at various price levels using splicing method. The population data for India and every state level was collected from the Census data (<https://www.census2011.co.in/states.php>).

Since, census is conducted every 10 years in India, the population numbers for inter-census years is not available. Hence, the method of interpolation was used to estimate the population for inter-census years.

For example, for ten year period between 1991 and 2001 census, the population figures for 1991 and 2001 are available. The two figures are added and divided by two to get the figure for 1995. Then 1991 and 1995 figures are added and divided by two to get the figure for 1993 and so on and so forth. The per capita income was calculated from the GDP/GSDP data from the population figures, thus, interpolated.

The growth rate of real per capita income was calculated on the basis of the below mentioned equation:

$$PCI\_GR = \frac{(PCI_t - PCI_{t-1})}{PCI_{t-1}} \times 100$$

where,

PCI\_GR – the growth rate of real per capita income;

PCI<sub>t</sub> – the real per capita income in the period t.

PCI<sub>t-1</sub> – the real per capita income in the period t-1.

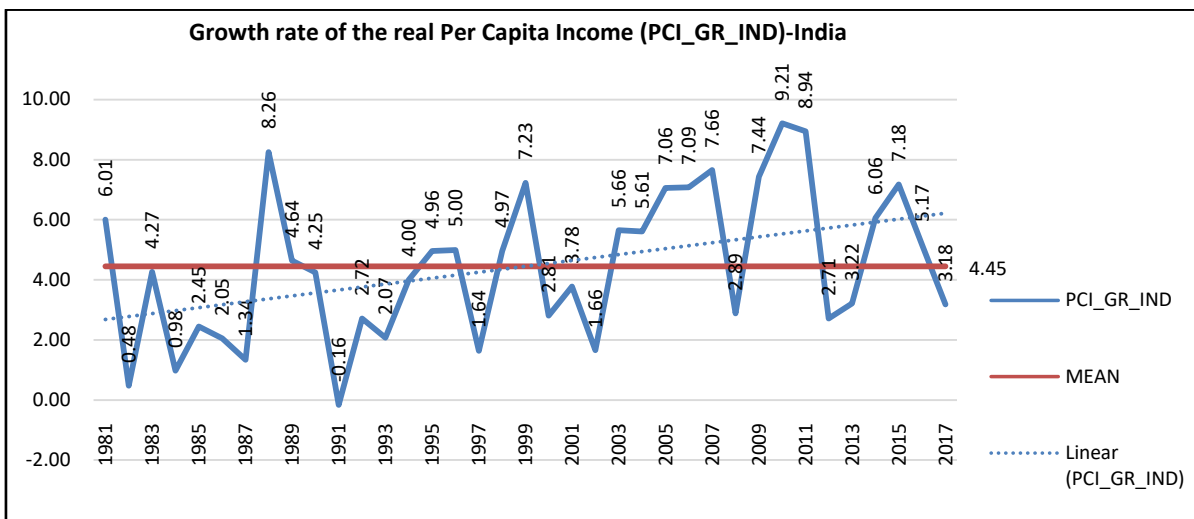


Figure 15: India mean chart of PCI\_GR\_IND



Gross Capital Formation as a percentage of GDP (GCFGDP): The Gross Capital Formation is the total value of the gross fixed capital formation (outlays on fixed assets), changes in inventories and acquisitions less disposals of valuables for all the sectors of the economy. Fixed assets include land improvements; plant, machinery, and equipment purchases; and the construction of infrastructure. Inventories are amount of goods held by firms to meet temporary or unexpected variations in production. The valuables are defined as investments in precious metals, stones, artefacts, and so on which do not contribute to further production in the economy. However, their value appreciates/ depreciates on the basis of economic and market conditions. When people save, they tend to invest. The percentage of the investments in fixed capital, inventories, acquisitions and valuables made each year out of the total GDP is called Gross Capital Formation as percentage of GDP (World Bank National Accounts

data (World development indicators, 2018); Samuelson and Nordhaus, 2012).

Thus, Rate of Gross Capital Formation (GCF as percentage of GDP) is defined as follows:

$$GCF \text{ as percentage of GDP (GCFGDP)} = \frac{GCF}{GDP} \times 100$$

The importance of the GCF lies in the fact that it is that part of GDP that is invested which, in turn, helps in the growth of the GDP itself. This is essential in achieving high growth of production, capital formation, changes in production techniques and launching the economy on the growth path (Samuelson and Nordhaus, 2012).

The India level GCF as percentage of GDP data is available from the World Bank database from 1981-2017 (<https://data.worldbank.org/indicator/NE.GDI.TOT.L.ZS?locations=IN> ).

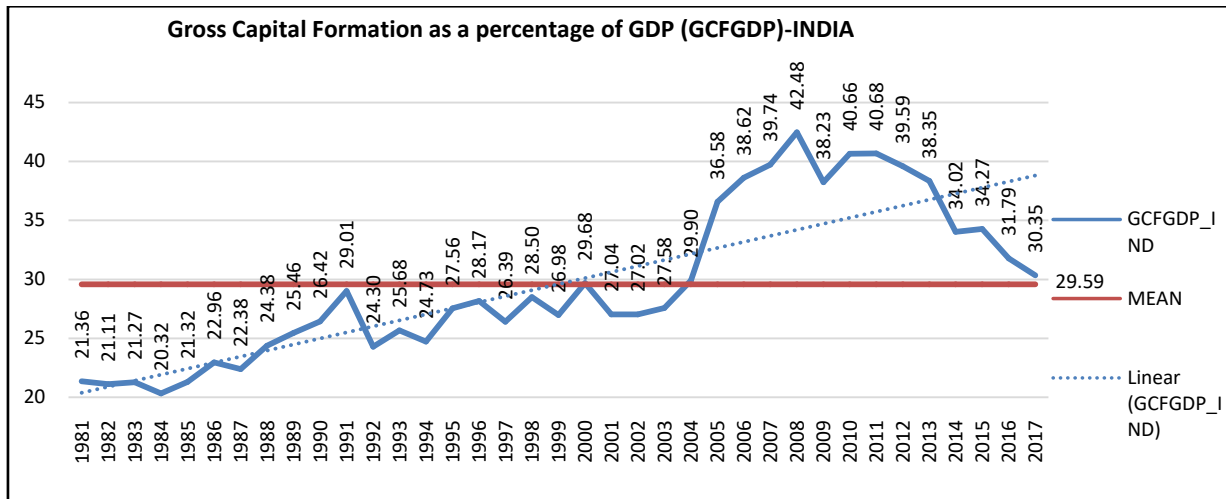


Figure 17: India mean chart of GCFGDP\_IND

The following table gives the descriptive statistics of both the economic growth variables.

Table 7: Descriptive statistics of PCI\_GR\_IND and GCFGDP\_IND – India

Summary Statistics, using the observations 1981 - 2017				
Variable	Mean	Median	Minimum	Maximum
PCI_GR	4.4454	4.2694	-0.16280	9.2144
GCFGDP	29.590	27.583	20.319	42.476
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
PCI_GR	2.4704	0.55572	0.13458	-0.90793
GCFGDP	6.5947	0.22286	0.49599	-0.97850
Variable	5% Perc.	95% Perc.	IQ range	Missing obs.
PCI_GR	0.41676	8.9717	3.9815	0
GCFGDP	21.033	40.861	10.870	0

The growth rate of per capita income (PCI\_GR\_IND) as independent variable and gross capital formation as a percentage of GDP (GCFGDP\_IND) as another independent variable. The analysis is individually carried out for both the economic

indicators. The correlation between both the independent variables at India level is 0.5. Hence, it can be considered as moderate level correlation and independent analysis can be carried out.

**Table 8:** Correlation Coefficients between PCI\_GR\_IND and GCFGDP\_IND

Correlation coefficients, using the observations 1981 - 2017

5% critical value (two-tailed) = 0.3246 for n = 37, with two-tailed p-value 0.0016

	PCI_GR_IND	GCFGDP_IND
PCI_GR_IND	1.0000	0.5013
GCFGDP_IND		1.0000

First, the per capita growth rate is taken as independent variable and regression analysis is carried out. The results are obtained. Then, the gross capital formation as a percentage of GDP is taken as independent variable and regression analysis is carried out to obtain the results.

is calculated in the same way as at the India level. For example, for Andhra Pradesh at current prices (2011=100), the real  $PCI_{1990}$  = Rs.3888.468 and  $PCI_{1991}$  = Rs.4632.032. Hence the PCI\_GR will be 19.12%  $\{[(4632.032-3888.468)/3888.468]*100 = [(743.564)/3888.468]*100 = 0.1912*100 = 19.12\%$

➤ States Level

Growth rate of the real Per Capita Income (PCI\_GR\_STE):

The state level growth rate of the real per capita income

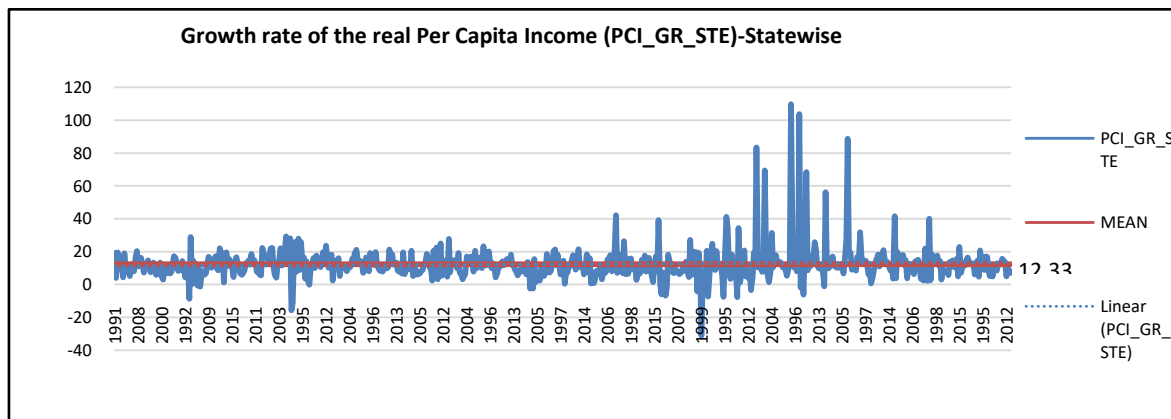


Figure 16: State-wise mean chart of PCI\_GR\_STE

Gross Capital Formation as a percentage of GDP (GCFGDP): At the state level, data for absolute GCF figures (Rs. Million) are only available. The GCF as percentage of GDP is calculated at the states level using the following formula.

Where GSDP is the Gross State Domestic Product

Furthermore, absolute GCF figures are available only from 1990-2015 in the RBI's 'Handbook of Statistics of Indian States (2017-18)'. Hence, due to unavailability of data, the time period for state level analysis is taken from 1991-2015.

GCF as percentage of GSDP (GCFGSDP)

$$= \frac{GCF}{GSDP} \times 100$$

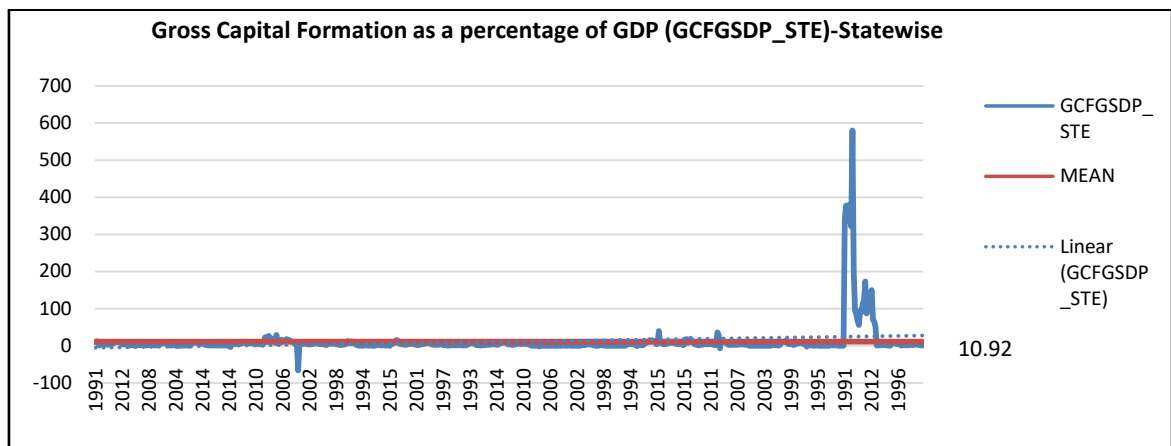


Figure 18: State-wise mean chart of GCFGSDP\_STE

Table 9: Descriptive statistics of PCI\_GR\_STE and GCFGSDP\_STE – States

Summary Statistics, using the observations 1:01 - 26:25				
Variable	Mean	Median	Minimum	Maximum
PCI_GR	12.330	11.309	-30.981	109.62
GCFGDP	10.921	3.2840	-66.485	580.70
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
PCI_GR	10.236	0.83012	4.1698	32.703
GCFGDP	44.199	4.0471	8.1006	75.553
Variable	5% Perc.	95% Perc.	IQ range	Missing obs.
PCI_GR	1.7753	22.833	7.1822	0
GCFGDP	0.0070448	19.115	5.8635	0

The growth rate of per capita income (PCI\_GR\_STE) as independent variable and gross capital formation as a percentage of GDP (GCFGDP\_STE) as another independent variable. The analysis is individually carried out for both the economic

indicators. The correlation between both the independent variables at India level is 0.025. Hence, the correlation is low and independent analysis can be carried out.

Table 10: Correlation Coefficients between PCI\_GR\_STE and GCFGDP\_STE

Correlation coefficients, using the observations 1:01 - 26:25

5% critical value (two-tailed) = 0.0769 for n = 650, with two-tailed p-value 0.04158

	PCI_GR_STE	GCFGSDP_STE
PCI_GR_STE	1.0000	0.0255
GCFGSDP_STE		1.0000

First, the per capita growth rate is taken as independent variable and regression analysis is carried out. The results are obtained. Then, the gross capital formation as a percentage of GDP is taken as independent variable and regression analysis is carried out to obtain the results.

### III. AN ANALYSIS

#### a) Aim

The aim of this study is to analyse the impact of political stability on economic growth for India as well as for 28 states in India. For the purpose of analysis, time period considered is of 37 years from 1981 to 2017 at India level; and time period of 25 years from 1991 to 2015 at the states level. The time period considered is strictly governed by the availability of data. The data set for India is a simple time series data of 37 years (1981-2017). However, the dataset for the states is a panel data spread across time series of 26 years (1990-2015) and cross sections of 28 states. (Arunachal Pradesh and Mizoram are kept out of purview of the analysis due to data unavailability. Also, union territories of Daman, Diu and Dadra Nagar Haveli, Andaman and Nicobar, Chandigarh and Lakshadweep are also kept out of purview as they have no impact on the election data).

India and state level analysis are kept separate due to federal structure of the polity, though regional parties play a very important role in political scenario of the country.

#### b) Model Specification

We are trying to find out the impact of political stability on economic growth. Political stability is measured by various indicators as described above. In a multi-party system like India, the number of effective parties, the changes in voter preferences (swing in votes), the number of seats that these parties win at every election in the Lok Sabha and the number of seats they occupy in both the Lok Sabha as well as Rajya Sabha (absolute concentration of power); and the coalitions formed, their relative strength and power (relative concentration of power) play a very important role in determining the stability of a government. The growth rate of real per capita income and the gross capital formation as percentage of GDP serve as appropriate measures of economic growth.

#### Time Period and Cross-Section specifications:

The formation of Indian states was fully completed by the year 1980. However, complete gross capital formation (GCF) data at the state level is available from 1990 onwards. Hence, for India level analysis, the time period in the analysis undertaken is from 1981–2017; whereas for state level analysis, it is from 1990–2015, to account for growth rate of the real per capita SDP and GCF.

The complete election data from the first year (1981) of the time frame is available for India as well as for 27 states, except 3 states, namely Chhattisgarh, Jharkhand and Uttarakhand. The states of Chhattisgarh,

Jharkhand and Uttarakhand were formed in the year 2000. The first elections took place in the year 2002 for Chhattisgarh, 2005 for Jharkhand and 2003 for Uttarakhand.

Hence, there are some variations in the time period as well as cross-section specifications for a few states as mentioned below:

1. Due to unavailability of GCF data, the state level analysis is carried out for a period of 26 years from 1990 – 2015. However, national level analysis is carried out for a period of 37 years from 1981 – 2017 due to availability of GCF data at national level.
2. The time period undertaken for Chhattisgarh is 2004-2015; for Jharkhand, it is 2005-2015; and for Uttarakhand, it is 2003-2015.
3. The National Capital Region of Delhi (Delhi) and Union Territory of Puducherry are taken into analysis as they have a considerable impact on the national as well as state level political decisions. The GSDP data of Delhi and Puducherry is in official records only onwards the year 1993. Hence, the time period for Delhi and Puducherry is 1994-2015.
4. The states of Arunachal Pradesh and Mizoram have been excluded from the study due to unavailability of GCF data.
5. The Bihar State Assembly election in February 2005 had resulted in the President’s Rule and mid-term election was held in October 2005. Hence, for the purpose of calculation, the results of the mid-term election are considered.
6. The state of Telangana was formed in the year 2014. Hence, the analysis couldn’t be carried out in light of only one election (2014) that has taken place till 2015.
7. The Union Territories of Andaman and Nicobar Islands, Chandigarh, Dadra Nagar Haveli, Daman and Diu and Lakshadweep are also kept out of purview of the analysis as they have negligible to no impact on the political scenario/decisions in the country.
8. The state of Jammu and Kashmir is considered to be a whole state as during the time period of the study (1990-2015), the state was not split up into union territories.

The time period of years between two consecutive elections is also taken into consideration to, appropriately measure the impact of inter-election per capita income and gross capital formation on the voting pattern of the electorates.

Table 11: List of State elections dates

No.	State/Union Territories	Time Frame (Years)	Election Years	Number of Elections
1	Andhra Pradesh	1981-2017 (37)	1978, 1983, 1985, 1989, 1994, 1999, 2004, 2009, 2014	09
2	Arunachal Pradesh**	1981-2017 (37)	1980, 1984, 1990, 1995, 1999, 2004, 2009, 2014	08
3	Assam	1981-2017 (37)	1978, 1983, 1985, 1991, 1996, 2001, 2006, 2011, 2016	09
4	Bihar	1981-2017 (37)	1980, 1985, 1990, 1995, 2000, (Oct)2005, 2010, 2015	08
5	Chhattisgarh	2003-2017 (15)	2003, 2008, 2013	03
6	Delhi	1993-2017 (25)	1993, 1998, 2003, 2008, 2013, 2015	06
7	Goa	1981-2017 (37)	1980, 1984, 1989, 1994, 1999, 2002, 2007, 2012, 2017	09
8	Gujarat	1981-2017 (37)	1980, 1985, 1990, 1995, 1998, 2002, 2007, 2012, 2017	09
9	Haryana	1981-2017 (37)	1977, 1982, 1987, 1991, 1996, 2000, 2005, 2009, 2014	09
10	Himachal Pradesh	1981-2017 (37)	1977, 1982, 1985, 1990, 1993, 1998, 2003, 2007, 2012, 2017	10
11	Jammu & Kashmir	1981-2017 (37)	1977, 1983, 1987, 1996, 2002, 2008, 2014	07
12	Jharkhand	2005-2017 (13)	2005, 2009, 2014	03
13	Karnataka	1981-2017 (37)	1978, 1983, 1985, 1989, 1994, 1999, 2004, 2008, 2013	09
14	Kerala	1981-2017 (37)	1980, 1982, 1987, 1991, 1996, 2001, 2006, 2011, 2016	09
15	Madhya Pradesh	1981-2017 (37)	1980, 1985, 1990, 1993, 1998, 2003, 2008, 2013	08
16	Maharashtra	1981-2017 (37)	1980, 1985, 1990, 1995, 1999, 2004, 2009, 2014	08
17	Manipur	1981-2017 (37)	1980, 1984, 1990, 1995, 2000, 2002, 2007, 2012, 2017	09
18	Meghalaya	1981-2017 (37)	1978, 1983, 1988, 1993, 1998, 2003, 2008, 2013	08
19	Mizoram**	1981-2017 (37)	1979, 1984, 1987, 1989, 1993, 1998, 2003, 2008, 2013	09
20	Nagaland	1981-2017 (37)	1977, 1982, 1987, 1989, 1993, 1998, 2003, 2008, 2013	09
21	Odisha	1981-2017 (37)	1980, 1985, 1990, 1995, 2000, 2004, 2009, 2014	08
22	Puducherry	1993-2017 (25)	1991, 1996, 2001, 2006, 2011, 2016	06
23	Punjab	1981-2017 (37)	1980, 1985, 1992, 1997, 2002, 2007, 2012, 2017	08
24	Rajasthan	1981-2017 (37)	1980, 1985, 1990, 1993, 1998, 2003, 2008, 2013	08
25	Sikkim	1981-2017 (37)	1979, 1985, 1989, 1994, 1999, 2004, 2009, 2014	08

26	Tamil Nadu	1981-2017 (37)	1980, 1984, 1989, 1991, 1996, 2001, 2006, 2011, 2016	09
27	Telangana**	2014-2017*	2014*	01*
28	Tripura	1981-2017 (37)	1977, 1983, 1988, 1993, 1998, 2003, 2008, 2013	08
29	Uttar Pradesh	1981-2017 (37)	1980, 1985, 1989, 1991, 1993, 1996, 2002, 2007, 2012, 2017	10
30	Uttarakhand	2002-2017 (16)	2002, 2007, 2012, 2017	04
31	West Bengal	1981-2017 (37)	1977, 1982, 1987, 1991, 1996, 2001, 2006, 2011, 2016	09

c) Estimation Method/Methodology

Many estimation techniques are available for estimation of a panel data. The effects specification for panel analysis is very important. For macroeconomics dataset, the fixed effects model is a common choice. It is generally more appropriate than a random effects model for many macro datasets for two reasons. First, it is highly likely that these country-specific characteristics are correlated with the other regressors only if the individual effect represents omitted variables. Second, a typical macro panel will contain cross section data and, thus, will be less likely to be a random sample from a much larger universe of dataset. (e.g., an OECD panel is likely to contain all of the OECD countries and not just a random sample of them) (Judson and Owen, 1996).

Similarly, for the study, the Indian states analysis contains a total of 28 states and Union Territories. Also, the time period is fixed for the analysis. Thus, a fixed-effect model is more appropriate to our dataset because the likeliness of observations to be random is also very tiny.

Furthermore, we need to remove redundant variables so that internally correlated variables do not affect the analysis. In order to filter the variables, we adopt the Principal Component Analysis.

Principal component analysis is appropriate when we have obtained measures on a number of observed variables and wish to develop a smaller number of artificial variables (called principal components) that will account for most of the variance in the observed variables. After obtaining the principal components, a weighted index is created – political stability index – and regression analysis is carried out to check for dependence of the variables.

d) Hypothesis

We define the model using null hypothesis and alternate hypothesis. Also, the algebraic equation is mentioned below in order to study the impact of the variables.

Null Hypothesis ( $H_0$ )

The political stability index does not have a significant effect on the economic growth at both the levels – national (1981-2017) as well as the State Legislative Assembly Elections (for 28 states from 1991-2015).

Alternative Hypothesis ( $H_1$ )

The political stability index have a significant effect on the economic growth at both the levels –

national (1981-2017) as well as the State Legislative Assembly Elections (for 28 states from 1990-2015).

Theoretically, at India level, the model can be defined as follows:

$$PCI\_GR\_IND_t = c_1 + \beta_1 (PLSI\_IND_t) + \mu_t \quad (1)$$

$$GCFGDP\_IND_t = c_1 + \beta_2 (PLSI\_IND_t) + \mu_t \quad (2)$$

where,

PCI\_GR\_IND<sub>t</sub> – Growth Rate of Per Capita Income for the period t

GCFGDP\_IND – Gross Capital Formation as a percentage of GDP for the period t

PLSI\_IND – index constructed using political stability indicators for the period t at India level

$\beta_k$  – the coefficients to be estimated

$c_m$  – the intercepts; and

$\mu_t$  – the error term.

However, at the states level, Panel Regression is carried out to assess the relationship between the political stability index and economic growth indicators, separately. First, the per capita growth rate is taken as independent variable and regression analysis is carried out. The results are obtained. Then, the gross capital formation as a percentage of GSDP is taken as independent variable and regression analysis is carried out to obtain the results. Thus, we have a Model 1 and Model 2 at both –India as well as States level.

However, at the States Level, the model can be defined as follows:

$$PCI_{GRSTE_t} = c_1 + \beta_1 (PLSI_{STE_{t-1}}) + \beta_2 (PLSI_{STE_t}) + \mu_t \quad (3)$$

$$GCFGSDP_{STE_t} = c_1 + \beta_1 (PLSI_{STE_{t-1}}) + \beta_2 (PLSI_{STE_t}) + \mu_t \quad (4)$$

where,

PCI\_GR\_STE<sub>t</sub> – Growth Rate of Per Capita Income for the period t

GCFGSDP\_STE – Gross Capital Formation as a percentage of GSDP for the period t

PLSI\_STE<sub>t</sub> – index constructed using political stability indicators for the period t at states level

PLSI\_STE<sub>t-1</sub> – index constructed using political stability indicators for the Lag period

$\beta_k$  – the coefficients to be estimated



$c_m$  – the intercepts; and  
 $\mu_t$  –the error term.

e) *Results*

Here an attempt is made to analyse whether there exists an impact of political stability on economic growth in India.

f) *India level results*

The major question addressed here is: whether the economic growth that takes place in India is affected by stability at the central and states level political situation?

*Model 1:* OLS, using observations 1981-2017 (T = 37)

Dependent variable: PCI\_GR\_IND

	Coefficient	Std. Error	t-ratio	p-value	
Const	9.54652	3.16813	3.013	0.0048	***
PLSI_IND	-0.142727	0.0879435	-1.623	0.1136	
Mean dependent var	4.445426		S.D. dependent var	2.470393	
Sum squared resid	204.3257		S.E. of regression	2.416170	
R-squared	0.069988		Adjusted R-squared	0.043416	
F(1, 35)	2.633929		P-value(F)	0.113577	
Log-likelihood	-84.11347		Akaike criterion	172.2269	
Schwarz criterion	175.4488		Hannan-Quinn	173.3628	
Rho	0.143589		Durbin-Watson	1.683188	

*Model 2:* OLS, using observations 1981-2017 (T = 37)

Dependent variable: GCFGDP\_IND

	Coefficient	Std. Error	t-ratio	p-value	
Const	59.8225	7.09768	8.428	<0.0001	***
PLSI_IND	-0.845882	0.197024	-4.293	0.0001	***
Mean dependent var	29.59043		S.D. dependent var	6.594668	
Sum squared resid	1025.537		S.E. of regression	5.413045	
R-squared	0.344967		Adjusted R-squared	0.326252	
F(1, 35)	18.43245		P-value(F)	0.000133	
Log-likelihood	-113.9587		Akaike criterion	231.9174	
Schwarz criterion	235.1393		Hannan-Quinn	233.0533	
Rho	0.844288		Durbin-Watson	0.301708	

The equations of the model can, now, be stated as follows:

$$PCI\_GR\_IND_t = 9.5465 - 0.1427 (PLSI\_IND_t) + \mu_t$$

(India level)

$$GCFGDP\_IND_t = 59.8225 - 0.84588 (PLSI\_IND_t) + \mu_t$$

(India level)

Centre and State-level data was analysed. The results prove that there is an impact on the economic

growth. However, at India level, there is no significant impact on growth rate of per capita income (R squared = 0.07, p=0.1136). Thus, it can be seen that p value is not significant at 1%, 5% or 10% level of significance. Thus we say that the per capita income growth rate is not affected by the stability of the government.

However, there exists a significant impact on the gross capital formation of the country (R squared = 0.34, p=0.0001). The p-value is significant at all the levels of significance (1%, 5% and 10%). Thus, we can

say that investments are impacted by the stability of the government at the Centre and, through investment, it influences the level of income and standard of living of the people.

In a country like India, with a multi-party system and rampant coalition governments, stability of the government is difficult. The Indian political scenario has been dented with frequent, early mid-term elections; pulling out support from existing functioning governments. This may be due to the nature of Indian politics for one decade. Furthermore, frequent imposition of presidential/governor rule. The negative coefficient, thus, indicates that economic growth is adversely affected by political stability indicators.

The coefficient of the index reflects lower values indicating a considerable amount of instability in the country. The Indian political system is plagued by multi-party system where coalition government has become the norm and hence, low value of political stability index per se.

Economic growth tends to get hampered if concentration of ruling alliance is lower, and/or opposition alliance is higher. There will be hurdles created in smooth functioning of the administrative decision-making and implementation as weaker governments are formed. The average of concentration of the ruling party in the total seats at India level in Lok Sabha is approx. 59 percent and in Rajya Sabha is approx. 44 percent (mean of Ruling Alliance in total seats in Lok Sabha-Absolute Concentration LA1=59.42% and mean of Ruling Alliance seats in total seats in Rajya Sabha- Absolute Concentration RA1=44.09%). Similarly at states level, the mean of Ruling Alliance's Concentration of Power is approx. 62

percent (mean of Ruling Alliance seats in total seats Absolute Concentration A1=62.18%). This shows that the government is formed by marginal seats in most of the elections. Thus, the strength of the coalition is weaker. This affects political stability adversely as lesser concentration of seats with ruling alliance leads to dicey government, affecting decision-making power regarding economic policies. There will be constant pushes and pulls of the junior/coalition partners in the government.

Since 1990s, the ruling alliance in India has been winning marginal seats as compared to earlier years. When Congress was the dominant party in the 1960s and 1970s, there have been 100% majority governments. Over the years, the dominance has been lost, paving way for coalition governments; once comprising up to 24 small and big, regional and central political parties.

The proportion of seats of the major ruling party in the ruling alliance also, has been decreasing over the years. This is one of the main reasons, why the composition of coalition has been becoming wider and complicated. The average of concentration of the major ruling party in the total ruling alliance seats at India level in the Lok Sabha is approx. 74 percent and in Rajya Sabha is approx. 70 percent respectively (mean of Major Ruling Party seats in total Ruling Alliance seats in Lok Sabha-Relative Concentration LR1=74.17% and mean of Major Ruling Party seats in total Ruling Alliance seats in Rajya Sabha- Relative Concentration RR1=70.33%).

Thus, the coefficient of Political Stability index (PLSI) at both-India and the states-levels portray a negative sign. However, our analysis prove that the indicators have a considerable impact on the economic growth of India.

g) State Level Results

Model 1: Pooled OLS, using 648 observations

Included 26 cross-sectional units  
Time-series length: minimum = 24, maximum = 25  
Dependent variable: PCI\_GR\_STE

	Coefficient	Std. Error	t-ratio	p-value	
Const	11.5324	2.17060	5.313	<0.0001	***
PLSI_STE	-0.118405	0.0623607	-1.899	0.0580	*
PLSI_STE_1	0.140024	0.0623662	2.245	0.0251	**
Mean dependent var	12.31617		S.D. dependent var	10.24745	
Sum squared resid	67351.34		S.E. of regression	10.21864	
R-squared	0.008689		Adjusted R-squared	0.005615	
F(2, 645)	2.826680		P-value(F)	0.059943	
Log-likelihood	-2424.059		Akaike criterion	4854.119	
Schwarz criterion	4867.540		Hannan-Quinn	4859.325	
Rho	0.047610		Durbin-Watson	1.900247	

Model 2: Pooled OLS, using 648 observations

Included 26 cross-sectional units  
 Time-series length: minimum = 24, maximum = 25  
 Dependent variable: GCFGSDP\_STE

	Coefficient	Std. Error	t-ratio	p-value	
Const	72.6654	9.08479	7.999	<0.0001	***
PLSI_STE	-0.722521	0.261003	-2.768	0.0058	***
PLSI_STE_1	-0.978322	0.261026	-3.748	0.0002	***
Mean dependent var	10.93234		S.D. dependent var	44.26696	
Sum squared resid	1179819		S.E. of regression	42.76888	
R-squared	0.069424		Adjusted R-squared	0.066539	
F(2, 645)	24.05962		P-value(F)	8.36e-11	
Log-likelihood	-3351.734		Akaike criterion	6709.468	
Schwarz criterion	6722.890		Hannan-Quinn	6714.675	
Rho	0.828294		Durbin-Watson	0.343305	

The equations of the model can, now, be stated as follows:

$$PCI\_GR\_STE_t = 11.5324 - 0.1184 (PLSI\_STE_t) + 0.14 (PLSI\_STE_{t-1}) + \mu_t \quad (\text{States level})$$

$$GCFGSDP\_STE_t = 72.6654 - 0.7725 (PLSI\_STE_t) - 0.9783 (PLSI\_STE_{t-1}) + \mu_t \quad (\text{States level})$$

We reject the Null hypothesis and accept that political stability does have an impact on economic growth. It is one of the indicators of economic growth of the country.

At states level, the major ruling party's concentration of power is approx. 80 percent (mean of major Ruling Party seats in total ruling alliance seats - Relative Concentration R1=79.75%). Due to dominance of the state parties, the state Assemblies have comparatively higher concentration of ruling party in the coalition compared to Central coalition composition. However, it is not 100 percent and hence, the ruling party still has to depend upon the partners for assent regarding policies.

The relative power of the ruling alliance is approximately just as twice as that of total opposition alliance; i.e. the ruling coalition is approximately twice in majority than the opposition in both the Houses at India level (mean of relative concentration of Ruling Alliance power to total opposition alliance power in Lok Sabha LR2 = 2.32 times and that in Rajya Sabha RR2= 2.28 times.) However, at the states level, the ruling alliance is relatively stronger (mean of Relative Concentration of ruling alliance power to total opposition alliance power R2 in the states = 3.61 times). The ruling alliance still needs to be more over-powering to total opposition in order to have a firmer stance in policy-making.

However, at the States level, both the analyses prove to be impactful. The growth rate of per capita income at the states level is very mildly affected by the stability (R squared = 0.01, p=0.058, p (lagged) =0.02). Thus, the p value for the same time period is significant at only 10% level of significance, but the

lagged variable's p value is significant at both 5% as well as 10% level of significance. The gross capital formation as a percentage of GSDP is impacted by the stability (R squared = 0.07, p=0.0058, p (lagged) = 0.0002). Thus, the p value for the same time period as well as lagged variable's p value are both significant at all the levels of significance – 1%, 5% as well as 10% level of significance. The panel regression at the states level is considered significant for investments due to the high number of observations (n = 648) (Ellis and Steyn, 2003; Karadimitriou, 2015). \*

Thus, we can say that the stability of the state level governments affect the standard of living of the people as well as investments in that respective state. The analysis proves to be more appealing to the state level data. Thus, the central government's stability affects the income of the people indirectly; but the stability of the state governments have a comparatively major impact on the economic growth of the state.

In an ethnically diverse society like India with a deep societal cleavage, regional parties play a very important role. (Chandra, 2005) The regional parties affect the composition of ruling and opposition alliances. Thus, we answer the above questions. Yes, there exists a significant impact of the independent variables on the dependent variables more at the states level than at India level.

This inverse relationship between the indices is due to the structure of the Indian political system. The dominance of regional parties sways away the votes from the major national parties; thus, leading to formation of coalitions whereby the regional parties have the dictate.

Thus, political stability plays a significant role in determining economic growth of a country.

However, in India, economic growth is limited due to socio-political conditions plagued by multi-party democracy and coalition politics.

Furthermore, the results state that there is a negative relationship between political stability and economic growth at both the levels.

\*For correlation coefficient, the larger the sample size, the value of 'r' at which a significant result occurs may be lower. Thus, the values of our analysis are considered to be significant considering the large data set as well as the long time span (panel data set). For a cross-sectional panel data of 648 observations, spanning over 25 years and 28 states elections, the correlation is significant enough to impact the dependent variable (Ellis and Steyn, 2003; Karadimitriou, 2015).

This is mainly due to the observed negative values of the political stability index at both – India and states levels. However, the stability index has a positive impact on the growth rate of per capita income of the states in the lagged period. This may be due to continued stability of the government at the state level. This continued stability may be reinforcing the faith of the people in the government. Also, the index turns acceptable at 5% level in the lagged period. Thus, we can say that as time passes, the electorates become more confident about the stability of the government.

#### IV. CONCLUSION

This paper is about whether political stability has an impact on economic growth in the country. The effect of political stability on income and investment is robustly tested here. India is a country with a federal structure of polity and states designed on the basis of languages and culture. India and its states have a deep ethnic cleavage which has given rise to strong and a deep-rooted regional politics within the country. At the time of independence, India portrayed a strong one-party dominant type of parliamentary democracy at both the Central as well as federal levels. Over the years, the weakening and crumbling Congress party and its unity gave an opportunity to regional parties to blossom. This was further fuelled by the rise of another strong party (BJP) which became second in dominance to Congress, slowing gaining ground on the Congress party. Simultaneously, regional parties flourished on the grounds of ethnicity, multi-cultural and multi-lingual characteristics of the Indian citizenry.

There have also been instances at state level, where one-party dominance is still prevalent. (West Bengal, Sikkim). Nonetheless, there are states with constant turmoil within the ruling party and opposition parties. Hence, in order to analyse for the effect of such a peculiar multi-party system (where are almost a 100

parties plying for a single seat), we have undertaken this analysis.

As PLSI portrays a mix of indicators, and it has a negative coefficient. For our data, the ruling alliance and its strength is marginal at India as well as at states level. Additionally, the multitude of parties that exist in the country affect the economy as expenditure in maintenance and management of a huge number of parties is high. Further, our results show that there exists an inverse relationship between the indices. The negative sign mainly illustrates the weaker position of the ruling alliance that form the government.

Thus, our results have successfully established that the political situation of the country is one of the factors affecting economic growth.

Thus, the paper aims to draw conclusions on the Indian political scenario and its impact on the economic growth path. It is established that political stability is much lower in the country. It is partially responsible for lower economic growth of India. If the regional politics merges with national politics; then there is ample scope for increase in economic growth.

If the regional parties enter into permanent coalition with the national parties, then the risk of dissolution of the government and probability of re-election will considerably reduce. This will deviate the much needed funds to capital formation, infrastructure building and other developmental goals. Further, consensus between political party coalitions will lead to better policy designing and decision-making, avoiding further delays in implementing the futuristic and compatible economic policies for placing the country on growth trajectory.

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ABBREVIATIONS

ACP	Absolute Concentration of Power
A1	Absolute Concentration of Power of Ruling Party/Alliance (State Level)
A2	Absolute Concentration of Power of Opposition Party/Alliance (State Level)
FDI	Foreign Direct Investments
GCF	Gross Capital Formation as a percentage of GDP
GCFGDP_IND	Gross Capital Formation as a percentage of GDP (India Level)
GCFGDP_STE	Gross Capital Formation as a percentage of GSDP (State level)
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GSDP	Gross State Domestic Product
HDI	Human Development Index
IMR	Infant Mortality Rate
MMR	Maternal Mortality Rate
LA1	Absolute Concentration of Power of Ruling Party/Alliance (Lok Sabha)
LA2	Absolute Concentration of Power of Opposition Party/Alliance (Lok Sabha)
LR1	Major Ruling Party's Relative Concentration of Power variable (Lok Sabha)
LR2	Ruling party/Alliance's Relative Concentration of Power variable (Lok Sabha)
MRP	MRP Major Ruling Party
OECD	OECD Organisation for Economic Cooperation and Development
PCI GR	Growth Rate of Real Per-Capita Income
PCI GR_IND	Growth Rate of Real Per-Capita Income (India Level)
PCI GR_STE	Growth Rate of Real Per-Capita Income (State level)
PPP	Public Private Partnership Model

RA1	Absolute Concentration of Power of Ruling Party/Alliance (Rajya Sabha)
RA2	Absolute Concentration of Power of Opposition Party/Alliance (Rajya Sabha)
RCP	Relative Concentration of Power
R1	Major Ruling Party's Relative Concentration of Power variable (State Level)
R2	Ruling party/Alliance's Relative Concentration of Power variable (State Level)
RR1	Major Ruling Party's Relative Concentration of Power variable (Rajya Sabha)
RR2	Ruling party/Alliance's Relative Concentration of Power variable (Rajya Sabha)
SPP	SPP Spread of Political Power
U5MR	U5MR Under Five Mortality Rate
US	US United States of America
USSR	USSR The Union of Soviet Socialists Republics

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# The Effects of Students' Housing on Academic Performance at the University of Ibadan in Nigeria

By Abiodun Moses Ogunyemi

*University of Ibadan*

**Abstract-** Student housing plays an important role in achieving of high-quality education. Significant evidence of the inadequacy of these important facilities among public universities in Nigeria have been provided. It was further noted that there is a lack of adequate information within the private institutions in the country with regards to this situation. Based on this context, this study was carried out to evaluate the housing situation of students at the University of Ibadan, by evaluating the factors influencing the choice of residence of students and their effect on their academic performance. However, the study adopted a survey approach, with 200 students sampled through a structured questionnaire. Data gathered were analyzed using frequency, mean item score, and ANOVA test. Results revealed that although gender has no relationship with students' choice of residence but age and academic level does. This implies that the older the students get and the higher they go on the academic ladder, the greater the propensity to stay off- campus.

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**Abstract-** Student housing plays an important role in achieving of high-quality education. Significant evidence of the inadequacy of these important facilities among public universities in Nigeria have been provided. It was further noted that there is a lack of adequate information within the private institutions in the country with regards to this situation. Based on this context, this study was carried out to evaluate the housing situation of students at the University of Ibadan, by evaluating the factors influencing the choice of residence of students and their effect on their academic performance. However, the study adopted a survey approach, with 200 students sampled through a structured questionnaire. Data gathered were analyzed using frequency, mean item score, and ANOVA test. Results revealed that although gender has no relationship with students' choice of residence but age and academic level does. This implies that the older the students get and the higher they go on the academic ladder, the greater the propensity to stay off-campus. The major factors influencing students' choice of residence are: accommodation fee, quality of the environment, need for privacy, influence of friends/desire to be close to friends, and number of students within the building. As regards students Cumulative Grade Point Average (CGPA) as a measure of their performance, the residence of students does not have any statistical relationship with their academic grades. This implies that the student's academic performance is not influenced by their place of residence. The study also revealed that there is a level of dissatisfaction with the poor state and condition of available student housing facilities, the inadequacy of the existing facilities which has created high occupancy ratio has invariably led to over utilization of the available resources putting the facilities in deplorable conditions. From the study findings, it is recommended that the university administrators and all those involved in students' accommodation endeavor to understand students' accommodation needs and plan strategically to meet them. It is hoped that the findings of the study will enable the university administrators to come up with plans and objectives that best serve the interests of the students' accommodation for both on-campus and off-campus.

## I. INTRODUCTION

The importance of housing covers the entire aspects of human life. Primarily, it involves physical protection from hazards which ordinarily may be regarded as shelter sourced from many of the basic biological and social processes necessary to sustain

life, which permits healthy growth and development of the mind. In all, housing as a unit of the human environment has a profound impact on the community's health, social behavior, satisfaction and general welfare. It reflects the cultural, social and economic values of a society as it is the best physical and historical evidence of civilization in a country (Aluko, 2009).

Students' housing has been identified as one of the essential components of tertiary institutions. The availability of housing or accommodation for students enables tertiary institutions to attract large number of students of different nationalities and backgrounds to pursue higher education (Kolawole & Boluwatife, 2016). Onclin, (2014) noted that "tertiary institutions' involvement in housing or accommodation was not just useful for attracting students; it would also influence student success, student retention rates, and student satisfaction". Nimako & Bondinuba, (2013) also identified accommodation as an important factor that enhances tertiary students' living and learning and suggested that adequate accommodation facilities be provided to students so that they could make the most of their educational opportunity.

It is the responsibility of tertiary institutions to provide decent housing facilities for students who successfully gain admission to pursue different study programs. For government institutions, accommodation facilities are usually provided by the government. However, as result of high demand for tertiary education in recent times, governments of many countries are not able to adequately provide accommodation for students of tertiary institutions (Sharma, 2012). Consequently, other educational stakeholders have had to support government efforts, either in partnership with government or by solely providing private housing or accommodation facilities for tertiary students on or off-campus (Centre for Global Education, 2002 Department for Education and Skills, 2003).

University of Ibadan has twelve halls of residence which provide accommodation for its students. These are the Independence hall, Ransome kuti hall (male block), Queen India (female block), Mellanby hall, Nnamdi Azikiwe hall, Obafemi Awolowo hall, Queen Elizabeth || hall, Sultan Bello hall, Tafawa Balewa hall, Lord Tedder Hall, New postgraduate hall, Alexander Brown Hall. The total students' population of

*Author: Faculty of Economics, University of Ibadan.  
e-mail: abmoses115@gmail.com*

the University for the 2018/2019 academic year was about 35,000. Clearly, the twelve halls of residence of the university are insufficient to accommodate all the students as freshers, finalist and few starlite are considered for room accommodation.

As a result, students who were unable to get rooms to lodge in the institution's halls of residence are with the option of seeking for accommodation in hostels built around the university by private individuals. Other students are left with no option than to come for lectures from their respective homes.

Due to the important role that housing plays in the tertiary students' living and their academic pursue, any issue affecting students' choice of residential accommodation should not be disregarded.

This study, therefore, aimed to investigate the key factors that influenced students' choice of residential accommodation University of Ibadan and to determine whether type of accommodation significantly affected the students' academic performance.

#### a) *Problem statement*

Students' housing has been a challenge to the university authorities. The issue of students' housing cannot be ignored in the overall development process and master plan of the ivory tower of learning. Macintyre (2003) x-ray students' housing as a contributory factor to the students all round development in the nation's tertiary institutions and to provide panacea to solving the contemporary students' housing problem.

Students of tertiary institutions constitute a sizeable proportion of the total active population of the society and conscious efforts to meet their housing needs must be effected in various policy decisions in order to produce qualified graduates (Omotayo, 2008). Student housing conditions have always been one of the major challenges facing Nigerian institutions due to the fact that admitted students tend to exceed the facilities provided by the institution's authority. The significant problems facing housing range from increasing overcrowding of students to congestion and, as a result, increasing pressure on infrastructure, social facilities and a rapidly deteriorating environment, the current housing facilities have increased in pressure due to their lack of housing units, with as many as ten (10) students sharing a space allocated to four (4). In addition, the problems of unsanitary environment lead to outbreak of diseases and socio disorder.

Also, in so many ways, the problem of poor and erratic electricity supply coupled with lack of water supply within the housing has really affected the students. However, for a more improved student housing, various problems need to be tackled to achieve success in various choice of study. Some of the questions that we try to examine are: What is the total carrying capacity of rooms in each of the students housing? What is the number of the rooms in each

students housing? What is the level of infrastructure facilities in the student housing? What is the present state of the student housing facilities? And who are the authorities responsible for running the student housing?

The importance and benefit of assessing the student housing condition in University of Ibadan cannot be overemphasized. This study is therefore carried out to assess the student housing benefit and facilities condition.

#### b) *Objectives of the study*

The main objective of this study is to establish the influence of students housing on the academic performance of students within the scope of tertiary institution in Ibadan city. However, the specific objectives are:

1. To determine the difference in students' level of satisfaction with accommodation among students residing either on - campus or off - campus at University of Ibadan.
2. What are the factors influencing students' choice of accommodation at University of Ibadan?
3. Does the gender type of students influence their choice of accommodation?
4. What is the impact of age category in the selection student's residential location?
5. To propose recommendations for the improvement of student's academic performance.

#### c) *Research questions*

The following research question was formulated to guide the conduct of this study:

1. What are the factors influencing students' choice of accommodation at University of Ibadan?
2. Does the gender type of students influence their choice of accommodation?
3. What is the impact of age category in the selection student's residential location?
4. What are the factors influencing students' level of satisfaction with either on - or off- campus housing at University of Ibadan?

#### d) *Research hypothesis*

$H_0$ : There is no significant relationship between students' accommodation location on their academic performance.

$H_{1_1}$ : There is a significant relationship between students' accommodation location on their academic performance.

$H_{0_1}$ : There is no significant relationship between students' accommodation location and their gender.

$H_{1_2}$ : There is a significant relationship between students' housing and their gender.

$H_{0_3}$ : There is no significant relationship between students' accommodation location and their age.

*H1<sub>3</sub>*: There is a significant relationship between students' accommodation and their age.

e) *Significance of the study*

This study is with the view to enable the government and educational bodies understand the impacts of student's housing on the academic performance of students. The study can therefore assist government and educational institutions in how students from tertiary institutions, but also from primary and secondary institutions, can foster better educational performance. The government can adopt proper housing policies to improve the student's performance.

The study will be a vital addition to the wealth of studies and knowledge conducted in this area and can provide guidance for prospective researchers who desire to carry out analysis on similar topic. This will help to fend unnecessary repetition of similar studies, laced with similar objectives, within the same scope of the present research work.

f) *Study area*

Ibadan, the capital of Oyo State, is strategically located near the forest grassland border of southwest Nigeria, at Latitude 8° 31' North of the Equator and Longitude 4° 33' East of the Greenwich Meridian, with an estimated population of approximately three million. It is located at an average altitude of around 500 meters above sea level (Agbola et al, 2001). The city, located about 260 kilometers north of Lagos and 300 km from Abuja, has a humid and dry tropical hinterland climate with an average annual rainfall of less than 1000 mm and a mean temperature of 28.80 °C during the dry season and 24.50 °C during the wet season (Ayeni, 2003). Located on the southern fringe of the savannah region and north of the forest zone, Ibadan serves as the primary transport link between Nigeria's southwest and the north. The city is linked by air, road and rail. Ibadan serves as both economic and administrative centre for the adjoining towns such as Oyo, Lanlate, Eruwa, Saki and others (Agbola et al, 2001).

At 5.30 p.m. Sir William Hamilton Fyfe, Vice-Chancellor of the University of Aberdeen and head of a delegation sent by the Inter-University Council for Higher Education in the Colonies on 28 December 1946, pushed his way into the bush a few miles north of Ibadan, Nigeria, through the under-growth, until he reached a clearing where he could see a few yards ahead. He planted his walking stick firmly into the ground and said: "Here shall be the University of Nigeria". This event followed the June 1945 Elliot Commission's recommendation on the development of higher education in West Africa to establish a University College of Nigeria in Ibadan, a second one on the Gold Coast (now Ghana) and to develop the Four Bay College (Sierra-Leone) into a third one (Ayeni, 2003).

It should be recalled that during the Second World War, the British Government had seriously

considered the possibility of establishing universities or universities in the Commonwealth and in West Africa, particularly during the Second World War. In 1945, the Asquith and Elliot Commissions, both established in 1943, reported favorably on various aspects of this development. Under a special relationship scheme that began at University College in February 1948, Ibadan produced graduates with University College London degrees. On 17 November 1948, Arthur Creech Jones, then Secretary of State for the Colonies and an influential member of the Elliot Commission, turned the first sod into the permanent site of the University College, which became the Foundation day. The University College of London was later changed to University of Ibadan, having a built-up area around it (Agbola et al, 2001).

The built-up area of the campus consists mainly of developments related to the acquisition of the University of Ibadan property in the first phase. This reflects an area of about 605,21 hectares. The northern boundary of this region is defined by the Ona River, bisecting the property of the University of Ibadan. The Ona is the river that was dammed to create the Eleyele Water Works at Eleyele. The development of the area has been gradual and the general outline for development would seem to have been put in place many years ago. What has therefore taken place in more recent times is a process of in-filling of new structures into areas that were not fully or completely developed (Ayeni, 2003).

There is a splendid physical layout in the built-up area of the campus and its buildings are very attractive. Maxwell Fry and Jane Drew, who designed all the main buildings in the central area and set the pace for the architectural distinction that characterized all later buildings, were the original architects of the campus (Agbola et al, 2001). Visitors to the campus in the past were familiar with such impressive structures as the Tower Chamber, Trenchard Hall, Senate Chamber, Administration, Faculty of Arts buildings, the Library and the earlier halls of residence and newly constructed ones. Today, new buildings like the Faculty of Education complex, Institute of African Studies, Faculty of Agriculture and Forestry, Faculty of the Social Sciences, Institute of Child Health, Bookshop and the Conference Centre, will in addition to these, favorably strike visitors. There are other structures, such as the Faculty of Science, the office of Dean and the lecture theater on the lakeside, the complex of the Faculty of Technology and the Department of Mathematics and Statistics buildings. There are various residence halls located within the university setting to provide students with accommodation. Of course, there are also the buildings of the newer halls of residence. Each of these has its distinctive feature and appeal to the visitor (Ayeni, 2003).

g) *Definitions of important terms*

Student housing or accommodation: is seen as a place where students reside while running their academic programs. This can either be an on-campus or off-campus residence.

*Academic Performance:* This is the extent to which a student or pupil has accomplished their short or long-term educational objectives. It can be used interchangeably with Academic Achievement. Cumulative Grade Point Average (CGPA) which is the measure adopted by this study is a major benchmark for academic performance.

*On-campus accommodation:* Housing specifically for students in the university compound. For this study this includes hostels and halls within the university.

Off-campus residence are mostly private hostels and other forms of accommodation, where students reside in exchange for a particular fee.

*Student satisfaction:* A fulfillment of need or desire, and the pleasure obtained by such fulfillment. In this study it is used to mean the pleasure or disappointment attained from comparing to perceived accommodation services in relation to his or her expectations.

h) *Organization of the study*

This study will be organized into six (6) chapters. Chapter one introduces the topic and explained what the study is all about. It focuses on the problem statement, the scope, the research hypothesis, research questions, objectives and the significance of the study.

Chapter two focuses on the background of the study. It overviews the concept of accommodation status and academic performance with emphasis on the trends and patterns within the scope of Nigeria.

Chapter three which is the literature review explains the studies carried out by previous researchers. It enlightens the reader on the aims, scope, results and conclusions arrived at by the researchers. These studies serve as a foundation on which this research is built upon. The methodologies adopted by those researchers while carrying out their studies is also focused upon. Reviews of the theories that are linked to the subject at hand were also reviewed. In short, the literature review covers the empirical review, methodological review and the theoretical review.

The fourth chapter explains the methodology engaged to carry out the research. Correlation analysis was utilized to discover the relationship between both variables focused on by the study. Questionnaires were administered to obtain data required for the study

Chapter five contains the critical analysis of the data, as empirical proof of our findings.

The sixth and final chapter presents our findings, summary and conclusion. Limitations to the study are discussed and further recommendations are made.

## II. BACKGROUND TO THE STUDY

a) *Introduction*

The importance of education is not embedded in the mere schooling of students. The main aim of education is to learn and help contribute the development of our societies and to provide solutions to the problems encountered in daily life. There have been several innovations developed. The World Development Report 2018 emphasizes this great significance of education. Appropriate learning needs to be achieved for this benefit to be realized. The extent of learning is represented in the students' academic performance. In this chapter, we focus on the background of both variables of the study, with emphasis on their characteristics in the Nigerian setting.

b) *Education and Education Attainment*

In today's world, education, which is the process of acquiring knowledge, skills, values, beliefs and habits, is considered to be very important because it has led to the development of several innovations that have made the world a better place. According to the World Development Report for 2018, Education is a fundamental human right, and it is central to unlocking human capabilities, according to the World Development Report for 2018. It has tremendous instrumental value as well. Education increases human capital, productivity, earnings, employability, and economic development. However, its advantages go far beyond these monetary gains: education also makes people healthier and gives them greater control over their lives. Therefore, the benefits of education can be defined both in monetary and non-monetary terms. Education can be formal or informal. In order to achieve a practical development of society, a proper combination of both forms is required. The national aims and objectives for all levels of education are: a) the inculcation of national consciousness and national unity; b) the inculcation of correct types of values and attitudes for the survival of the individual and the Nigerian society; c) training for understanding the world around.

Education can either be carried out in a formal or informal setting. A formal setting of education takes place in schools and is said to be classroom-based and provided by trained, qualified and mostly experienced teachers. The Informal setting of education on the other hand happens outside the classroom in places such as the home, religious settings and other social settings.

c) *Overview of the Stages of Education*

Worldwide, the stages of education are usually classified into three (3) major stages which are the primary, secondary and tertiary levels of education. However, the International Standard Classification of Education (ISCED) 2011 classification was adopted by the United Nations Educational, Scientific and Cultural



Organization (UNESCO) General Conference at its 36th session in November 2011. Initially developed by UNESCO in the 1970s, and initially revised in 1997, the ISCED classification serves as an instrument to compile and present education statistics both nationally and internationally. To better capture new developments in education systems worldwide, the framework is occasionally updated. In ISCED, An education program is defined as a coherent set or sequence of educational or communication activities that are designed and organized to achieve predetermined learning goals or to perform a specific set of educational tasks over a long period of time. Within any personal, civic, social and/or employment-related context, objectives include improving knowledge, skills and competencies. Typically, learning goals are related to the purpose of preparing for more advanced studies and/or for an occupation, trade, or class of occupations or professions, but may be related to personal development or leisure. A common feature of an education programme is that successful completion is certified upon fulfillment of learning goals or educational tasks. The ISCED adopts nine (8) levels of education

*ISCED Level 1 Primary Education:* Are typically designed to provide students with fundamental skills in reading, writing and mathematics (i.e. literacy and numeracy) and establish a solid foundation for learning and understanding core areas of knowledge, personal and social development, in preparation for lower secondary education.

*ISCED Level 2 Lower Secondary Education:* Are typically designed to build on the learning outcomes from ISCED level 1. Usually, the aim is to lay the foundation for lifelong learning and human development upon which education systems may then expand further educational opportunities. Some education systems may already offer vocational education programmes at ISCED level 2 to provide individuals with skills relevant to employment.

*ISCED Level 3 Upper Secondary Education:* Are typically designed to complete secondary education in preparation for tertiary education or provide skills relevant to employment, or both.

*ISCED Level 4 Post-Secondary Non-Tertiary Education:* Provides learning experiences building on secondary education, preparing for labour market entry as well as tertiary education. It aims at the individual acquisition of knowledge, skills and competencies lower than the level of complexity characteristic of tertiary education.

*ISCED Level 5 Short-Cycle Tertiary Education:* Are often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practically based, occupationally-specific and prepare students to enter the labour market. However, these programmes may also provide a pathway to other tertiary education programmes. Academic tertiary

education programmes below the level of a Bachelor's programme or equivalent are also classified as ISCED level 5.

*ISCED Level 6 Bachelor's or Equivalent Level:* Are often designed to provide participants with intermediate academic and/or professional knowledge, skills and competencies, leading to a first degree or equivalent qualification. Programmes at this level are typically theoretically-based but may include practical components and are informed by state-of-the-art research and/or best professional practice. They are traditionally offered by universities and equivalent tertiary educational institutions.

*ISCED Level 7 Master's or Equivalent Level:* Are often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification. Programmes at this level may have a substantial research component but do not yet lead to the award of a doctoral qualification. Typically, programmes at this level are theoretically-based but may include practical components and are informed by state-of-the-art research and/or best professional practice. They are traditionally offered by universities and other tertiary educational institutions.

*ISCED Level 8 Doctoral or Equivalent Level:* Are designed primarily to lead to an advanced research qualification. Programmes at this ISCED level are devoted to advanced study and original research and are typically offered only by research-oriented tertiary educational institutions such as universities. Doctoral programmes exist in both academic and professional fields.

#### d) *Educational System in Nigeria and its Stages of Education*

The Educational system in Nigeria is supervised by the Federal Ministry of Education. The It is the responsibility of the Ministry to harmonize the educational policies and procedures of all the states of the federation. The education system is divided into Kindergarten, Primary education, Secondary education and Tertiary education. The national goals and objectives for all levels of education, as reported by the International Bureau of Education (IBE) and UNESCO in 2010, are: (a) the inculcation of national consciousness and national unity; (b) the inculcation of correct types of values and attitudes for the survival of individuals and Nigerian society; (c) training to understand the world around them.

The educational structure of Nigeria is divided into three (4) major levels as recognized by the National Policy on Education. They are:

- Pre-school education

This is also known as the pre-primary education (early childhood care development and education-



ECCDE). It is for children between the ages of 3 and 5 years. The ECCDE is part of basic education, however attendance is not compulsory.

- Primary Education

This is a six-year educational journey for children ages 6-11+ years. The primary education is a component of basic education and that is compulsory.

- Secondary Education

This is also a six-year journey consisting of junior secondary school and senior secondary school. Junior secondary school graduates can enroll in vocational enterprises or in technical colleges offering three-year programmes. The senior secondary education that leads to the Senior School Certificate Examination (SSCE) is necessary to get admitted into the tertiary education which is the subject matter of this study. The SSCE is the main way of assessing the academic performance of secondary school leavers. The SSCE replaced the General Certificate of Education A-Level Examinations in 1989. However, the GCE can also be taken in every November to help compensate for a relatively poor SSCE. The West African Examination Council and the National Examination Council (NECO) issue the SSC, depending on the examination board used.

- Higher Education

Higher or tertiary education is provided by at universities, colleges of education and polytechnics. According to the World Bank, higher education is instrumental in fostering growth, reducing poverty and boosting shared prosperity. Higher education benefits not just the individual, but society as well. Three-year programs leading to the award of the National Certificate in Education are offered by Colleges of Education (NCE). Polytechnics award national certificates and diplomas such as the National Diploma which is obtained after two years of study following the senior secondary school. The Higher National Diploma is awarded after a further two years of education. At the level of university education, a bachelor's degree is obtained after a four-year duration of education (five to six years for some few courses). In the postgraduate level, there are the master's degree programme (which lasts for one to two years) and the doctoral degree programme (which spans two to three years of study). In this study, the scope is concentrated on the academic performance of students within the tertiary institution. In the next section, more emphasis will be placed on the tertiary institutions and the academic performances of its students.

#### e) *Tertiary Institutions and Student's Academic Performance*

As stated earlier, tertiary institutions are delivered by universities, colleges of education and polytechnics. There are also monotronics which offer

instruction in a single scientific or technical subject. Tertiary education is the third stage of education following the completion of a secondary school education. Tertiary education is also known as higher education in some countries. Colleges of education are responsible for the training of middle-level manpower in teacher education. Students are trained for three years, on completion of which they are awarded the Nigeria Certificate in Education (NCE). As professional teachers, they can teach in primary, Junior Secondary (JS) or Senior Secondary (SS) schools, conditional on their areas of specialization. Polytechnics, monotronics and Colleges of Technology are mainly to produce middle-level technical manpower at the sub-professional level of two categories: National Diploma (ND) and Higher National Diploma (HND). These institutions are supervised by the National Board for Technical Education (NBTE). Universities are the third tier of higher education in Nigeria. Admissions into first degree courses are through tests conducted by the Joint Admissions and Matriculation Board (JAMB) or by direct entry with the Higher School Certificate or its equivalent. The basic admission requirement is Senior School Certificate with a minimum of five credits, including English Language, Mathematics and other subjects relevant to the proposed course of study. First year entry requirements into most tertiary institutions in Nigeria include: Minimum of SSCE/GCE Ordinary Level Credits at maximum of two sittings; Minimum cut-off marks in Joint Admission and Matriculation Board Entrance Examination (JAMB), also known as Unified Tertiary Matriculation Examination (UTME), of 180 and above out of a maximum of 400 marks are required. Candidates with minimum of Merit Pass in National Certificate of Education (NCE), National Diploma (ND) and other Advanced Level Certificates minimum qualifications with minimum of 5 Ordinary Level Credits are given direct entry admission into the appropriate undergraduate degree programs. The performances of students who sit for these examinations greatly affect their performance in tertiary education since it shows the average abilities of students towards education.

Academic performance in tertiary institutions is usually measured or determined by the cumulative grade point average (CGPA). It is cumulative because it incorporates the grade point average of all the attempted courses in the programme undertaken by the student. The CGPA is the calculation of average of all the earned points of a student divided by the total number of points. This grading system calculates for the entire student's educational career. In Nigerian Universities, the grading system adopted is the CGPA. Thus, CGPA is then used to classify students into various classes of performance such as First class, second class (upper and lower) and third class.

f) *Housing Concept*

In examining the concept of housing, it is agreed that man's basic needs in life is physiological, which include food, clothing and shelter. The importance of shelter in man's life is second to none but food and clothing. In other words, man seeks protection from the environmental elements only after he has satisfied the need for food and clothing. This assertion was corroborated by Abraham Maslow (1943) in his hierarchy of needs where he identified three fundamental needs crucial to survival, thus food, clothing and shelter. Shelter according to the United Nations (2003) differs marginally from the concept of housing while housing is widely accepted as being more than mere shelter, housing goes far beyond having a roof over one's head but rather comprises a number of ancillary services and utilities which links the individual and his family to the community and the community to the region in which it grows and progresses.

The need for an effective and conducive student housing facility in an institution cannot be over emphasized due to the fact that students are expected to be in a sound state of mind to excel in their academic endeavors which can only physical protection but also a healthy social and behavioral stability, the productivity of a set of students may not be totally unconnected with their housing condition.

g) *Students Housing in Nigeria*

Student housing or accommodation is seen as a place where students reside while running their academic programs. This can either be an on-campus or off-campus residence. The institution provides on-campus accommodation within its premises to cater to its students, whereas off-campus accommodation consists mainly of private hostels and other forms of accommodation where students reside in exchange for a specific fee. Ubong (2007) asserted that although students' accommodation is an integral part of students' personnel management, on-campus accommodation has not received adequate attention, but rather has been characterized by insufficient maintenance. This scenario is rather disheartening because students need comfortable accommodation in order to easily achieve their primary learning goal. Ajayi et al. (2015) assessed students' satisfaction with hostel facilities within the Federal University of Technology, Akure, Nigeria, and observed that students were dissatisfied with the adequacy and functionality of some facilities within their hostels.

Akinpelu (2015) also evaluated the realities and challenges of students' hostel facilities in The Polytechnic Ibadan, Ibadan, Nigeria. The study noted that as a result of non-provision, obsolescence, and non-maintenance, there is an inadequacy in student housing facilities. These lapses in school hostels, has

encouraged the embrace of private off-campus hostels by students.

h) *Factors influencing students' choice of residence*

To improve on the accommodation delivery within and outside tertiary institutions, understanding on the factors that can influence the choice of accommodation of students is deemed necessary. Mahama et al. (2016) discovered that security issues of the hostel, availability of water facilities, availability of electricity, calm and peaceful environment and availability of toilet facilities are some of the essential factors that can determine students desire to stay in hostels.

Oyetunji and Abidoye (2016) assessed the factors influencing students' choice of residence in Nigerian tertiary institutions, and observed that proximity to campus, rental value of property, and type of dwelling are the important factors that influences students' choice. Zortovie (2017) discovered that proximity to lecture halls, spacious and well-ventilated rooms, calm and peaceful environment, availability of study area, accommodation fee, and availability of electricity and water are critical factors that influences students' choice of residential accommodation.

According to Khozaei et al. (2010) the main factor influencing students' choice to stay on campus is their convenience. This is due to the walking distance to the lecture halls, not having to wake up too early for a morning class, and also the comfort of taking a shower between classes or returning to the hostel to get a forgotten item.

Howley et al. (2009) also observed that the population within the area wherein the residence is located (either on or off campus) plays a vital role in the selection of residence, as students mostly favor low density areas to high-density ones. So many factors contribute to students' preference for accommodation. Some students prefer off-campus accommodation to on-campus due to lack of privacy, noise, and sharing of bed space that is associated with the on-campus accommodation. Others are based on the desire to have a cheaper, decent and good housing that is in close proximity to campus with adequate facilities and can offer privacy (Oyetunji and Abidoye, 2016). These identified factors in these studies formed a basis for the determination of the factors influencing the choice of residence of students in this study.

i) *Student residential satisfaction (SRS)*

Kotler and Clarke (1987) define satisfaction as a state felt by a person who has experience performance or an outcome that fulfill his or her expectation. Satisfaction is a function of relative level of expectations and perceived performance. The expectation may go as far as before the students even enter the higher education, suggesting that it is important to determine first what the students expect before entering the

university (Palacio, Meneses & Perez, 2002). In contrary, Carey, Cambiano, and De Vore (2002), believed that satisfaction actually covers issues of students' perception and experiences during the college years.

Meanwhile, the term student residential satisfaction (SRS) refers to the student's appraisal of the conditions of their residential environment, in relation to their needs, expectations, and achievements (Amérigo, 1990; Amérigo & Aragonés, 1997; Anderson & Weidemann, 1997; Weidemann & Anderson, 1985). It focuses on the perspective of students as customer. Even though it is risky to view students as customer, but given the current atmosphere of higher education marketplace, there is a new moral prerogative that student have become "customer" and therefore can, as fee payers, reasonably demand that their views be heard and acted upon (William, 2002). Researchers argued that SRS must be assessed based on the actual student experience during the residency period on campus student housing (Hassanain, 2008; Amole, 2009a; Riley et al., 2010).

Amole (2005) has defined satisfaction with SHFs as a pleasant feeling when the students' housing needs have been fulfilled especially with the existence of superiority physical features. Amole (2005) also affirmed that satisfaction with SHFs is students' impression when their privacy needed in a room has been met. Another meaning of satisfaction with SHFs is a good response from the students towards their house environments which promotes positive socialization process, encourages study mood, and has adequate.

#### i. *Models to measure student's residential satisfaction (SRS)*

A synthesis of 20 studies from 1997 to 2012 gave rise to the model that student living satisfaction is a multidimensional concept that has six (6) dimensions under two (2) subcategories which are: 1) physical attributes comprising of students' living condition, community facilities and services, and neighborhood physical surroundings; 2) social, financial, management attributes including students' social activities, cost of living, and students' preference (Muslim, Karim, & Abdullah, 2012). Students' living condition consists of type of accommodation, location/proximity, architectural aspects, internal dwelling facilities and features, usability and arrangement of space, size and physical condition of dwelling, dwelling densities, storage and furniture, and maintenance.

Community facilities and services indicates accessibility to campus, city center, health services, shopping and municipal services, availability and maintenance of social, recreational, and educational services, 'Institutionality Facilities' in student housing, and availability of public/neighborhood facilities. Neighborhood physical surroundings are about personalization and identity, privacy, security, safety,

and health. Students' social activities describe housemate/roommate social interaction, neighborhood interaction, students' leisure activities, acceptance of student by local resident, and students' participation on neighborhood activities. Cost of living means financial status, financial behavior, and living expenses.

Finally, students' preference consists of source of information and advice in choosing accommodation, time taken to search for accommodation, length of lease/contract, understanding about preference for private house, building social network and developing friendship, freedom to choose where to live, preferred accommodation features, getting connected and staying safe; and living together 'in real home'. Consequently, for this research, the model proposed by Muslim, Karim, and Abdullah (2012) was applied in order to determine the SRS as a result of the student experience living in the SHF.

Institutions that want to provide students with quality programs and services must be concerned with each aspect of the experience of the students on campus. In other words, the quality of education is not only limited to lectures and notes received in the classroom or advice and guidance given by lecturers during the consultation hours, but also includes the experience of students interacting with the various non-academic staff and components of the university, as well as the physical infrastructure provided by the university.

Developing an understanding of SRS is necessary in determining the effect of living environment to students. Further, it will help to determine the extent to which satisfaction with the living environment affects student development. With the various foreign literatures cited regarding student housing and residence life, university of Ibadan with a SHF needs to explore on the SRS index and impact of the SHF in the student life as well as its contribution to the overall education and formation of their graduates. Currently, there are limited local studies focusing on the quality of living environments among Nigeria universities and colleges. This study will be able to provide information on this area of research in order to contribute to the improvement of the current living environments provided to the university students.

### III. LITERATURE REVIEW

#### a) *Introduction*

This chapter discusses the literature related to the relationship between students housing and their academic performance in educational institutions. It will particularly focus on how this affects student's achievement. This chapter is composed of different sections such as theoretical review, empirical review, methodological review and, finally, the conceptual framework.

## b) Theoretical Review

The purpose of the section is to examine the collection of theory that has accumulated in regard to the problem recognized by the study. The theoretical review helps to establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested. Although previous studies related to this topic have recognized few theories, these theories will be given consideration in this section of the project.

### i. Happy-Productive Student Theory

This theory was developed by Cotton, Dollard, and de Jonge (2002). According to them, student's satisfaction while on campus is mediated by psychosocial factors (in this study are factors affecting student's wellbeing) those including, financial, coping, stress and accommodativeness. Students while in campus reside either on-campus or off-campus. Off-campus has challenges ranging from space, shared facilities, impeachment into one's privacy and inadequacy.

Cotton further argues that high level of psychological distress at the university leads to low satisfaction to the extent to which consumers (in this study student) learning experiences are affected in campus. On the other hand, administrators should not ignore access to these factors of student satisfaction because it increases the expectations of students about university life where it produces positive confirmations of expectations leading to higher level of satisfaction (Churchill & Superenant, 1982).

A happy or satisfied student for this study is perceived to have a comfortable place to live in terms of accommodation (whether on -or off- campus) which is an important component of being satisfied during their college stay. This shows the presence of a positive affect on their accommodation and the absence of a negative impact on their accommodation, and ultimately improves university education. The students will therefore lack the emotional exhaustion which will lead to satisfied students' cohort. In this case a student's stay in the university is conceptualized as a job. This could be linked to the productive attributes of a learning institution such as work environment, satisfaction, cognitive demands, responsibility and social interaction which are Social interaction may entail social contacts with peers and accommodation facilities. The concept of happy productive theory is that when students display positive affect and achieve, and interact freely with others they are deemed to be more engaged in their academics and have higher aspirations. In this study the factors influencing housing mediates between the students' level of satisfaction.

### ii. Social Learning Theory

This theory, as proposed by Albert Bandura in 1977, is based on the concept that, in a social context, we learn from interaction with others. It is widely known that nature and nurture greatly shape human behavior. Nurture here means the environment in which such a person lives that influences the growth of such an individual. By witnessing the conducts of others, people develop like behaviors. After observing the behavior of others, people embrace and imitate that behavior, especially if their observational experiences are positive ones or include incentives related to the observed behavior. Through this, humans are viewed as social animals that gather large amounts of data on social world behaviors and then translate it into complex and skilled performances. It is also said that the observer considers the effects of the behavior observed on the actor. This is known as vicarious reinforcement in psychology. Reinforcement means the reward of the actor's actions, either positive or negative. If the behavior observed causes a positive reward on the mode, then in order to gain such reward, the observer will most likely perform the behavior later. This goes the other way for a negative reinforcement.

The application of the social learning theory to this study is by the attribution of the academic success of students to the observed behavior of the people that lives around where the students housing is who in this situation are seen as the models. Students housing condition and location have influences on the behavior of the children. Since environment behaviors have effects on their academic performance, the students (models) observe these behaviors and elicit it in order for them to attain such high.

### iii. The Social climate theory

The theory was developed by Moos (1976). The theory states that the way an individual perceives their environment influences their interaction with it (Moos, 1976). Moos (1979) developed a five-point scale of evaluating class room climate as a contributor to a student's performance. The three basic thematic areas of the theory are students' level of involvement, affiliation and lecturer support. Moos (1987) explains that an individual's aspirations, accomplishments, morale, and well-being may be affected as a result of their social climate. For example, as a reciprocal reaction, students who perceive their learning environment as supportive are likely to work hard and thus excel in their academic performance. Conversely, if students perceive their environment as non-supportive, they are likely to regress in their academic performance (Beatty et al, 2010). Social climate theory can be used to explain the academic performance difference of students subjected to varying environment of hostel accommodation.

The theory helps to establish the connection between the performance of a student and his or her



environment. It explains that the performance of a student is supported by their study environment. However, some vital factors that are key to academic excellence, such as the inherent ability and predisposition of some students to work harder than others, have not been considered. It also fails to explain why students subjected to similar environment register varying levels of academic performance (Beatty et al, 2010).

### c) *Methodological Review*

Faizan Abd Jabar, Wan Kalthom Yahya, Zaidatulhusna Mohd Isnail, Zurah Abu (2012) conducted an empirical study toward students' academic performance and students' residential status in UiTM Jengka. The method used a self-administrated questionnaire that comprise of three parts; Part A: Demographic background, Part B: Student's Academic Performance and Part C: Option of residential. It also included seven items measured on a 4-point Likert scale in Part B to determine the difference of academic performance between residence and non- residence students among UiTM Pahang students. The hard copies of the questionnaires were distributed in the classroom to 245 students from part 5 and 6 from the Faculty of Business Management. The part 5 and 6 students were chosen as the respondents since they are assumed to have an enough experience being residence and non-residence students. Descriptive analysis using SPSS version 20 was performed to analyze the collected data.

This research was conducted to evaluate the satisfaction of students' living environment between on-Campus and Off-Campus Settings by Muslim, M., Karim, H., Abdullah, I. (2012). This paper seeks to determine the differences of living satisfaction aspects between on-campus and off-campus indicators relevant to student housing and to ascertain how these factors of living satisfaction are being formed. It draws on the findings from this study which involved content analysis methods. This study involves both qualitative and quantitative description in the analysis. Content analysis Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication. The content analysis technique attempts to characterize the meanings in a given body of discourse in a systematic and quantitative fashion (Kaplan, 1943). Thematic analysis is the most common approach in content analysis. In thematic analysis, the coding scheme is based on categories designed to capture the dominant themes in text.

Owolabi (2015) on the study of the effects of Students' Housing on Academic Performance at the University of Ibadan in Nigeria collected data from primary source. Primary data was based on 1,100 respondents. Systematic sampling technique was

employed for selection of rooms and random sampling technique was also employed for the selection of four hundred respondents within the rooms in on-campus housing (8,000 on-campus students), while seven hundred respondents of off-campus housing were randomly selected for both off-campus hostel and private houses (14,000 off campus students) occupied by students for the study (5% of on and off-campus students were selected). Two sets of research questionnaires were administered and one hypothesis was tested at the 0.05 level of significance. Data collected were analyzed using descriptive statistics and chi-square.

Ogwuche and Pinga (2017) carried out a study to assess the influence of off-campus residence on students' academic performance in tertiary institutions in Benin state of Nigeria. The study was carried out in Benue State of Nigeria. Benue State is one of the 36 states located in the North Central part of Nigeria with its headquarters in Makurdi. The major tribes in the area are Tiv, Idoma and Iggede. Other tribes are Agatu, Etulo, Jukum, Igbo, Hausa and Yoruba among others. The study adopted descriptive survey design. The population comprised 9, 872 final year students in nine public tertiary institutions in Benue State (Benue State Ministry of Education, 2016). A sample of 400 final year students' representing 4% in three tertiary institutions was selected using stratified random sampling technique. This sample was considered adequate since it is in line with Anchor and performance in tertiary institutions. Cluster B contained 10 items on influence of inadequate use of school facilities by off-campus residence on students' academic performance in tertiary institutions. Responses were based on a 4-point rating scale with the response modes of Strongly Agree (SA)=4, Agree (A)=3, Disagree (D)=2 and Strongly Disagree (SD)=1. The questionnaire was validated by three experts, two in educational management and one in test and measurement from the Faculty of Education, Benue State University, Makurdi. The questionnaire was trial-tested using 30 final year students who were not part of the sample but part of the population. The reliability of the instrument was measured using Cronbach Alpha which yielded a reliability coefficient of 0.79. This indicated high internal consistency. The data collected were analyzed using mean scores and standard deviation to answer the research questions. Any item with less than 2.50 was rejected as having no influence. On the other hand, it was accepted if it was 2.50 and above. Chi-square test of goodness-of-fit was used to test the null hypotheses at 0.05 level of significance.

In a study which assessed the residence pattern among students in private universities in Nigeria, using Oduduwa University, Ipetumodu as a case study by Adama, Aghimien and Fabunmi (2017). The study adopts a quantitative survey approach, using random



sampling method wherein the students were first divided into strata based on their academic level, before being randomly selected. Students of 200 level, 300 level and 400 level took part in the study. Students in 100 level were exempted from the study because they are made to stay in hostels provided by the institution. Hence, they do not have a choice as regards their place of residence. Moreover, these set of students are new and most likely do not know their CGPA which is needed in assessing the relationship between students' residence and their academic performance. Preliminary investigation shows that these three levels of students cover a population of about 2000. Using the Yamane (1967) formula of  $n = \frac{N}{1+N(e^2)}$ , with a significance level ( $e^2$ ) of 0.05, a sample size of 333 was derived for the study.

Resulting from the study of Student Residential Satisfaction in an On-Campus Housing Facility by Navarez at De La Salle University-Manila (2017), the study made use of a descriptive survey design. A descriptive study is one in which information is collected without changing the environment (i.e., nothing is manipulated). This study utilized the descriptive survey method in order to obtain information concerning the current status of the quality of experience of the student as measured by the degree of the student residential satisfaction. Through this, participants' thoughts, opinions, and feelings related to their student living environment will be identified.

Following the study of influence of Residential Setting on Student Outcome in Near East University, Cyprus by Etikan, Bala, Babatope, Yuvali, and Bakir, (2017). The descriptive survey research design was put to use in this study, the research intends to study if the housing locations of students have an impact on their academic performance. In a survey, a representative sample is chosen from a population and studied. Findings made from the representative sample are used to generalize for the whole population. Hence, the survey made use of 278 student respondents which are samples from the student population of Near East University, Cyprus. The respondents are mixture of students residing in the school's hall of residences, near campus and those living in farther places away from the university environment. A set of structured questionnaires was designed and developed for the purpose of data collection. The questionnaire was meant to elicit responses from the students regarding the impact their accommodation locations have on their academic performance. The questionnaires were administered to the students and consequently retrieved upon providing answers to the questions asked. After collection, descriptive statistics were used to describe the structure of the respondents and their different composition. In order to investigate if the choice of students' place of abode has any significant relationship on their academic performances, a test on measure of

association was employed by using the Chi-square Statistic of test of independence. Specifically, the Chi-Square statistic test of independence which is an example of a non-parametric analytical tool used is in analyzing categorical data by examining if there is an existence of any form of dependence or relationship among categorical variables under examinations. The test was conducted at a 0.05 level of significance with the aid of SPSS (Statistical Package for the Social Sciences) computer software version 20.

Following the study on Off-Campus Living Among Ekiti State University Students in Southwestern Nigeria: Health and Policy Implications by Jimoh, Adovi, Olugbenga, Akeem, Oluseyi, (2017). A cross-sectional descriptive study design was conducted among a population of 312 students utilizing the Fisher formula for sample size determination. Respondents were selected using the multistage sampling technique. The first step was the selection of the six blocks out of the nine existing blocks using simple random sampling by balloting. The selected six blocks consist of the two blocks of Ajasin hostel of sixty occupants per block, one block of Government Hostel of capacity two hundred occupants and three blocks of Osekita Hostel with a capacity of one hundred occupants per block. The total number of students in the six selected blocks was six hundred and twenty.

Chepkener (2018) conducted a study to investigate the factors influencing undergraduate students' level of satisfaction with on and off-campus accommodation at Moi university main campus, Kenya. He employed a descriptive survey research design. A descriptive research design is one where according to Kothari (2009), the concern is not describing the characteristics of a particular individual or group but it is used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification (Orodho, 2009). Mugenda and Mugenda (2004) on the other hand gives the purpose of descriptive research as determining and reporting the way things are done. Borg and Gall (1989) noted that descriptive research is intended to produce statistical information about aspects of management that interest policy makers and management practitioners. The study fitted within the provisions of descriptive survey research design because the researcher collected data and reported the way things are without manipulating any variables.

This study investigated academic performance with respect to type of accommodation in the Kenyan Universities, case study of the Technical University of Mombasa by Gichere, Adem, Adenya, (2019). The study used quantitative research approach. The findings from the sample will be used to infer that the population has the same characteristics. This type of approach is used since it enables the researcher to examine the

relationship between variables and make conclusions based on the findings.

#### d) *Empirical Review*

This section analyses previous studies on the association, especially the results and findings, between students housing and their academic performance. The following studies ranges along various scopes and most times it was found that there is a positive relationship between both variables. However, there were exceptions in few cases.

A comparison between students living in dormitories and those living in private homes was made by Ludeman (1940). Average honor points, a measure for college scholarship, was computed for the two groups with the conclusion that dormitory students rated higher, with 1. 652 honor points, as compared with students in private homes, with an average of 1. 485 honor points per hour. Ludeman suggested two reasons may account for the differences: 1) more interplay of ideas among several students taking the same subjects; 2) competition between students for high grades was keener in the dormitories.

Thompson, Samiratedu, & Rafter, (1993) examined the effects of on-campus residence on first-time college students and found that freshman students who lived on campus had higher retention, a greater degree of academic progress, and higher academic performance. They claimed that progress and retention were higher among students who lived on-campus, regardless of race, gender, or condition of admittance. Students engaged in remedial work were shown to have performed better than their off-campus counterparts.

Delucchi, (1993) examined a 'college town' where most students who lived off-campus and were in close walking distance of their lecture hall and university resources and found no statistically significant difference in academic achievement between students that live on campus and off-campus.

Bowman and Partin (1993) conducted a study to be determine if there is a significant difference between the academic achievement of students that lived on-campus and their off- campus counterparts, as measured by grade point average (GPA). Bowman and Partin stated no statistically significant differences in grade point averages of students regardless of residence.

Ware and Miller cited (1995) reviewed research trends in student life, and found that even though there were some differences in the how the studies were conducted; student housing play an important role in the success of university students. Student housing plays an important role in the enrolment of students and the adequacy of facilities can add to the desire them to remain on campus.

Agron, (1997) reported that studies in North America indicate that students in hall of residence have

higher Grade Point Averages, higher retention of their grades, are able to take on more credit hours and had the ability to form connections with the faculty members on campus. They also had a higher propensity to be more involved in students' leadership and politics on campus.

A study by Kaya and Erkip (2001) observes that students who live in campus housing confidently persist in their studies and graduation than students who have not had this on-campus experience. Furthermore, students living in on campus residence have a higher level of self- esteem over time. On-campus accommodation provides convenience issues such as real preparation and access to study groups (Kaya & Erkip, 2001). This supports the fact that the cost of living on-campus seems to be better financially. Living on-campus impacts on students' academics in such a way that they are within easy reach of campus facilities which are accessible to lecture halls and other learning activities within campus. The study found that on campus students have higher retention rates and attain higher grades than those residing off-campus. This tends to give students opportunity to have sense of community with the institution. In campuses, there are many other co-curricular activities and resources. The interaction of students with these facilities enhances the university experience. Students living on-campus are involved widely on organizations and activities. These enhance better understanding of oneself with their collegiate experiences, changes in values, self- esteem and individual satisfaction.

Rinn & Plucker (2004), suggests that students are more independent, and have the highest level of supportive achievement and interaction orientation. The majority of college students today commute to campus. The perception is that off-campus students are less committed because they live away from college compared to those who live on campus. This seems challenging on students because what they gain from their college experience depends on how much time and effort students put into their studies and other educationally purposeful activities. The learning in campus indicates that level of academics, college time on tasks and participating on other educational purposeful activities directly influence the magnitude of students living and their overall educational experiences (Rinn & Plucker 2004).

Sirgy, Grzeskowiak and Rahtz (2005) study on the quality of college life of students in three universities in the USA found that quality of college life may be influenced by satisfaction with college facilities. Of importance to the students is the quality of housing, maintenance, security, location and dorm activities. Most residential halls are much closer to campus than private housing such as apartment buildings. This convenience is a major factor in the choice of where to

live since living physically closer to classrooms is often preferred.

Amole (2005) argued that living in good student housing impact on students' performance this influences intellectual interaction. Furthermore, Mohit, et. al. (2010) explains residential satisfaction as positive experience expressed by occupants when their home meets their expectation for unit features, housing services and neighborhood facilities. Residential satisfaction among students stems from high quality facilities, positive roommate relationships and quiet study environments in their living accommodations.

Li et al. (2005) conducted a research in investigating on student satisfaction with their current living arrangements in the on-campus housing whether they plan to live on-campus and whether they plan to move off-campus for next year. The study found that following six items were significant, positive predictors of returning to the on-campus housing the following year: (a) ability to be on a dining plan; (b) leadership opportunities, (c) location close to campus, (d) ability to choose where to live, (e) academic support available, and (f) high-speed Internet connection. Items that were significant negative predictors were: (a) ability to cook meals, (b) length of lease/contract, (c) proximity to campus/town, (d) private bathroom, and (e) parking accommodations, (f) ability to live with or near friends, and (g) ability to study where you live. They also found the most significant predictors of returning to the on-campus housing were also generally significant negative predictors of living off - campus. Also, it found the following results that are related to students' prospect to living off campus. Demographic characteristics that significantly predicted a higher possibility of living off - campus was male gender. Significant positive reasons for students intending to live off-campus were: (a) ability to cook meals, (b) length of lease/contract, (c) proximity to campus/town, (d) parking accommodation, (e) ability to live with or near friends, and (f) a private bathroom. Significant negative predictors for students' preference to live off-campus next year included: (a) the ability to be on a dining plan, (b) leadership opportunities, (c) academic support available, (d) high speed internet options, (e) location close to campus (f) satisfy parents' wishes (g) adequate living space and (h) social atmosphere.

According to Lanasa, et. al., (2007), it is also important to know what contributes to student retention in residence halls, for students living in residence hall seem to perform better academically than students who live at home. Research done in support of students living on- campus had a significant positive effect on students' completion of campus and persistent graduation from college. Bekurs (2007) says that good hostel condition and facilities in university campuses have positive influence on the overall student satisfaction.

Hassanain (2008) studies found out that on campus students particularly those who lived in residence hall were more satisfied with the college experience than those who live off- campus. Students living in hostels were found to experience greater personal growth and more intellectual and cognitive development. Residential life possesses certain advantages over off- campus life in terms of social interaction and positive involvement with peers, faculty and communities.

Lyizoba (2009) argues that the results of an enquiry into reasons why Nigerian students fail to perform well revealed that the chief cause of poor academic performance was attributable to facilities and conditions prevalent in the universities. The study concluded by positing that hostels are in dire need of attention blaming inadequate accommodation for the present day mediocre educational standards, deplorable academic performance, and poor moral behavior which have become synonymous with the average Nigerian student.

According to Mohit et. al., (2010) living of students in on campus accommodation provides positive impact on its residents. Among the positive effects are: more engagement with the academic environment, higher rates of experiences, greater perception of personal growth, better social interaction, higher educational aspirations and better academic performance though on the negative side living on campus may influence use of alcohol.

Nabaseruka, (2010) also indicated that accommodation has a significant effect on the academic performance of students and in schools where accommodation facilities were good, the performance of students was also high compared to schools where accommodation facilities were poor.

Academic achievement is not significantly influence in students' living environment. Of a more uncertain nature, Dasimah et al. (2011) reported that academic achievement of off- campus students is not influenced by the environment although living as off-campus is said to be more challenging than staying on campus.

Mamman (2011) carried out a comparative study of the effect of on-campus and off campus accommodation and other facilities on students' academic performance. The study identifies some advantages of on-campus accommodation. These include: easy accessibility to the classes, libraries and other university facilities hence saving on time. The findings revealed that a significant relationship exists between the type of accommodation and the students' academic performance. The diet, health, amount of sleep, comfortable shelter and sense of security a student has directly affects his ability to function at his full potential. Sicat and Panganiban (2009) appreciate that adequate housing in schools gives rise to

comprehension and encourages positive learning outcomes.

According to Mohd Najib, Yusof and Zainal Abidin (2011) students who stay on campus will enhance good rapport and socialize among them whereby it could also broaden the students' knowledge. Logically, the students who stay on campus have the privilege to obtain information related to academic immediately. They also need not to worry about transportation since it is only a walking distance among the buildings on the campus. Yet, the universities provide public transportation if the students need to go outside the campus or to the nearest town. Contradically, for those who are non-residence they need to rent house and look for housemate in order to save cost. Some of them might confront with absenteeism due to domestic problems such as transportation, raining season and others.

Schemulian and Coetzee, (2011) agree that the reason for off campus students become late comers or absence to the class is due to traffic jam and transportation problems. They conclude that, there is a positive relationship between class attendance and academic performance. In other words, if the students are absent for class it will affect their performance.

Zhao (2012) asserted that student satisfaction has a strong relationship with the quality of higher education perceived by the student, and that this perception will be influenced by many factors concerning the educational service, including expectation of service and image of the institution. Research in this area has generally supported the notion that students living on-campus tend to be more socially adjusted and tend to participate more often in extracurricular and campus activities than students living off campus.

Toyin & Yusof (2013) Students feel that living-on campus will be a lot less expensive; therefore, more numbers of students stay on-campus. Where campus

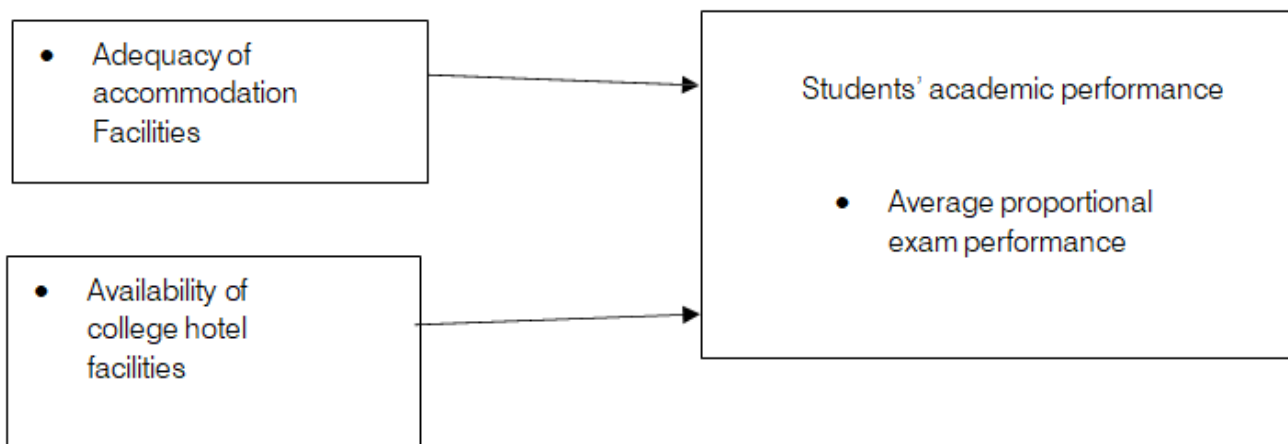
housing effectively integrates learning and social development by providing students the opportunity to form an identity or a sense of community with the institution. Students who live on campus generally participate in more activities, take advantage of campus resources, and are more involved in leadership experiences. Many times, the interaction that students have within the residence hall frames their campus experience. In addition to the residence hall experience, students who live on-campus are also actively involved in campus-wide organizations and activities. They tend to have a better understanding of self, experience positive changes in values, have higher self-esteem, and are more satisfied with their collegiate experience unlike the off-campus students.

Araujo and Murray (2010), and Owolabi (2015), also found evidence of an increase in cumulative GPAs of students who lived in on-campus housing than their counterparts in off-campus housing. This was because students who lived on campus were more able to benefit from the university provided resources such as computer and information technology, university clubs, exercise facilities, and other extra-curricular activities [Araujo & Murray, (2010); and Owolabi, (2015)].

#### e) *Conceptual Framework*

The study literature has shown that housing affects students' academic performance or productive. This study further takes steps to investigate on effect of housing on students' academic performance in University of Ibadan. The variables to be investigated are housing (independent variable) and academic performance (dependent variable). These variables have been identified because the researcher hopes that by analyzing these variables the deep insides on the factor for student poor performance can be revealed, thus guide towards improvement of secondary school performance in terms of academic in those schools.

Relationship between Students' Housing and Academic Performance





#### IV. RESEARCH METHODOLOGY

##### a) Introduction

This chapter presents the methodology applied in this study. It describes design of the study, target population and area of the study, target population, sample and sampling technique, research instruments and methods of data collection, data analysis.

##### b) Design of the Study

The study adopts a Descriptive survey design to examine the variables without influencing any of them since they have already been manifested in the respondent. Descriptive research helps to obtain data about the current status of the phenomena and to describe what exists with regards to the variables of the subject matter. The descriptive survey allows collection of huge extents of data from the target population.

##### c) Area of the Study

The study will be carried out in University of Ibadan located in the Southwest region of Nigeria. These was chosen in order to cover a wide range of socioeconomic backgrounds.

##### d) Target Population

The target population refers to the total number of respondents to the questionnaire used for the collection of the data. Students are those involved in the study because they are the ones directly by their housing status and it is their educational performance that is being focused on, therefore they are vital informants.

The target population is the students of University of Ibadan which is a mixture of students residing in the school's hall of residences, near campus and those living in farther places away from the university environment. Students of 200 level, 300 level and 400 level took part in the study. Students in 100 level were exempted from the study because they are made to stay in the hostels provided by the institution and most likely do not have a choice as regards their place of residence. Moreover, these set of students are new and most likely do not know their CGPA which is needed in assessing the relationship between students' residence and their academic performance. Also, the postgraduates were not targeted for this study since most of them are independent students.

##### e) Sample and Sampling Technique

A sample refers to a fraction of a study population used to make conclusions about the population. The target population was stratified based on type of accommodation. This implied that the students were stratified as those who were on-campus and those who were off-campus accommodation. Stratification was used to increase precision and presentation (Kothari, 2009). Stratified sampling was utilized since it would aid the researcher to ensure that

certain subclasses in the population were represented in the sample. The sample for the study is taken from 11,617. An ideal sample is that which is large enough to serve as an adequate representation of population on which the researcher wants to make conclusions about and small enough to be selected economically mainly in terms of money and time.

The sample size of 200 students have been selected for this study from all the institutions. The study adopted a simple random sampling technique in identifying the students to participate in the study. This enabled member of the population to have an equal chance of being selected without bias.

##### f) Instruments and method of data collection

This study used questionnaires to collect data. Questionnaire is a set of questions organized in order to assemble responses from respondents relating to the research topic. The instruments were suitable for this study since the population targeted was diverse in social and economic classes. The questionnaires were used for sensitive topics and questions which users could find it inconvenient to divulge through other means. A questionnaire is ideal for survey study. Questionnaires have been widely used in education to obtain information about current situations. It is therefore effective in terms of time and its anonymous nature allows respondents to give information easily. The questions were in printed form and were to be answered by the respondents (students). The procedure for data collection goes thus: Permission was requested from the respective educational institutions showing that the study is for academic purposes. The typed questionnaires were hand delivered to the respondents. The respondents were instructed not to divulge their identity and were assured that the information given was purely for research purpose and would not affect them individually.

Section 'A' of the questionnaire sought after students' demographic information such as: age, gender, marital status while section 'B' sought after information on the students' academic performance, Then Sections 'C', focused on the housing condition and satisfaction measures of the students.

##### g) Method of Data Analysis

The data collected using the primary investigation was compiled, sorted, and coded. The data from questionnaires was analyzed using SPSS (Statistical Package for Social Scientists) package in line with the research questions. Simple frequency distribution and percentages will be employed for the analysis. Graphs and charts will be used to depict some categorical variables. Pearson's correlation was used to establish the relationship between accessibility, security, privacy, speed, fees and charges and usefulness level. The reason for choosing Pearson's correlation is that it is the most common measure of correlation which



measures the degree of linear relationship or association between two variables. It was also used run to estimate of the average value of the dependent variable (student's educational performance) on the basis of the independent variables (housing measures).

## V. DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

### a) Introduction

This chapter presents the analysis of data on the effects of students' housing on their academic performance at University of Ibadan. The analysis has been done based on data collected through various methods discussed in chapter four including questionnaires and interviews by the researcher. The information based on the analysis was then presented as set out in the objectives of the study. The research data was tabulated and presented in tables and analyzed using descriptive statistics particularly mean, percentages, frequencies and standard error using SPSS software computer package. The specific objectives of this study were:

1. What are the factors influencing students' choice of accommodation at University of Ibadan?

2. Does the gender type of students influence their choice of accommodation?
3. What is the impact of age category in the selection student's residential location?
4. To determine the difference in students' level of satisfaction with accommodation among students residing either on - campus or off - campus at University of Ibadan.
5. To propose recommendations for the improvement of student's academic performance.

### b) Background Information of Respondents

The study covered two-hundred students from the University of Ibadan. Socio demographic information obtained with the research instrument include: gender, age category, level of study, marital status, place of residence.

#### i. Gender Distribution of Respondents

The respondents which totaled 200 had varying proportions between both genders. The sample of female respondents represents a higher percentage of 47% while the male respondents accounts for 53%. In total, it can be deduced that the sample size was slightly dominated by the Male (53%). Figure 5.1 below presents this information

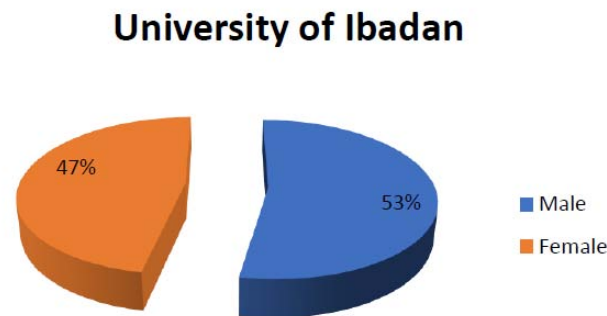


Figure 5.1: Gender distribution of Respondents

#### ii. Age of Respondents

Distribution by age shows that 40% of respondents are below or equal to 20 years,

approximately 59% are between 21 – 25 years of age; 1% are between ages 26 – 30 years, Figure 5.2 below presents this information.

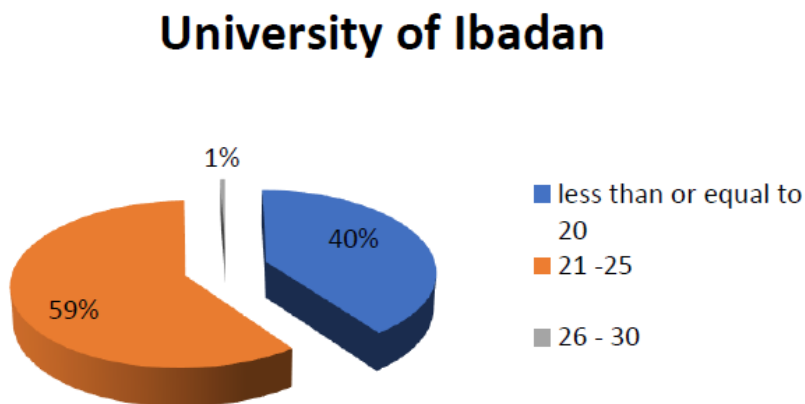


Figure 5.2: Age Distribution of Respondents

iii. *Academic Level of Study*

Most of the participants from the University of Ibadan are students in 200 level (37%), 32% 300 level, 22% for 400 level and about 9% were 500 level students.

None of the respondents were from 100 level because of the unavailability of CGPA for the students at the level. Figure 5.3 below presents this information.

### University of Ibadan

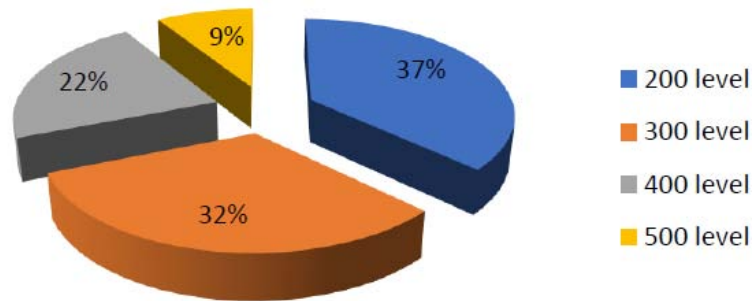


Figure 5.3: Level Distribution of Respondents

iv. *Residential place of the Respondents*

The responses on the residential place of the respondents are presented in fig. 5.3.

### University of Ibadan

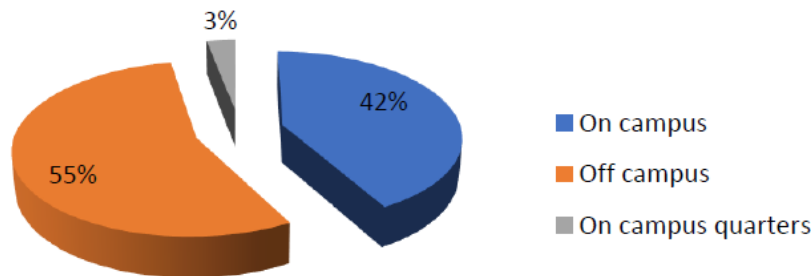


Fig. 5.3 indicates that 55% (110) of the students who participated in this study were off-campus while 42% (84) and 3% (6) were on-Campus. This is an indication that majority of the students reside outside the university.

c) *Hypothesis Tests*

The academic performance of the students was separated into five (5) categories:

- First class
- Second class upper
- Second class lower
- Third class

*Research hypothesis*

Below are the research questions considered in the study:

$H_0$ : There is no significant relationship between students' accommodation location and their gender.

$H_1$ : There is a significant relationship between students' accommodation location and their gender.

$H_{0_1}$ : There is no significant relationship between students' accommodation location and their age.

$H_{1_2}$ : There is a significant relationship between students' accommodation and their age.

$H_{0_3}$ : There is no significant relationship between students' accommodation location and their academic performance.

$H_{1_3}$ : There is a significant relationship between students' accommodation location and their academic performance.

d) Gender and place of residence

Table 5.1: Cross-tabulation of Gender and Place of residence

		Place of residence			Total
		On campus	Off campus	On campus quarters	
Gender	Male	32	73	1	106
	Female	52	37	5	94
Total		84	110	6	200

Table 5.1.1: Correlations between Gender and Place of residence

		Gender	Place of residence
Gender	Pearson Correlation	1	-.190**
	Sig. (2-tailed)		.007
	N	200	200
Place of residence	Pearson Correlation	-.190**	1
	Sig. (2-tailed)	.007	
	N	200	200

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Result in Table 5.1 reveals that a total of 106 male students and 94 female students took part in the survey. However, only 84 of these students stay in hostels provided by the institution within the campus. The remaining 110 students reside in accommodations off campus. Also, a critical look at the cross-tabulation shows that majority of those staying on campus are the female students (57), while more male students (73) prefer to stay off campus. This can be attributed to

several factors including the need to feel secure. However, further analysis carried out using Pearson product moment correlation gave a correlation value of -0.190 and a significant p-value of 0.007. This result shows that since the significant p-value is greater than 0.05, at 95% confidence level, there is a negative relationship between the gender of students and their choice of staying on or off campus.

e) Age and place of residence

Table 5.2: Cross – tabulation of Age and Place of residence

		Place of residence			Total
		On campus	Off campus	On campus quarters	
Age	less than or equal to 20	42	38	0	80
	21 – 25	41	72	6	119
	26 – 30	1	0	0	1
Total		84	110	6	200

Table 5.2.1: Correlations between Age and Place of residence

		Age	Place of residence
Age	Pearson Correlation	1	.187**
	Sig. (2-tailed)		.008
	N	200	200
Place of residence	Pearson Correlation	.187**	1
	Sig. (2-tailed)	.008	
	N	200	200

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Result in Table 5.2 reveals that majority of the students (119) sampled fall within the age range of 21 to 25 years, while 80 of them fall within the range of less than or equal to 20 years. The least age range is 26 to 30 years. Further look at the table shows that majority of

the younger students (15 to 20 years) stay on campus while most of the older students (21 to 25 years) stay off campus. This matter points to the fact that there might be some measures of restriction among the younger students in terms of staying alone outside the school

vicinity. Pearson product moment correlation showed that there is a significant relationship between the students' age and their choice of residence, as a

correlation value of 0.187 and a significant p-value of 0.008 was derived.

f) *Level and place of residence*

Table 5.3: Cross – tabulation of Level and Place of residence

		Place of residence			Total
		On campus	Off campus	On campus quarters	
Level	200 level	35	38	1	74
	300 level	27	36	1	64
	400 level	18	25	1	44
	500 level	4	11	3	18
Total		84	110	6	200

Table 5.3.1: Correlations between Level and Place of residence

		Level	Place of residence
Level	Pearson Correlation	1	-.163*
	Sig. (2-tailed)		.021
	N	200	200
Place of residence	Pearson Correlation	.163*	1
	Sig. (2-tailed)	.021	
	N	200	200

\*. Correlation is significant at the 0.05 level (2-tailed).

Result in Table 5.3 also shows that more students from the 200 level (74) participated in the survey, while the least level was the 400 and 500 level (44 and 18 respectively). This low response from this set of students can be attributed to the claim of them being too busy with final year researches and the likes. A cursory look at the table shows that only few students tend to stay on campus when they are in their final year, as only 26 students out of the 62 stated that they stay on campus. More students in the 200 level can be found staying on campus. This can be attributed to the fact that it is mandatory for them to stay on campus in their first year in the institution, hence, the tendency of wanting to stay there in their second year might be high. However, as they move higher on the academic ladder,

they tend to outgrow the school environment and the urge to stay off campus increases.

Pearson product moment correlation further corroborates this fact as a correlation value of -0.163 and a significant p value of 0.021. This result shows that there is a negative relationship between students' level and their choice of residence, as the significant p-value derived is less than the 0.05 threshold.

g) *Factors Influencing Students' Choice of Accommodation*

The study sought to establish the factors influencing students' choice of accommodation with either on-or off- campus accommodation in University of Ibadan. The responses are stated in 5.4.

Table 5.4: Cross - tabulation of reasons for choice of residence and place of residence

Reasons for choice of residence	Place of residence						Total
	On campus	Percent	Off campus	Percent	On campus quarters	Percent	
No reason	3	3.61	1	0.90	0	0	4
Inadequate accommodation	10	12.	49	44.14	4	66.66	63
Need for privacy	13	15.6	54	48.6	1	16.66	68
Family decision	40	48.19	5	4.5	1	16.66	46
Educational balance	1	1.2	0	0	0	0	1
Nearness to school or academic area	3	3.61	0	0	0	0	3
Cost and convenience	6	7.222	1	0.9	0	0	7
Security reasons	4	4.81	0	0	0	0	4
No choice other than taking what was available	1	1.2	0	0	0	0	1
Poor state of school hostels	2	2.4	1	0.9	0	0	3
	83	100	111	100	6	100	200

As shown in Table 5.4, 48.6 % (54) of the off-campus students rated the need for privacy as the 1st main factor influencing their choice of residence, 48.19% (40) of the on-campus students ranked family decision as the 1st major factor influencing their choice of residence while 66.6% (4) of the on campus quarters ranked inadequate accommodation 1st as the major factor influencing their choice of residence in school. The findings further reveal that 44.14% (49) of the off-campus chose their choice of residence because of inadequate accommodation in school hostels and 16.6% (1) of the on-campus quarters chose their residence because of need for privacy.

*h) Level of Satisfaction and Place of Residence*

There was need to establish whether there was any difference in the level of satisfaction on accommodation between on-campus and off-campus students in University of Ibadan. The respondents were asked to rate the items in this section according to the extent to which they are satisfied or dissatisfied with them. The responses were coded as 1 = very satisfied,

2 = satisfied, 3 = somehow satisfied, 4 = not really satisfied, and 5 = not satisfied at all. While scoring the questionnaires the highest possible score for each item on the Likert scale was 5.0 points and the lowest was 1.0. The highest possible mean score for a respondent was 5.0 and the lowest was 1.0. The midpoint was taken to be 3.0 and this was used to categorize responses as either "satisfied" or "dissatisfied". For each item a mean and standard error mean were calculated. The results are presented in Table 5.5

Differences in Students Level of Satisfaction with University Accommodation The fourth objective of the study was to determine the difference in students' level of satisfaction with university accommodation among students residing either on-campus or off-campus at University of Ibadan. The section presents respondent's level of satisfaction with their housing condition. These characteristics give an insight into understanding and addressing the current problem of the study.

*Table 5.5:* Cross - tabulation of place of residence and satisfaction with condition of living

		Satisfaction with condition of living					Mean	SD
		Very satisfied	Satisfied	Somehow satisfied	Not really satisfied	Not satisfied at all		
Place of residence	On campus	11	28	12	10	23	3.07	1.446
	Off campus	17	41	10	16	26	2.94	1.448
	On campus quarters	0	2	0	3	1	3.5	1.225

Cluster Mean / Standard Deviation for on – campus 3.29/ 1.66

Table 5.5 showed that the mean ratings of items 1-3 are 3.07, 2.94, 3.5 respectively with corresponding standard deviations of 1.446, 1.448, 1.225. As indicated in Table 5.4, the on-campus students were generally not really satisfied with the housing condition while the off-campus students were somehow satisfied with their housing condition with an overall mean of 3.29 for the on-campus and 2.94 for the off-campus students. This implies that there are significant differences in satisfaction between on-campus and off-campus students.

Further statistical analysis was done in order to determine the difference in students 'level of satisfaction

with university accommodation among students residing either on-campus or off-campus at University of Ibadan. This was done using One-way ANOVA Test for difference in means. One-way ANOVA Test means that there are more than two groups, and comparing the means of the groups. In this case, the comparison is in the level of satisfaction between the on- and off-campus students in the area where the study was done. The null hypothesis is that the means for groups are equal. This was tested at 0.05 significance level. The results are presented in Table 5.5.1 and 5.5.2.

*Table 5.5.1:* Satisfaction with condition of living

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
On campus	84	3.07	1.446	.158	2.76	3.39	1	5
Off campus	110	2.94	1.448	.138	2.66	3.21	1	5
On campus quarters	6	3.50	1.225	.500	2.21	4.79	2	5
Total	200	3.01	1.439	.102	2.81	3.21	1	5

Cluster mean/standard deviation for on campus 3.29/1.3355



ANOVA

Table 5.5.2: Satisfaction with condition of living

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.354	2	1.177	.566	.569
Within Groups	409.626	197	2.079		
Total	411.980	199			

As shown in Table 5.5.2 the p-value is 0.569, implying that the difference in means is not statistically significant at the 0.05 significant level and can be concluded that the difference between conditions mean are likely due to chance and not likely due to manipulation. Therefore, there was no significant difference in students' level of satisfaction with university accommodation among students residing either on-campus or off-campus at University of Ibadan. However, the students who were residing off-campus were more satisfied than the students who were residing on-campus.

i) *Effect of Residence Type on Students Performance*

In assessing the effect, the type of residence will have on students' academic performance, the student's current grade and parameters such as the distance of was assessed. Result in Table 5.5 shows that almost all of the students staying on campus do not miss classes as a result of distance. However, those staying off campus tend to miss class occasionally as a result of the distance of their residence from school.

i. *Distance negatively affecting academic performance*

Table 5.6: Cross tabulation of place of residence and Distance affect performance negatively

		Distance affect performance negatively				Strongly disagree	Total
		Strongly agree	Agree	Indifferent	Disagree		
Place of residence	On campus	1	9	10	23	41	84
	Off campus	3	16	17	36	38	110
	On campus quarters	1	0	0	4	1	6

Table 5.6.1: Distance affecting performance negatively

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
On campus	84	4.12	1.069	.117	3.89	4.35	1	5
Off campus	110	3.82	1.143	.109	3.60	4.03	1	5
On campus quarters	6	3.67	1.366	.558	2.23	5.10	1	5
Total	200	3.94	1.124	.079	3.78	4.10	1	5

Table 5.6.1 showed that the mean ratings of items 1-3 are 4.12, 3.82, 3.67 respectively with corresponding standard deviations of 1.069, 1.143, 1.366. As indicated in Table 5.5, the on - campus students strongly disagree that distance affect their academic performance while the on- campus quarters and off – campus students slightly disagree that distance affects their academic performance with an overall mean of 4.12 for the on-campus,3.67 for on-campus quarters and 3.82 for the off-campus students. This implies that the students of University of Ibadan

don't see distance as a factor influencing their academic performance.

ii. *Place of residence and academic performance*

Aside assessing students' attitude to classes as a result of their residence, the study also assessed the students' academic performance through their current grade which according to Olatunji et al. (2016) is the most common means of measuring students' performance in Nigeria. It should be noted that the grading was First class, Second class upper, Second class lower and Third class.

Table 5.7: Cross - tabulation of Place of residence and Current grade

		Current grade				Total
		First class	Second class upper	Second class lower	Third class	
Place of residence	On campus	20	43	21	0	84
	Off campus	21	62	25	2	110
	On campus quarters	2	4	0	0	6
Total		43	109	46	2	200

Table 5.7.1: Correlations between place of residence and current grade

		Place of residence	Current grade
Place of residence	Pearson Correlation	1	-.004
	Sig. (2-tailed)		.960
	N	200	200
Current grade	Pearson Correlation	-.004	1
	Sig. (2-tailed)	.960	
	N	200	200

Result in Table 5.7 shows that most of the students both on and off campus fall between the second class upper- and second-class lower level, with an almost even distribution within these areas. Pearson product moment correlation further revealed that there is no significant relationship between the students' residence and their current grade as a correlation value of - 0.004 with significant p-value of 0.960 was derived. Since this significant p-value is greater than 0.05, it therefore means that the residence of students does not have any statistical relationship with their academic class. This means that students result at the end of each session is not influenced by where they stay (either on or off campus).

## VI. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

### a) Introduction

This chapter discusses the major findings, conclusions, recommendations suggestions in accordance with the objectives of the study for additional research and can be used by stakeholders to help proffer better ways to improve educational performance of students.

### b) Summary of Findings

The main objective of this study is to verify the relationship between student academic performance and housing within the University of Ibadan framework. After using questionnaires, data was requested. The questionnaires were filled out by students at all levels, except the freshmen. The data gathered was coded and analyzed with descriptive and inferential statistics using the Statistical Package of Social Science (SPSS). The summary of the findings is discussed below:

Findings of the study reveal that there is no significant statistical relationship between the gender of students and their choice of residence. There is,

however, a statistically important relationship between the age and academic level of the student and their choice of residence. The finding implies that while the gender issue does not determine where a student will decide to reside, the age of students and their academic level plays a vital role in this regard. The older students get in age and the higher they go on the academic ladder, the higher the tendency to want to stay off- campus. This can be due to the need for privacy and the desire to want to feel the life outside the school premises.

Finding also revealed that accommodation fee, quality of the environment, need for privacy, influence of friends/ desire to be close to friends, and number of students within the building are the major factors influencing the choice of residence of students. The issue of finance is essential to students as they tend to manage the little available money, they have in acquiring their needs. Thus, considering the cost of accommodation is bound to be an essential factor. This further confirms Oyetunji and Abidoye (2016) and Zortovie (2017) assertions that the desire for cheaper housing is a factor for some students. Findings of this study also agree with Howley et al. (2009) submission that the population within an environment place a vital role in the selection of residence for students.

As a result of the need for privacy, students tend to consider the number of students within a specific residence before deciding to stay. Suki and Chowdhury (2015) noted that if the quality of a residence is positive, it will eventually create a good attitude toward such a residence and clearly affect the level of residence satisfaction of the students. The findings of this study further corroborate this assertion, as it was found that the quality of the residence environment is an important factor influencing the students' choice of residence.

Results show that the residence of students has no statistical connection with their academic class by using the student grade point to measure their performance as it relates to their residence. This finding is in conjunction with submissions by Snyder et al. (2011), Zortovie (2017), and Zortovie (2017) that there is no significant impact of the type of accommodation on the academic performance of the students. However, the findings contradict the submission of Owolabi (2015) that there is a significant relationship between the students' residence and their academic performance at the University of Ibadan. The difference between the two studies lies in the methodology adopted as only frequency was adopted in the study analysis where in the population of off-campus students was doubled that of on-campus students

#### c) *Conclusion*

This study evaluated student housing using a student survey at the University of Ibadan. The research was able to determine the relationship between the students' age, gender and academic level with their choice of student residence. It was also able to determine the main factors influencing the choice of residence of students and the possible impact of these residences on the academic performance of students.

Based on the findings of the study, it is concluded that while gender has no relationship with students' choice of residence, age and academic level does. Students tend to move off-campus as they get older in age and in level. Also, the major factors being considered by these students when choosing their place of residence are the need for privacy, inadequate accommodation, quality of the environment, family decision, cost and convenience, influence it affects their desire to stay on or off campus. In terms of the effect of the choice of students' residence on their academic performance, the study concludes that academic performance of students' on and off campus isn't really influenced by the distance of their choice of place of residence. As regards students' current grade as a measure of their performance, the residence of students does not have any statistical relationship with their academic grades.

The implication of this result is that since student's age and level influences their choice of residence, fewer students tend to stay in the hostels, leaving most rooms vacant, and thus, reducing the revenue such hostels should have been generating for the institution. Therefore, the institutions authorities need to put in place, facilities and policies that will be satisfactory to students at all levels and ages. With this, the urge to want to stay off-campus as a result of their advancement in age and level can be reduced. Also, a review of the cost of accommodation on campus can be done to further encourage students to stay on-campus. While the cost aspect is important, it is also imperative

to ensure that the quality of environment of these hostels are kept to standards, and the number of students in a room is kept at the barest minimum. This is because the quality of the environment, need for privacy, and number of students within the building to a large extent influences students' choice of residence. Also, school authorities will need to beef up its services and facilities in hostels on campus, so as to encourage staying on campus by students.

It is believed that the findings of this study will help those responsible for providing students with accommodation within universities in the country to provide accommodation for the different categories of students. It will also help them in the proper formulation of policies that guide the use of these hostels as it relates to the students' academic performance.

#### d) *Recommendations*

With regard to the bio-data, characteristics analysis and services survey carried out on the current state of the study area, together with the summary of the data analysis findings, it is necessary to rehabilitate existing housing facilities, which involves improving the condition of existing services and utilities that are in poor condition in the students housing. And more facilities should be provided in the hostel, ranging from the students' toilet, bathroom, electricity and water supply.

Based on the findings of this study, it is recommended that management of University of Ibadan should improve facilities in the different halls of residence to improve students' learning experience and academic performance. Also, through the university's authority and private investors, the Nigerian government should provide more affordable hostels with adequate facilities to accommodate the ever-increasing University of Ibadan student population.

### DECLARATION

I declare that the work in this project titled "The effects of Students' housing on academic performance at the University of Ibadan in Nigeria" was carried out by me in the Department of Economics under the supervision of Dr. Lawanson. The Information derived from literature has been duly acknowledged in the text and a list of References provided.

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APPENDICES

Section A: Personal Information

1. Faculty:
2. Department:
3. level:
4. Age: a. ≤ 20 ( ) b. 21-25 ( ) c. 26 - 30 d. 31 - 35 ( ) e. 36 - 40 ( )
5. Gender: A. male ( ) .b. Female ( )
6. Marital status: a. Single ( ) b. married ( )
7. Where do you live? (a) on campus (b) off campus (c) On campus quarters  
 If on-campus, which hall of residence: \_\_\_\_

Section B: Housing Characteristics

8. What is the main reason for residing where you live? (a) Inadequate accommodation (b) need for privacy (c) Family decision (d) if others, please specify
9. Nature of occupancy; one room { } flat { } self-contained { }
10. Number of occupants; one { } two { } three { } more than three { }
11. How often do you have access to power supply; Regular { } not regular { } not available { }
12. What type of Housing Units do you live in; Detached { } Traditional { } Semi- detached { } Flat { } Letin { } Improved (informal +others) { }
13. What kind of water do you have access to; well { } borehole { } stream { } others, please specify\_\_\_\_\_
14. Where do you cook; kitchen { } passage { } room { } veranda { } outside
15. What kind of Toilet facility do you have; water closet { } pit { } public { } bush { }
16. Waste disposal method; collected { } buried { } Public site { } Flowing water (stream / river / rain)
17. What kind of cooking fuel do you use; kerosene { } gas { } electricity { } solar { } fire wood { }
18. What type of bathroom do you have; Bathtub { } Inside the house without piped water { } Outside the house { } Shared { } shower { }
19. What type of crime has occurred in your area; robbery { } assault { } physical attack { } None { }
20. What is the major type of security in your area; police { } private guard { } vigilante { } none { }

Tick the answers to the statements under the column of preferred choice. SA- Strongly agree, A- Agree, I- Indifferent, SD- Strongly disagree, D- Disagree.

		SA	A	I	D	SD
21.	Your room is comfortable for sleeping					
22.	Your room is conducive for reading					
23.	It costs you much to transport yourself to lectures.					
24.	You are exposed to cases of rape or harassment and this may affect their studies.					
25.	You are often exposed to theft/ armed robbery attack which takes away their valuables and this may affect their concentration					
26.	You are not safe from any unrest that may occur around your area of residence which may scare you from reading at night.					
27.	You do frequently arrive early for lectures					
28.	You are satisfied with the condition of where you live					

*Section C: Information on Students' Academic Performance*

- 29. What is your current grade: First class ( ) Second class upper ( ) Second class lower ( ) Third class ( )
- 30. Place of reading: Reading room ( ) Library ( ) Room ( )
- 31. When do you read: Morning ( ) Afternoon ( ) Night ( )
- 32. What motivates you to read: When you see others reading ( ) When exam is coming ( ) When your parents encourage you ( ) When you see your results ( )

		SA	A	I	D	SD
33.	You can focus more on your studies where you live					
34.	You can manage time properly where you live					
35.	You can easily get information necessary for your studies:					
36.	The distance of your house affects your academic performance negatively					
37.	You focus more on your studies where you live					
38.	You can easily access the e-library in school from where you live					





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# A Comparative Study between Public and Private Sector in the Aspect of Service Quality: Special Reference to Banking Industry in Sri Lanka Research

By Asanka D. Dharmawansa & RAM Madhuwanthi

*Wayamba University of Sri Lanka*

**Abstract-** The service sector in Sri Lanka accounted for 51.3% of the Gross Domestic Production (GDP) respectively with financial being a key performing sub-sector. The development of the banking sector is very significant for the country's economic development. Earlier there was a high market share for public banks than private banks. However, it has been changed in the present situation. Nowadays there is a great development in private banks compared to public banks. Return on Asset (ROA), Return on Investment (ROI), Net Profit Margin, Market share, and Service Quality are the most significant factor that is used to measure the performance of the bank. Service Quality became a very significant factor that impacted the bank's performance. The investigation of service quality level and identification of factors to enhance the quality of the service of public and private banks are important for the economy of the country. The main objective of this research is to identify and compare the quality of the service of private and public banks by identifying factors that are required to achieve the expected level.

**Keywords:** banking sector, service quality, service quality gap, SERVQUAL model, sri lanka.

**GJMBR-B Classification:** DDC Code: 332.1 LCC Code: HG1601



*Strictly as per the compliance and regulations of:*



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# A Comparative Study between Public and Private Sector in the Aspect of Service Quality: Special Reference to Banking Industry in Sri Lanka Research

Asanka D. Dharmawansa<sup>α</sup> & RAM Madhuwanthi<sup>σ</sup>

**Abstract-** The service sector in Sri Lanka accounted for 51.3% of the Gross Domestic Production (GDP) respectively with financial being a key performing sub-sector. The development of the banking sector is very significant for the country's economic development. Earlier there was a high market share for public banks than private banks. However, it has been changed in the present situation. Nowadays there is a great development in private banks compared to public banks. Return on Asset (ROA), Return on Investment (ROI), Net Profit Margin, Market share, and Service Quality are the most significant factor that is used to measure the performance of the bank. Service Quality became a very significant factor that impacted the bank's performance. The investigation of service quality level and identification of factors to enhance the quality of the service of public and private banks are important for the economy of the country. The main objective of this research is to identify and compare the quality of the service of private and public banks by identifying factors that are required to achieve the expected level.

This research used the SERVQUAL model to measure the service quality of the public and private banks under "Tangibles", "Responsiveness", "Assurance", "Reliability", and "Empathy". Data was collected through mystery shopping and 662 responses were gathered from both public and private banks in Sri Lanka. The results revealed that private banks have achieved higher levels of service quality with compare to public banks. 82% is achieved by the private sector banks and public sector banks achieved only 78% in terms of service quality. According to the gap analysis, 11% gap is identified in public banks and only 8% is required to improve in private banks. The factors related to responsiveness, reliability, and empathy are required to consider for both private and public banks to fill the service quality gap. Furthermore, public sector bank should focus their attention on responsiveness and empathy in a very critical manner.

**Keywords:** banking sector, service quality, service quality gap, SERVQUAL model, sri lanka.

## I. INTRODUCTION

The banking industry is performing a crucially important role in the Sri Lankan economy. Sri Lankan economy has entered into an accelerated growth path of achieving a Rs. 100 billion economy with

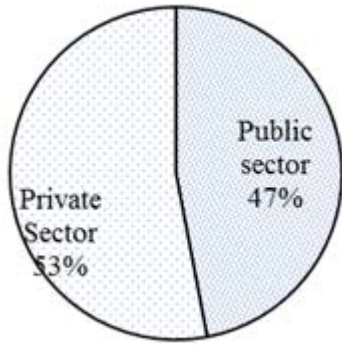
USD 4,000 per capita income by 2016. In this scenario, the Sri Lankan banking sector holds more than 55% of the financial sector assets of the country (Central Bank 2016). 48.2% of the GDP is controlled by the industries and service sectors contribute to the 51.3% of GDP (Central Bank 2016). Asset base of Rs. 6,972 billion dominates by the modern banking system in Sri Lanka at the end of 2014, accounting for 57.9% of the total assets of the financial system (Central Bank, 2015). The financial system of a country is much needed for the successful economic development and performance of all the countries. It plays a major role in the Sri Lankan economy also. It can be seen that banks and financial institutions are special components of the wealthy and beneficial financial system of the country (Raza, Amjad, & Akram, 2011). Simultaneously, Commercial banks contribute to the economic growth of the country by making funds available for investors to borrow as well as improving financial deepening in the country (Otuori, 2013). Thereby, the efficiency and stability of the country will depend on the performance of the banking industry.

Public sector and private sector commercial banks are the two main categories in Sri Lankan commercial banks. Currently, the banking system consists of 33 banks, of which 25 are Licensed Commercial Banks (2 state banks, 11 domestic private banks, and 12 foreign banks) and 8 are Licensed Service Banks (6 state banks and 2 private banks) (Central Bank 2015). These 22 commercial banks in Sri Lanka are serving a relatively small population of nearly 20 million. The quality of service is very much important for the banking industry to attract new customers and retain customers in this competitive banking industry since all other factors such as interest rates; product types are quite similar in all the banks.

Private sector banks have a high market share, 53% comparatively to the public sector's market share of 47% by total assets in 2013 as shown in Figure 01 in Sri Lanka.

Author α: Wayamba University of Sri Lanka. e-mail: asankad@wyb.ac.lk  
Author σ: Esoft Metro Campus. e-mail: mm.dharmawansa@gmail.com





(Source: Central Bank of Sri Lanka, 2013)

Fig. 1: Market share by total assets

The market share of the state banks had declined to 40.2% as shown in Figure 02 by the end of June 2020 from 47% in 2013 due to aggressive growth by private banks (KPMG, 2020). Although the public

sector banks are getting support from the government, their performance is low with comparative to the private banks. Previous studies also mentioned that private banks had high financial performance than state banks (Velampy and Anojan, 2014).

It is interesting to find the reason why the private sector is having better performance or have high deposit rate, than the public sector. Return on Asset (ROA), Return on Investment (ROI), Net Profit Margin, Market share, and Service Quality are the most significant factor that is used to measure the performance of the bank. If the bank has more service quality it is a direction that shows the bank has high performance (Chowdhury, Leena Afroz Mostofa; Shaha, Saju, 2016). Service quality impacts organizational outcomes such as performance superiority (Portela & Thanassoulis, 2005). The service quality is considered in this study to identify the performance differences.

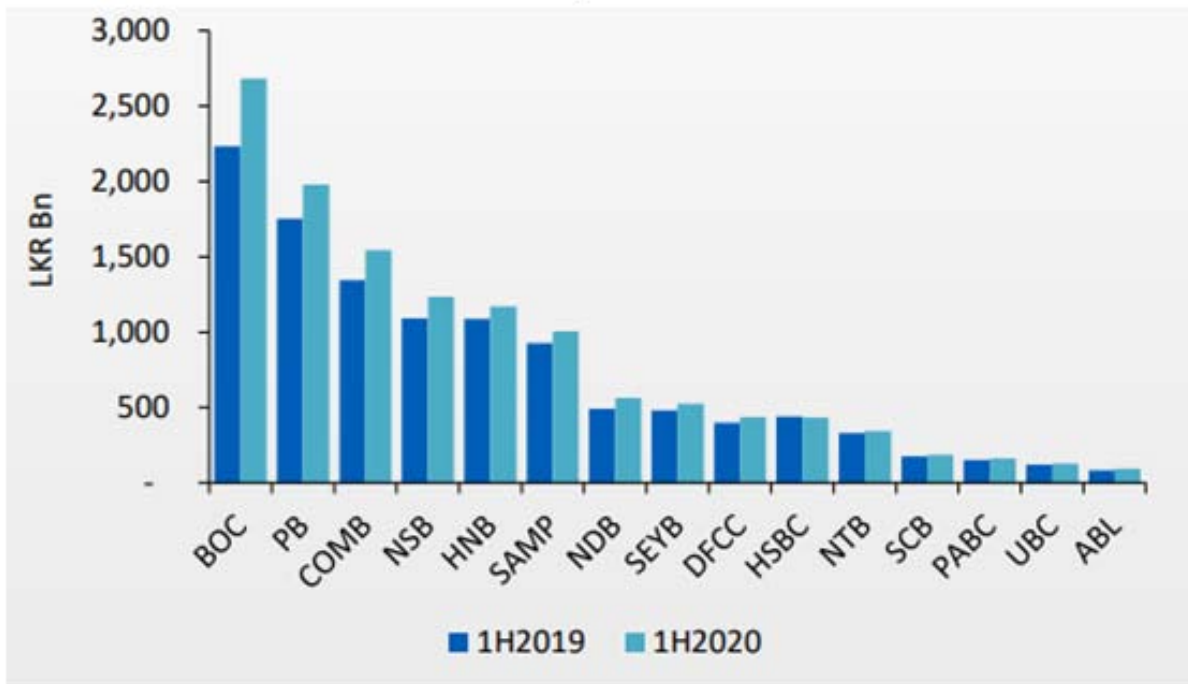


Fig. 2: Assets-based comparison

Although there are research studies that have been conducted to investigate the service quality in many countries, not much attention has been given to the banking industry in Sri Lanka (Yapa & Hasara, 2013). Few numbers of studies conducted to analyze the service quality of the banking industry in Sri Lanka and they have most probably focused entire banking system without analyzing public and private banks separately (Hussaien, 2020). There is a study related to the service quality of the banking industry that focused on both private and public sector banks in Ambalangoda city in Sri Lanka (Yapa & Hasara, 2013). It is difficult to find the

study related to the service quality of both private and public sector banks with considering the entire Sri Lanka.

Hence, this study is focused to achieve the following objectives.

- Identify and compare the quality of the service of private and public banks in Sri Lanka
- Identify factors that need to be improved in public and private banks in Sri Lanka through the service quality gap.

## II. LITERATURE REVIEW

### a) *Banking industry and service quality*

There is a very huge competition in the banking sector with the advancement of technology (Harvey, 2010). Minjoon Jun Shaohan (2001) focused that the banks are improving their service quality which is derived from ten dimensions; reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding of the customer, collaboration, and continuous improvement through providing inter-banking to face this competition. Service quality in the broader context should have much attention because it has an obvious relationship with costs, financial performance, customer satisfaction, and customer retention in the banking sector.

Quality of service gives a competitive advantage to compete in the competitive banking sector. It may be the reason for more research in the field regarding this service quality. Mainly Parasuraman et al. (1988, 1991, and 1994) Brown et al. (1989), Cronin and Taylor (1994), Dhabolkar et al. (2000), etc give much contribution to doing more research regarding service quality in banking industries. Most researchers prove that there is a positive relationship between service quality and customer loyalty by using strong statistical evidence. And also it is proved that service quality has a great influence and positive significant correlation with customer loyalty (Zahir Osman, Liana Mohamad, Ratna Khuzaimah Mohamad, 2015). Good service quality of the banks will make satisfied customers and because of customer satisfaction, it makes loyal customers. Better service quality of the Bank will determine customer satisfaction and customer loyalty of the customers (Panda, 2003; Jones, 2002 as cited by Lymperopoulos et al., 2006).

Many researchers have shown repeatedly that service quality may show direction to superiority performance (Portela & Thanassoulis, 2005), increase sales profit (Levesque & Mc. Dougal, 1996) and have high market share, improve customer relations, enhance corporate image, and promote or enhance customer loyalty (Newman, 2001; Szymigin & Carrigan, 2001; Caruana, 2002; Ehigie, 2006). Marinating better customer service helps to have customer satisfaction and customer loyalty. The service quality is the most considerable and significant reason or factor to have a maximized profit and to be succeeded or to be survived in today's competitive banking.

Better service quality of the banks shows the direction to have higher revenues, increased cross-sell ratios, higher customer retention (Bennett and Higgins, 1988), and expanded market share (Bowen and Hedges, 1993). And also Storey and Easingwood (1993) proved that the total quality is the most important factor for the success of new financial services and Bennett and Higgins (1988) mentioned that the service quality of

the banking sector gives a competitive edge in the competitive banking sector.

The service quality of the bank helps to increase the image of the bank. The service quality gap and satisfaction determine loyalty in a retail bank setting. The perceived quality is the main factor that helps to enhance the public image of the bank. And also it is proving that the service quality of the bank has a direct impact on customer satisfaction and customer loyalty to the bank. So it is significant to have better customer service to have a high profit through customer satisfaction and customer retention.

Many researchers measured the service quality to improve or enhance the quality of service of the bank after identifying the importance of the service quality of the bank. The survey was done to determine the service quality of the bank and credit union by Allred and Addams (2000) by surveying the bank and credit union customers. He indicated that there are eleven factors that mainly affect the service quality of the bank The eleven factors are, access, courtesy, communication; credibility, security, empathy, tangibles, basic service, fairness, fixing mistakes, and guarantees. The findings of this research shows that the service quality can help to have a distinct marketing edge, higher customer retention (Bennett and Higgins, 1988), and expanded market share (Bowen and Hedges, 1993).

It is very important to study the service quality of the bank in the Sri Lankan context because it will help banks to improve or enhance their service quality to have satisfied customers and loyal customers.

However, the lack of analytical data related to the banking sector in Sri Lanka with comparing both the public and private sectors in terms of service quality is a matter for the customers to identify the suitable bank to carry their accounts (Anjalika & Priyantha, 2018). Comparing major public and private banks of Sri Lanka is a key for the bankers to identify their level and identify the key areas to improve.

### b) *Models Evaluating Service Quality of Bank*

Asubonteng, McCleary, and Swan (1996) mentioned that there are many measurements and dimensions to measure and evaluate the service quality of the banks in the banking sector.

### c) *SERVQUAL Model*

Early service quality models (Gronroos 1982, Parasuraman et al. 1988) have emphasized factors which can be used as components or to measure service quality. In the initial stage, Parasuraman (1988) developed an initial pool of 97 items through a series of focus group sessions conducted with the customers. Then by having greater reliability of 0.9, the initial 97 items is reduced to 22 items to form the SERVQUAL scale by Parasuraman (1988). The 22 items were developed under five dimensions of tangibles, responsiveness, reliability, assurance, and empathy.

And also Parasuraman use this SERVQUAL model to find the gap between perceived and expected service quality that is called as service quality gap in a service organization or a company in 1988.

*SERVQUAL deals with five service quality dimensions.*

1. Tangibles
2. Reliability
3. Responsiveness
4. Assurance
5. Empathy

(Parasuraman et al. 1988)

The SERVQUAL can be considered as the gap model, that is measuring the service quality as the calculated difference between customer expectations and the actual performance of a service encounter. The SERVQUAL model's questionnaire covers these five components in two sections. One section is used to measure the perception of the customer and other one is used to measure the expectation. 22 statements were included in each section.

#### d) *SERVPERF Model*

The SERVPERF was developed as a response to critical SERVQUAL analysis, by Cronin and Taylor (1992) which can be used to measure the quality of service through solely performance perception ratings. Cronin and Taylor (1992) said that the SERVPERF model is more in conformance with the existing attitude and customer satisfaction literature and is superior to the perception-expectation gap by considering the empirical evidence across four industries (banks, pest control, dry cleaning, and fast food).

SERVQUAL model is selected as the scale for this research. Because this research is a comparative study of service quality between public banks and private banks, and also this research is finding the service quality gap. It means the gap between perceived service and expected service which can be measured by only using the SERVQUAL model. Within all other models, the SERVQUAL model is more appropriate for this research to accomplish the research objective.

#### e) *Mystery Shopping*

Previously mystery shopping is used to avoid employee theft by private investigators, especially in retail stores and banks. Wilmark is the founder of the term "Mystery Shopping" which was started using the technique for the evaluation of service to the customer in 1940. In 1970 and 1980 there was very popular for this word. Mystery shopping met worldwide growth and became a very important industry, which is worth around \$1.5 billion worldwide (Ramesh, 2010).

Mystery shopping is defined as a method of "The use of individuals trained to experience and measures any customer service process, by acting as potential customers and in some way reporting back on their experiences in a detailed and objective way"

(Wilson, 2008). Mystery shopping is an observational method that can be used to measure and evaluate the service quality to the customers (Wilson, 2008).

*Mystery shopping can be used,*

- To measure the quality of the service delivery to the customer
- To comply with specific standards, guidelines, or demands
- To position the quality of the service on a scale
- To benchmark the customer service of the service organization or the company from its competitors
- To identify the failures or the weak points in the service delivery process

Mystery shopping is a very famous method in the banking industry to identify the level of customer service (Hotchkiss, 1995).

Researchers can be used mystery shopping as a method to measure customer satisfaction (Wilson, 2008), and also mystery shopping can be used as a method to investigate the gap in service quality (Grove et al., 1992).

Research that is based on service situations such as banks, restaurants, shops, travel agencies, airlines, and car dealers can be used in mystery shopping because mystery shopping is a very important method that can be used to conduct an accurate and unbiased investigation or a survey.

This research used mystery shopping as a method to collect the primary data for this research through the developed questionnaire.

### III. METHODOLOGY

The methodology consists of two sections. Those are the perception and expectations of service quality of the banks. SERVQUAL, a well-known model is used to measure the service quality of the banks in this study. The following five dimensions are used to identify the service quality of the banks according to the SERVQUAL method. They are,

1. Tangibles- the availability of physical facilities, equipment, and personnel
2. Reliability- the ability of the service provider to perform a service dependably and accurately
3. Responsiveness- the willingness of service provider to assist customers and deliver prompt services
4. Assurance- the customers can put their trust in service provider employees
5. Empathy- the individualized care and attention that customer receives from service deliver (Parasuraman et al.1988).

This research is discussing a comparative study between public and private banks by considering the service quality.



And also the service quality gap is calculated by getting the difference between expected and perceived service. The calculation of gap is mentioned below for one factor and same can be applied for other factors.

$$\text{Tangibles Gap} = \text{Perceived Tangibles value} - \text{Expected Tangibles value}$$

a) *Details of the Variables*

As per the model developed, the variables of tangibles, responsiveness, assurance, reliability, and empathy are used to measure by giving a questionnaire for the selected unit of analysis. The questionnaire is developed to measure the factors of tangibles, responsiveness, assurance, reliability, and empathy.

SERVQUAL model's first factor is "Tangibles". Tangibles mean the appearance of physical facilities, equipment, personal, and communication materials. The questionnaire included statements that describe the cleanliness of the bank environment, modern equipment of the bank, physical facilities of the bank, bank officers well dressed and appearance neat, and the appearance of the physical facilities of the bank is in keeping with the type of services provided. The tangible is measured using five statements according to the SERVQUAL model.

The second factor is "Responsiveness". Responsiveness means the willingness of the bank employees to help the customer and whether the employees of the bank provide prompt services or not. The questions in the questionnaire under responsiveness measures that the employees in the bank are promoting services, give the information on exact services, willingness to help the customer, and are never busy to requested services of the customer. The responsiveness is evaluated through four statements according to the SERVQUAL model.

"Assurance" is the third factor of the SERVQUAL model. Assurance indicates the knowledge and politeness of employees with evaluating their ability

to make trust and confidence. And also assurance means that customers can put their trust in service provider employees. The assurance factor of the bank is measured from the responses of the respondents to the questions in the given questionnaire. Assurance was measured through the questionnaire by using the statements that include the information regarding the bank is consistently courteous with customers, employees of the bank are polite to the customers, the employees of the bank give understandable and clear information to the customers, the employees' behavior makes confidence in the customer, and the customer has a feel safe in their transaction. The assurance is measured through six statements according to the SERVQUAL model.

SERVQUAL model's fourth factor is "Reliability". Reliability means the ability of the employees in the bank to perform the promised services dependably and accurately. This questionnaire includes the statement of the promises of the bank to provide the services and do so, if the customer has a problem that the bank shows a sincere interest to solve the problem, the bank is keeping promises to do something by a certain time, and the bank is performing the services correctly at the first time. Reliability is recognized through five statements according to the SERVQUAL model.

SERVQUAL model's fifth factor is "Empathy". Empathy means the employees of the bank have caring about the customers and the individualized attention paid to the customers that are provided by the bank. Empathy is measured in this questionnaire by having the statements that the bank gives individual attention, the bank has operating hours convenient to customers, the bank has the customer interest best in heart, and the employees of the bank understand the customer specific needs. Empathy is measured through four statements according to the SERVQUAL model.

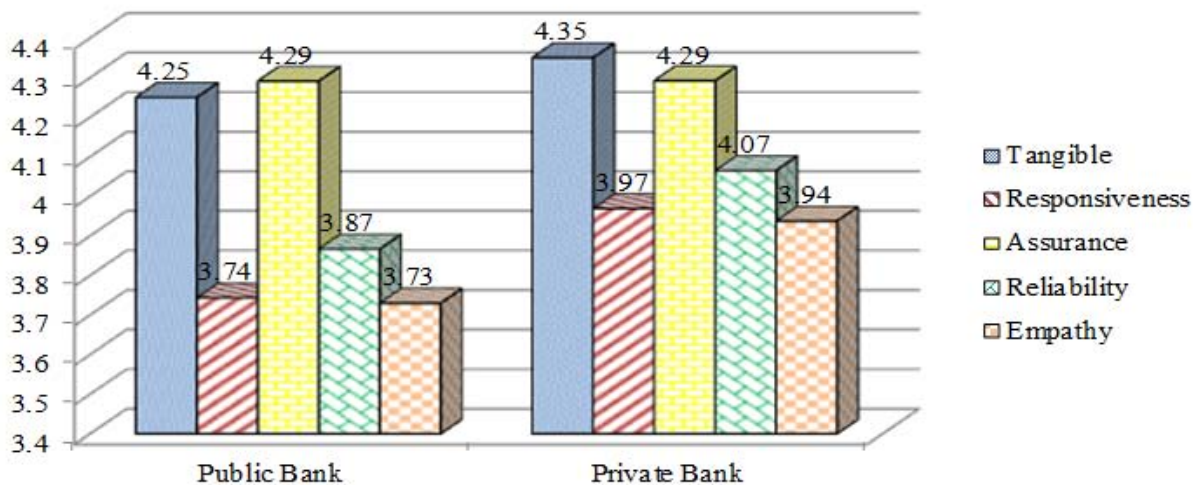


Fig. 3: Compare Public and Private Banks According to Five Factors

b) *Population and Sample size*

This research is based on public banks and private banks in Sri Lanka. Three main public banks and three large private banks are considered in this study. The sample has been selected by assuming every branch is providing the same products and services in the comparatively same way.

Table 1: Number of branches of selected banks in Sri Lanka

Number of Branches	
Public Bank (Three banks)	1613
Private Bank (Three banks)	748
<b>Population</b>	2,361
<b>Sample</b>	327

In this study, all the branches of the selected public and private banks are considered as a population and it was 2,361. The sample is selected based on the Morgan table and it was 327 branches. Two respondents including the researcher filled the 662 questionnaires in this research. Table 01 represents the details of public and private banks.

IV. RESULT AND DISCUSSION

a) *Perceived service quality*

The Cronbach's alpha value is calculated to illustrate the reliability of each variable and the results are represented in Table 02.

Table 2: Reliability Analysis – Perceived quality

Variable	No of Item	Cronbach's alpha
Tangible	4	0.709
Responsiveness	4	0.715
Assurance	6	0.857
Reliability	5	0.808
Empathy	4	0.691

All the variables can be accepted since all the values are more than 0.6 which is the acceptable level of reliability test (Ursachi et al., 2015).

The principle component analysis was conducted for all the items which are used to measure the variables. Only one item was removed in the 'Tangible' variable since its significant value is less than 0.5. All other items are considered for further analysis since their significant values are more than 0.5.

Table 3: Results of Correlation Analysis – Perceived quality

	Tangible	Responsiveness	Assurance	Reliability	Empathy
Tangible	1	0.393	0.498**	0.460	0.403
Responsiveness	0.393	1	0.616**	0.647**	0.576**
Assurance	0.498**	0.616**	1	0.687**	0.576**
Reliability	0.460	0.647**	0.687**	1	0.653**
Empathy	0.403	0.576**	0.576**	0.653**	1

Then the correlation analysis is conducted by using the bivariate test in the SPSS. Table 03 represents the correlation values of the variables.

The correlation matrix shows that there is a significant correlation between Tangibles and Assurance at 0.01 levels. Correlation between Responsiveness with Assurance, Reliability, and Empathy at 0.01 levels is also significant. Further, there is a significant relationship between Assurance with Reliability and Empathy at 0.01 levels. Reliability and Empathy are also having a significant correlation at 0.01 levels.

The result of the descriptive statistics and one sample T-test for the public and private banks is shown in Table 04.

The mean value of service quality for the Public sector banks is 3.9762 while private sector banks are 4.1191. The T-value of service quality of the public and private banks is respectively 19.187, and 21.311. So the T-value of service quality of the public and private banks is significant. And also the significant value of service quality of the public and private banks is 0.000 which is less than 0.05. The service quality of public and private banks is significant. It indicates that the private banks' service quality is better than public banks' service quality.

Figure 03 and Table 05 represents the values for the five dimensions of public bank and private bank separately. T- Value of Tangible, Responsiveness, Assurance, Reliability, and Empathy of Public Bank and private bank is greater than 2. And also the significance value of every factor of a public and private bank is 0.000 which is less than 0.05. So, the tangible, responsiveness, assurance, reliability, and empathy values of the public and private bank are significant at a 95% significance level.

Figure 03 represents the comparison between public and private banks according to the five factors of the SERVQUAL model Tangible, Responsiveness, Assurance, Reliability, and Empathy. Private Banks' have higher values for all the variables in this SERVQUAL model except 'Assurance'. Both public and private banks earned the same value for the 'Assurance'.

The findings of this research study prove that the service quality of private sector banks is greater than public sector banks.



Table 4: Analysis of Perceived quality

Public or Private Bank	N	Minimum	Maximum	Mean	T-Value	Significance Value	Std. Deviation
Public Bank	308	2.82	4.70	3.9762	19.187	0.000	0.44064
Private Bank	354	2.87	4.85	4.1191	21.311	0.000	0.45780

Table 5: Compare Public and Private Banks based on SERVQUAL Model – Perceived quality

Public or Private Bank	N	Mean	T-Value	Significance Value
<b>Public Bank</b>				
Tangible	308	4.2500	22.341	0.000
Responsiveness	308	3.7433	10.887	0.000
Assurance	308	4.2911	20.959	0.000
Reliability	308	3.8667	13.634	0.000
Empathy	308	3.7300	10.646	0.000
<b>Private Bank</b>				
Tangible	354	4.3500	20.673	0.000
Responsiveness	354	3.9688	18.129	0.000
Assurance	354	4.2917	19.895	0.000
Reliability	354	4.0650	17.347	0.000
Empathy	354	3.9375	13.255	0.000

b) *Expected Service Quality*

Service Quality Gap is measured by using the following formula,

$$\text{Service quality gap} = \text{Perceived Service Quality} - \text{Expected Service Quality}.$$

If there is positive value for the service quality gap, it indicates that the bank exceeds the customer's expectation. If so, the bank makes delighted customers. If the service quality gap is equal to zero it means that the customer expectation is covered by the customers with making satisfied customers. The bank performance is less than customer expectation when there is a negative value for the service quality gap. The result makes dissatisfied customers.

The Cronbach's alpha value is calculated to illustrate the reliability of each variable and the results are represented in Table 06.

All the variables have values of more than 0.6 which is the acceptable level of reliability test (Ursachi et al., 2015).

The correlation matrix shows that there is a significant correlation between Expected

Responsiveness with Expected Assurance, Expected Reliability, and Expected Empathy at a 0.01 level as mentioned in Table 07. The correlation between Expected Assurance with Expected Reliability and Expected Empathy is also significant at a 0.01 level. And also there is a significant relationship between Expected Reliability and Expected Empathy at a 0.01 level.

Mean value, T-Value, and the significant value of service quality gap between public and private banks are mentioned in Table 08. It indicates that the service quality gap is significant at a 95% significance level and the service quality gap is higher in public banks' than the private banks.

The service quality gap is mentioned for both private and public banks based on the SERVQUAL model in Figure 04. Both private and public banks need to focus the responsiveness, reliability, and empathy to improve the level of service quality since the service quality gap is higher compared to the other variables. Especially Public sector banks should focus on and improve responsiveness and empathy.

Table 6: Reliability Analysis – Expected quality

Variable	No. of Item	Cronbach's alpha
Expected Tangible	5	0.745
Expected Responsiveness	4	0.606
Expected Assurance	6	0.662
Expected Reliability	5	0.670
Expected Empathy	4	0.724

Table 7: Results of Correlation Analysis – Expected quality

	Expected Tangible	Expected Responsiveness	Expected Assurance	Expected Reliability	Expected Empathy
Expected Tangible	1	-0.018	0.021	0.027	-0.073
Expected Responsiveness	-0.018	1	0.641**	0.548**	0.549**
Expected Assurance	0.021	0.641**	1	0.718**	0.668**
Expected Reliability	0.027	0.548**	0.718**	1	0.721**
Expected Empathy	-0.073	0.549**	0.668**	0.721**	1

\*\* Correlation is significant at the .01 level (2-tailed)

Table 8: Analysis of Service quality gap

Service quality gap	Mean	T-Value	Significance Value
Public Bank	0.5504	-42.731	0.000
Private Bank	0.4452	-45.502	0.000

## V. CONCLUSION AND RECOMMENDATIONS

The aim of this study is to compare the quality of the service of private and public banks and identify factors that need to be improved in a public bank and private bank through service quality gap. The data was collected using the mystery shopping method considering three main public banks and three large private banks. Altogether 327 branches were covered island-wide with gathering 662 questionnaires.

The first objective is achieved by analyzing the result of public and private banks separately. The private banks have achieved higher levels of service quality with compare to the public banks. Private sector banks scored about 82% and public sector banks achieved only 78% in terms of service quality. According to the five factors of the SERVQUAL model of Tangible, Responsiveness, Assurance, Reliability, and Empathy, Private Banks' have higher values for all the variables in this SERVQUAL model except 'Assurance'. Both public and private banks earned the same value for the 'Assurance'. The result indicates that both private and public sector banks have the opportunity to grow in terms of service quality and especially public sector banks should give more attention to that.

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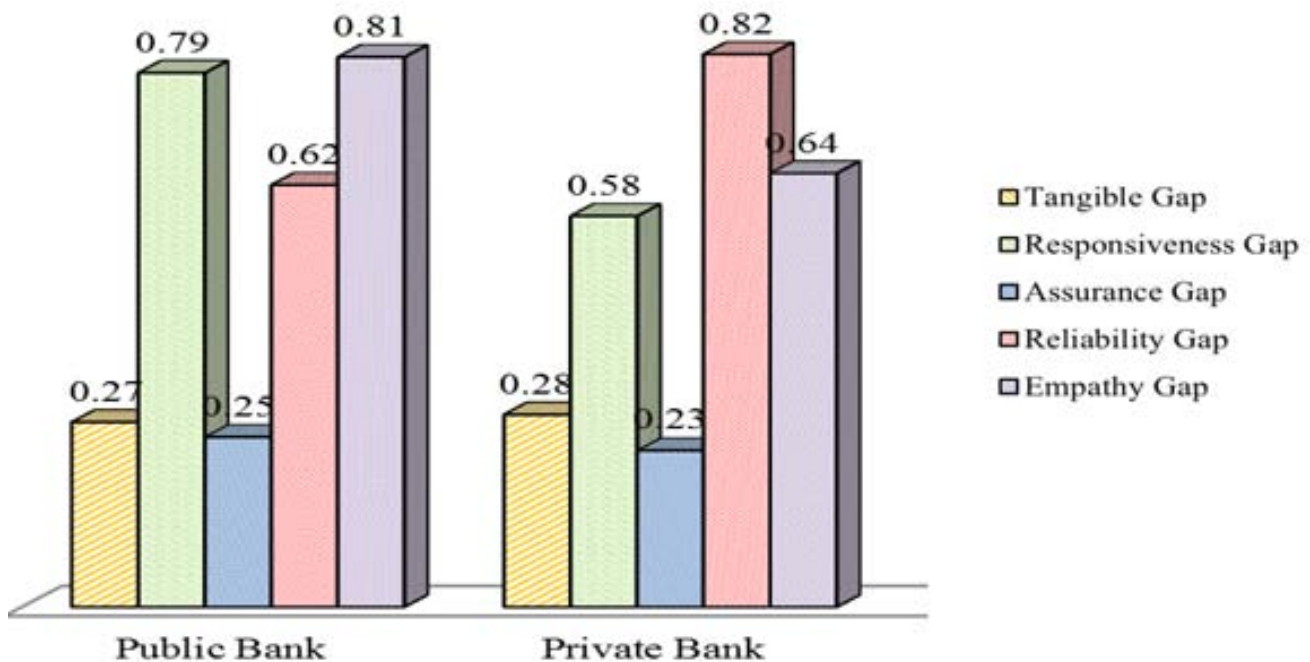


Fig. 4: Analysis of Service quality gaps

Table 9: Summary of Service Quality Gap

	Public Banks	Private Banks
Tangible		
Responsiveness		
Assurance		
Reliability		
Empathy		

Sufficient or little more to improve
Need Sufficient attention
Must improve immediately

The gap analysis is conducted to achieve the second objective, to identify the factors to improve to achieve higher service quality. The service quality gap is calculated by identifying perceived value and the expected value using mystery shopping. The previous findings were confirmed further according to the gap analysis and the result mentioned that the service quality gap is higher in public Banks than the private banks. 11% gap is identified in public banks and only 8% is required to improve in private banks.

And also Table 09 is representing the items that should be improved in each dimension for all banks based on the SERVQUAL model. Both private and public banks need to focus the responsiveness, reliability, and empathy to improve the level of service quality. Especially Public sector banks should focus and improve responsiveness and empathy.

a) *Future research*

The present study is based on the enhancement of the service quality of banks to enhance the performance of the banks or to reduce the gap between public and private sector banks regarding service quality. However, service quality is not the only factor that affects the performance of the banks or the gap between public and private banks. By investigating more factors more generalized output can be obtained. Therefore, this research study can be extended up to more factors rather than service quality. This study has selected only six banks which include three government banks and three private banks. Sri Lanka is having more than 23 licensed commercial banks. This research can be further extended by covering more public and private banks which can be a real reason to generalize the outcome.

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# The Determinants of the Attractiveness of an Industry: An Extension of The Porter's Five- Forces Framework

By Osiebuni Collins OBU

**Abstract-** In this paper, I review and provide a more extensive theoretical grounding for Porter's five-forces model for the determination of the attractiveness of an industry. I argue that the model is incomplete given its implicit assumptions about a firm's financing activities in implementing its competitive strategy. I would suggest that an absolute paradigm for the determination of the attractiveness of an industry must take into consideration the industry's optimal capital structure as well as the tendency for the power of providers of debt capital to vary across industries and to be crucial in the formation of industry profitability. Therefore, I propose an extended model for the determination of the potential profit of an industry, incorporating the industry's optimal capital structure and the power of lenders. The pivotal connotation of this extended model is that the efforts of firm managers in formulating effective competitive strategies or in establishing a strategic position must not only consider ways of dealing with the bargaining power of buyers, the threat of entry, the negotiating power of suppliers, industry rivalry, and the threat of substitutes but must also account for the profit-contributory roles of both the optimal structure of the capital with which those strategies must be implemented and the power of lenders in setting constraints on the utilization of the firm's capital, culminating in the proposition of a seven-structure paradigm for the determination of the attractiveness of an industry.

**Keywords:** *industry attractiveness, competitive forces, optimal industry capital structure, power of lenders.*

**GJMBR-B Classification:** *DDC Code: 338.456760973 LCC Code: HD9826*



THE DETERMINANTS OF THE ATTRACTIVENESS OF AN INDUSTRY AN EXTENSION OF THE PORTER'S FIVE FORCES FRAMEWORK

*Strictly as per the compliance and regulations of:*



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## I. INTRODUCTION

The extent of profitability of an industry varies from one industry to another industry and the profitability of a specific industry can be accounted for on the premise of the strength of competitive forces that are prevalent in that industry (Porter, 1980). Porter (1980) developed a model that strived to identify and explain the economic structures that shape the overall impending profit potential of a given industry. Specifically, Porter (1980) established the five forces framework that sought to account for the factors that underpinned the ability of a firm to create and capture profits within an industry. According to Porter (1980), the attractiveness of an industry (A) is a function of the bargaining power of buyers (B), the bargaining power of suppliers (SS), the threat of new entrants (E),

the intensity of industry rivalry (R), and the threat of substitutes (S). The functional form representation of this theory can be expressed as follows.

Industry Attractiveness,  $A = f(B, SS, E, R, S)$

Ensuing work implemented by several other researchers has corroborated or provided supplementary evidence that substantially lends credence to the model of industry attractiveness as proposed by Porter (1980). Notwithstanding the significance and appeal of the paradigm projected by Porter (1980), I would argue that it is not comprehensive. I maintain that there is at least one other variable that impacts on the fortunes of industries to a varying degree and thus possesses the capability to bear a tremendous threat on the long-run potential profitability of an industry. More explicitly, Porter's model does not incorporate the fact that in non-perfect capital markets the value of a firm is dependent on its capital structure (Modigliani and Miller, 1958) and by implication the maximum value or attractiveness of an industry is also dependent on the optimal average capital structure of the industry. Modigliani and Miller (1958) posited that given perfect capital market conditions, the market value of any economic organization does not depend on its capital structure and is derived by discounting its expected cash flows at the discount rate suitable for the firm's risk. The market value of an industry is analogous to and/or is one tool that can be applied in evaluating the attractiveness of an industry (Ceccagnoli, 2009). Porter's model invariably provided grounds for explaining how the value of the expected cash flows of the firm emanates but clearly did not account for the role of capital structure in assessing the attractiveness of an industry under natural capital market conditions. Furthermore, Porter's model did not consider the role of the power of lenders, who the firm may elect to leverage upon to implement its strategy and maximize the value of the organization, in the determination of the attractiveness of the industry.

In a bid to plug this orifice, this essay attempts to integrate corporate finance theory in accounting for the determinants of the attractiveness of an industry in consistency with the propositions of Myers (1974) for simultaneity in making company financing decisions and corporate investment choices given the high level of

*Author: NHH Norwegian School of Economics, Dept of Economics and Business Administration Bergen, Norway.  
e-mail: Osiebuni.obu@student.nhh.no*

interdependence between them. This article also strives to explain why the concepts of the optimal capital structure of an industry and the power of lenders are indispensable elements of any completely specified paradigm of the attractiveness of an industry.

## II. KEY ASSUMPTIONS AND DEFINITIONS

Prior to advancing further, it is essential to; explain vital concepts; describe the bounds of this essay; deliberate upon the circumstantial foundation of the protracted theoretical paradigm of the attractiveness of an industry proposed; and scrutinize the significant assumptions that led Porter (1980) to exclude the optimal average industry capital structure and the power of lenders from his model.

### a) *Definitions and Scope*

For the purpose of clarity and precision, I will provide a working definition of important concepts applied in this essay and delineate the scope of the model of interest. Andrews (1949) defined an industry as any cohort of individual businesses which are characterized by operational processes and systems that are tremendously comparable and having adequately analogous foundations of knowledge and experience such that each of them could produce the specific product that is the focus of consideration, and would undertake that if it is adequately profitable.

Hofstrand (2009) posited that profitability is the principal objective of the entirety of business organizations. In the absence of profitability, the business will lack the capacity to subsist in the long run, all other factors held constant. He further highlighted that profitability could be measured with a statement of income and expenses. While revenue is money engendered by the firm's economic activities, expenses constitute the cost of resources expended in the course of undertaking the economic activities of the firm.

The attractiveness or potential profitability of an industry is not cast in stone and can change over a period of time, given that firms can influence the strength of the five competitive forces through competitive strategy (Porter, 1980). We can predict the profit potential or the attractiveness of an industry by utilizing the five-forces framework (Porter, 1980). In this essay I propose that the power of lenders and the optimal capital structure of the industry be incorporated into the framework for the assessment of the attractiveness of an industry. Finally, in this paper, the optimal capital structure is delineated to imply or infer the optimal usage of debt in the structure of the firm's capital (Bowen, Daley & Huber, 1982).

### b) *Applicable Theories of Corporate Finance*

Given perfect capital market conditions, Modigliani and Miller (1958) proposed that the market value of any business organization is not dependent on

its capital structure and is derived by discounting its expected cash flows at the discount rate suitable for the firm's risk. Therefore, the theory proposed by Modigliani and Miller (1958) helps us to understand that in the absence of perfect capital market conditions, capital structure is an important determinant of a firm's market value because of the tax benefits of debt, financial distress costs associated with debt and agency costs of asymmetric information.

Berk and DeMarzo (2006) enumerated several costs and benefits of incorporating debt in the capital structure. Tax benefits of debt result from the reduction in the taxable income of the firm arising from the tax deductibility of interest expenses on the debt of the firm. Thus, interest tax shield contributes to an increase in the value of a firm. Debt can assist the equity holders or investors of the firm in extenuating agency costs connected to the uncoupling of ownership from the management of the firm. Capital structure is also crucial for the reason that agency costs can emanate from asymmetric information. There is an occurrence of asymmetric information whenever the management of the firm is in possession of information about the firm's risk, potential profitability, and prospects that are inaccessible to the investors or other imperative stakeholders of the firm. In this situation debt capital, or commonly the nature of the firm's capital structure can be applied to signal the projections and prospects of the firm to members of the investment community and other crucial stakeholders of the firm. This can be monumental in ensuring that investors allocate the firm a befitting valuation in the course of any round of capital raising. Furthermore, debt can support the shareholders in precluding the managers of the firm from embarking on unwarranted consumption of perquisites or executing projects that do not engender positive cash flows for the firm. Although the usage of debt can be advantageous to a firm by enhancing the value of the levered firm, on the flip side, the existence of debt in the capital structure can generate substantial explicit and implicit costs in the event of crystallization of financial distress upon the firm. We understand that a firm can be in financial distress regardless of its capital structure. However, the exploitation of leverage can significantly raise the risk of bankruptcy since the firm is obligated to make payments of interests and repayments of capital borrowed, notwithstanding its liquidity and profitability. If the firm is wholly financed with equity capital, it is more likely to encounter a lower risk of financial distress because it is not obligated to make payments to shareholders.

Jensen & Meckling (1976) provided an exhaustive explanation of the agency costs associated with financing provided by outsiders. Jensen & Meckling (1976) identified that rational investors anticipate that their stake in the organization will alter the manager's incentives. Therefore, they discount the value they are

prepared to pay for the shares of the firm. They further stipulated that agency costs can also arise when outside investors invest in the debt of a firm managed by insider owners. Debt financing engenders a motivation for asset substitution for the reason that debt enables equity to become a call option on the firm. Debt financing has other agency costs, including costs of monitoring and enforcing contractual covenant provisions as well as costs of bankruptcy and re-organization. However, Jensen (1986) pointed out that debt may also have an advantageous effect on agency costs in the manager - shareholders relationship since debt commits the firm to pay out free cash flows and therefore introduces a constraint on the volume of funds accessible to the manager for spending on perquisites.

Finally, I summarize the works of Bowen, Daley & Huber (1982). Bowen, Daley & Huber (1982) deduced four main inferences from their research study. Firstly, there is a statistically significant variance between average industry capital structures. Secondly, that the rankings of average financial structures of industries were characterized by a statistically substantial steadiness over the complete period of time examined. Thirdly, that companies demonstrate a statistically substantial propensity to navigate towards their industry average over both five-year and ten-year periods of time. Finally, they furnished evidence consistent with the DeAngelo-Masulis postulation that the level of tax shields (made available by depreciation, tax credit emanating from the firm's investment activities, and tax loss carry forward generated from the firm's operating activities) contributes substantially in shaping the optimal utilization of debt in the financial structure of unregulated firms at the industry level.

#### c) *Implicit Assumptions of the Porter's Five-Forces Framework*

Porter's five-forces framework recognizes the power of suppliers in the determination of the likely profitability of an industry. I would believe the intention of Porter (1980) in incorporating suppliers into his model was not to associate or integrate suppliers of capital in his denotation of the concept of suppliers because there was no detailed description of the potential role of debt capital providers in the determination of the fate of an industry in his model. However, the ability of a firm to raise debt capital can significantly alter its profitability circumstances and the value of the firm (Modigliani and Miller, 1958). More so the nature and size of providers of debt capital can vary from industry to industry. For instance, in the banking industry, I would argue that the plethora of savings account holders can be viewed as providing debt capital but characterized by minimal bargaining power. However, in other industries, absent trade credit, debt capital is predominantly sourced from financial institutions. Thus, the power of providers of debt capital is fundamental in shaping the attractiveness

of an industry and the magnitude of that power can vary across industries (Broberg, Tagesson & Collin, 2010; Sengupta, 1998). In the worst-case scenario, lenders can wholly shut down the competitive activities of a firm in the event of bankruptcy and take over the entire assets of the firm to the extent that it can support the recovery of their debt investments (Berk and DeMarzo, 2006). We can therefore understand that the power of lenders is a force that cannot be overlooked in the assessment of the potential profitability of an industry. This tendency of lenders or providers of liability to facilitate or debilitate the outcome of an industry in terms of profitability was not accounted for in Porter's five-forces framework. Thus, by not accounting for the role of capital structure and or liabilities (debt) in the determination of the future fortunes of an industry, Porter's framework makes two implicit assumptions, including the following.

1. The optimal capital structure of the industry has, at best, peripheral explicit effect both on the performance of a firm as well as the success of its strategy and on the attractiveness of an industry.
2. The firms in an industry always possess sufficient financial resources to implement their chosen strategy or can always finance the implementation of their strategy or the execution of their projects through the issuance of equity.

Taking into consideration the applicable theories of corporate finance, any theory that accounts for the determinants of the future potential profitability of an industry should incorporate a reflection of the optimal capital structure of the industry (OC) and the power of lenders (PL) within that industry as demonstrated in the functional relationship shown below.

Industry Attractiveness,  $A = f ( B, SS, E, R, S, OC, PL )$

### III. EXTENDING THE PORTER'S MODEL OF INDUSTRY ATTRACTIVENESS (THE INITIAL STEPS)

#### a) *The Power of Buyers*

Porter (1980) undertook a thorough evaluation of the power of buyers. He posited that buyers embody a competitive force given that they can exert a downward pressure on prices, make an order for superior quality or additional services, and influence rivalry among competitors. Numerous other scholars corroborate the proclamations of Porter (1980). Kelly & Gosman (2000) observed that buyer concentration reduces profitability primarily in competitive industries as against in oligopolistic industries. Cowley (1986) observed that the profitability of a sample of business units was unfavorably connected to buyer concentration. Cool & Henderson (1998) demonstrated that buyer power elucidates a considerably larger fraction of the variance in the profitability of sellers than

does supplier power. Contrary to Kelly & Gosman (2000), Schumacher (1991) recognized that exceedingly concentrated buyers display substantial power to weaken profitability particularly in oligopolistic industries specializing in consumer goods. Gabel (1983) demonstrated that the growth in seller profitability is directly proportional to the extent to which buyers are disseminated across numerous industries, nevertheless that no other buyer attribute applies a substantial effect on either the concentration or the profitability of the selling industry.

According to Porter (1980), a buyer group will be influential if it buys substantial volumes in relation to the total revenue of the seller, so it becomes financially crucial to the seller to retain the big buyer's business. This position was corroborated by Snyder (1996), who demonstrated that big buyers obtain lesser prices from sellers, given that suppliers compete more aggressively for the business of larger buyers, creating an opportunity for big buyers to pay lesser than their smaller rivals. Buyers can seek to enhance their power. Porter (1980) highlighted that if buyers are either previously partly integrated or can credibly signal a robust threat of backward integration, then their bargaining power is strengthened. Inderst & Shaffer (2007) demonstrated that, in the aftermath of a merger, a retailer might be motivated to boost its buyer power by pledging to a 'single-sourcing' procuring strategy. The absence of influential buyer groups or price discrimination may lead to diminishing competition in the buyers' industry. Grennan (2013) found that a greater degree of uniform pricing is unfavorable to hospitals resulting in softer competition.

Buyers can sometimes seek to match the degree of concentration within the ranks of suppliers. However, on some other occasions, they implement strategic actions to boost their productivity. Lustgarten (1975) postulated that buyer concentration was definitely associated with seller concentration and undesirably associated with the cost margin of seller prices. Snyder (1996) demonstrated that buyers' mergers increase profit for all buyers, not just the merging pair, at the expense of the sellers. On the contrary, he further specified that the organic growth of buyers are detrimental to buyers that do not experience growth and is advantageous to sellers. Chambolle & Villas-Boas (2015) asserts that competing retailers may elect to differentiate their suppliers or supplying manufacturers, even at the cost of reducing the value of the goods proffered to consumers, in a bid to enhance their buyer power. Chipty & Snyder (1999) showed that cable operators integrated horizontally in order to achieve productivity gains rather than to improve their bargaining position against suppliers of programs.

Finally, the bargaining power of purchasers can also be a function of the importance of the supplier's product in the buyer's operations or business and the

switching costs that must be incurred in a bid to change suppliers (Porter, 1980). Bedre-Defolie & Biglaiser (2017) postulated that in markets characterized by long-term contracts, early-termination or breakup fees, a form of switching cost, are gainfully exploited to preclude entry, notwithstanding the new entrant's productivity advantage or switching costs levels, with accompanying effects of a reduction in the welfare of consumers.

#### b) *The Power of Suppliers*

Porter (1980) highlighted that suppliers could wield competitive power in an industry by elevating prices or diminishing the standard of quality of the goods they sell, squeezing the profitability of adjacent industries in the supply chain. Porter (1980) further argued that the factors that deepen supplier's power include; the domination of the supplier group by a limited number of firms and the supplier industry possessing a greater degree of industry concentration than the industry it sells to; suppliers wielding a reliable threat of frontward integration; suppliers not having one specific industry representing a substantial part of sales; the ability of the supplier to differentiate its products and establish switching costs.

Several studies corroborate these postulations. Cool & Henderson (1998) found the occurrence of various power concepts in the samples they studied. Additionally, they demonstrated that the effects of industry characteristics are more significant than the effects of organizational factors in accounting for the profitability of a seller and recommended that supplier power explains a substantial proportion of variation in seller profitability. Neumann, Böbel & Haid (1979) observed that market structure and risks existing within the ranks of suppliers account for a major fraction of the profitability of joint stock firms of German origin. Cowley (1986) observed that the profitability of a sample of firms studied are favorably related to the concentration of sellers.

Porter (1980) paid close attention to the power of employees and identified labor as a specific form of supplier. He posited that labor exerts great influence in numerous industries, and that the potential for labor to exert tremendous influence is dependent on the scarcity and skill of labor, the capacity for expansion of the scarce varieties of labor, the unionization of labor and the extent of organization of labor. Other factors can consolidate or enervate the power of employees in influencing the attractiveness of industries. Employee wages, organizational culture, and employees' organizational commitment can be a source of value creation and can vary across industries. Dickens & Katz (1986) observed that even after controlling for an extensive array of individual features and geographic location, a significant amount of individual wage discrepancy could be accounted for by industry disparity among non-union employees. Chasserio &



Legault (2009) observed that the creativity and innovativeness of highly skilled workers in Canadian business-to-business (B2B) technology services firms was a form of organizational commitment and a source of competitive advantage for these firms over firms in other industries. Christensen & Gordon (1999) demonstrated that the connection between culture and performance is contingent upon the type of industry. Bernhardt, Spiller & Theodore (2013) investigated minimum wage, overtime, and other workplace infringements in the labor market for low-wage employees. They observed the existence of significant disparity in both the combination and the pervasiveness of violations across industries. Weil (2007) noted that though government agencies would wish to see a reduction in the prevalence of infringements of workplace policies, constraints in available resources for investigation and the frequently-politicized environment surrounding regulatory decisions have resulted in agencies of government relying on worker complaints for enforcement of workplace policies. Additionally, Weil (2007) observed; that there exists a high degree of variation in complaint rate across industries and that fundamental compliance circumstances explicate a comparatively trivial percentage of total complaint activity. I would argue that such variations in compliance with workplace policies across industries can contribute to disparities in inter-industry value creation.

Additional factors that can facilitate or enervate the power of employees in influencing the attractiveness of industries include employee stability and labor productivity. Organizational performance is positively related to employee stability (Kurdi & Alshurideh, 2020), and labor productivity (Edwards, 1958). Employee stability, in turn, varies by industry characteristics. Feinberg (1979) observed that even after controlling for worker differences, more concentrated industries provide less stability in employment (excluding women and workers with the most outstanding educational attainments). Weiss (1966) noted that this would probably not be problematic if workers are compensated for the added employment risk; however, Weiss (1966) found, after accounting for personal characteristics, that more concentrated industries did not pay higher wages. Edwards (1958) demonstrated that labor productivity varies considerably from industry to industry and from industry group to industry group.

Researchers have observed the possibility for a consolidation or a weakening in the power of suppliers. Suppliers' power can be debilitated by the embeddedness and brand recognition of firms in the successive stage in the supply chain. Kim (2017) demonstrates that customer concentration and interconnection unfavorably impact the supplier's ensuing year returns on assets. In contrast mutual dependence augments them and decreases the unfavorable effect of customer concentration on the

profitability of suppliers. Amato & Amato (2009) observed that the profitability of small manufacturing firms is unfavorably impacted by substantial market share of shopping-goods retailers. On the contrary, in markets for convenience goods, the big market share of retailers has no impact on manufacturers' return. They posited that strong private brands might offer bargaining power for convenience goods retailers when they negotiate with brand manufacturing firms that have a national presence. Suppliers' power can as well be strengthened by bundling practices. Chambolle & Molina (2019) demonstrated that buyers' bargaining power elucidates the advent of bundling practices by a multi-good producer in foreclosing more resourceful upstream rivals.

### c) *The Threat of Entry*

The entry of new firms into an industry frequently brings about a reduction in the profitability of the industry. Porter (1980) posited that new entrants to an industry introduce new capacity, the yearning to capture market share, and frequently tremendous resources. They can exert downward pressure on prices or worsen cost positions, reducing industry profitability. However, there are other consequences of entry that can improve the fortunes of incumbent firms. McCann & Vroom(2010)examined the prospect that entry could also furnish opportunities for existing firms. On the basis of the theory of agglomeration, which delineates the advantages that could emanate from collocation of competitors, McCann & Vroom (2010) explicitly investigated the agglomeration and competitive impact of entry by applying unique data about Texas hotels and found that existing firms could set higher prices when confronting entrants whose agglomeration advantages are expected to overshadow their competitive consequences. Geroski (1989) posited that under some conditions and to a certain degree, entry and innovation can stimulate the economic productivity of incumbent firms.

For entry to be made, potential new entrants have an expectation about attainable profits in the industry. Porter (1980) asserted that entry decisions frequently hover around the entry deterring price, which is defined the as the price, which after adjusting for the good's quality and service, is just sufficient to cover the expected rewards from entry against the anticipated costs. Porter (1980) additionally posited that entry costs into an industry would be dependent on the probable reaction from existing competitors and significantly on barriers to entry into the industry. The entry deterring price can be a limit price in which the incumbent firm charges a price between the monopoly price and the long-run average cost (Bain, 1949). However, under certain conditions, the limit price can lie above the monopoly price. Harrington (1986) demonstrated that, in a monopoly market, if the potential new entrant is not



certain about its cost function and if unit-level costs of the entrant and the incumbent firm have adequate positive correlation, the limit price will be higher than the monopoly price and entry can be deterred by the incumbent by setting a price that is equal to or greater than the limit price.

New players, in a bid to participate in production in an industry, must challenge certain barriers to entry. Porter (2008) posited that the entry barriers that would probably be confronted by a new entrant include "supply-side economies of scale", "demand-side benefits of scale", "customer switching costs", "capital requirements", "incumbency advantages independent of scale", "unequal access to distribution channels", and "restrictive government policy"(pp:26-28). Other researchers have demonstrated the existence and significance of entry barriers in various ways. Pehrsson (2009) observed that new entrants to an industry acknowledge the existence of entry barriers and respond both by selecting a broader product/market scope and by differentiating its products to a greater degree than executed by initial entrants. Ceccagnoli (2009) demonstrated that sturdier appropriability at the level of the firm, accomplished via patent protection or the proprietorship of dedicated complementary resources, results in greater financial performance, as evaluated by the market valuation of the equity of an organization's R& D assets. Rosenbaum & Lamort (1992) demonstrated that entry barriers of product differentiation diminish rates of entry, and costs associated with sunk capital lower rates of exit. Dreher & Gassebner (2013) indicates that the occurrence of proliferation of procedures mandatory for starting a business, and a more immense minimum amount of capital required to bring a business to reality are damaging to the evolution of entrepreneurship or new entrants in an industry. Robinson & Phillips McDougall (2001) observed the mediating impacts of the stage of the industry life cycle and entrepreneurial strategy on the discrepancy in firm profitability and organizational growth. Burke & To (2001) demonstrated that investment in endogenous barriers to entry and wage ceilings on executive salaries might enhance market performance.

There are other sources of entry barriers, as demonstrated in a plethora of research works, though they are closely related to the entry barriers identified by Porter (1980). Schmalensee (2004) postulated that an increment in the significance of sunk cost is associated with a reduction in the attractiveness of entry, making it plausible in some policy settings to infer that sunk cost generates a barrier to entry. Eaton & Lipsey (1980) demonstrated that the durability of capital is a source of entry barriers. Mueller & Tilton (1969) demonstrated that research and development costs are a specific form of entry barrier arising primarily from the existence and degree of economies of scale in research and

development activities and secondarily in the buildup of patents and knowledge by the incumbent firm. Eswaran (1994) demonstrated that an existing firm in a market susceptible to the threat of entry could capitalize on its first-mover advantage by incentivizing firms not including probable entrants but those that would otherwise not enter the industry to purchase a license to its technology in order to deter entry, effectively instituting licensing as a form of entry barrier to certain potential entrants.

Porter (2008) asserts that the threat of entry is dependent on the height of barriers to entry and the expected reaction of the incumbents to entry. Porter (1980) went further to assert that high entry barriers and the accompanying low threat of entry generate an auspicious environment for enhancement in firm performance. This assertion is consistent with the line of thought of several researchers. Schivardi & Viviano (2011) found that entry barriers are accompanied by considerably greater profitability and lesser efficiency of existing firms. Sharma & Gadenne (2010) demonstrated that prevailing organizations' capacity for creating barriers to entry enables amplified opportunities for advancing their corporate performance and that the extent of executing quality management is positively related to entry barriers, diminishing the depth of threat of entry that could arise from new competitors. Sharma & Gadenne (2010), additionally demonstrated that organizations with great depths of managerial commitment to quality management and those that closely focus on the needs of customers have a proclivity for enhancing their competitive position. Cool, Röller & Leleux (1999) demonstrated that potential rivalry substantially diminished the profitability of organizations in the pharmaceutical industry in a study that spanned a twenty-year period.

The effectiveness of entry barriers can be influenced by a number of moderating variables. The effectiveness of capital as a source of entry barrier is critically contingent upon its durability (Eaton & Lipsey, 1980). Eaton & Lipsey (1980) defined the durability of capital as a particular capital commitment to a market over periods of time (intertemporal), in amalgamation with reducing costs. They, further, posited that an active strategy regarding capital durability and capital replacement is essential for maintaining a firm's market power position. The effectiveness of regulations as an entry barrier can be mitigated by corruption. Dreher & Gassebner (2013) examined whether bribery and corruption diminish the unfavorable effects of regulations on entry into exceedingly regulated economies and demonstrated that corruption makes it easier for firms to enter highly controlled economies. Schnell (2004) found that an industry's environment, and an entrant's goals, attributes, and strategies impact the success of entry barriers in impeding entry into the unregulated airline industry.

d) *The Threat of Substitutes*

Substitutes are detrimental to the long-run profitability of an industry. Porter (1980) posited that substitutes constrain the profit potential of an industry by instituting an upper limit on the prices organizations in the industry can put in place. The greater the attractiveness of the price-performance tradeoff proffered by substitutes, the stiffer the lid on the profits of the industry (Porter, 1980).

Several other studies substantiate Porter's overall postulations about the threat of substitutes. Ganitiya (2013) observed that the growth in the volume of production of cassava and corn as substitutes for rice in Indonesia may affect the quantity of rice imported. Forman, Ghose, & Goldfarb(2009)demonstrated that the parameters in prevailing theoretical paradigms of channel substitution including cost of offline transportation, cost of online disutility, and prices of products, available offline and online, interrelate to govern consumers' preference for channels. On the basis of empirical observation, Forman, Ghose, & Goldfarb (2009) investigated the tradeoff between the advantages of purchasing online and the advantages of purchasing in a local retail outlet and demonstrated that when a retail store commences operation locally, consumers replace online buying with offline purchasing, even when they controlled for product-specific choices by geographic location. They further demonstrated that the entry of offline retail stores diminishes consumers' sensitivity to price discounts offered by online stores. Lipatov, Neven, & Siotis (2021) observed that in a situation where by organizations execute competition on the basis of quality-enhancing promotion and prices in markets for differentiated goods, the entry or emergence of a closely perfect substitute to any of such goods, for instance, a generic variety of a pharmaceutical product, deepens competition on the basis of price but relaxes rivalry on the basis of product promotion.

Substitutes for a product, if currently absent, will definitely evolve from technological changes. Goldberg (1970) posited that, in the long run, technological transformations will generate products that constitute decent substitutes for a specified product in several of its markets.

Products that are strategic substitutes can have ripple effects on competitors' actions in multimarket oligopolies. Bulow, Geanakoplos & Klemperer (1985) demonstrated that when competitors products are strategic substitutes, and they compete in multimarket oligopoly, a firm's action in one market can transform competitor's strategies in another market by impacting its marginal costs in that other competitive market.

e) *Industry Rivalry*

Porter (1980) posited that rivalry among prevailing competitors takes the conversant shape of

competing for position by applying marketing strategies such as a price war, advertising skirmishes, the introduction of new products, and improved customer services or guarantees. Rivalry happens for the reason that one or more competitors either sense pressure or perceive the prospect of enhancing its competitive position.

Porter (1980) went further to elucidate the conditions necessary and sufficient for intense rivalry. He posited that when there are numerous players in an industry, the odds of having mavericks that will ignite rivalry is great, given that some firms may have confidence in their ability to engender moves devoid of being observed. Even if there are relatively few firms, if they possess approximately the same magnitude of resources for a continuous and robust retaliation, they may become susceptible to taking on each other. On the other hand, when an industry is associated with a high degree of industry concentration or is dominated by a single or a few firms, the equilibrium of relative power will be sustained for a more extended period and would also be visible to every participant in the industry. Porter (1980) asserted that there exists additional factors that could provide fertile grounds for intensive industry rivalry including, slow industry growth (by constituting a destabilizing power for competition), high fixed costs (by creating sturdy problems for all firms to plug capacity, frequently leading to quickly rising price cuts) and whether the industry product is viewed as a commodity or a differentiated product or otherwise. A plethora of scholarly works supports the expositions of Porter (1980) with regard to industry rivalry. Ferrier, Smith & Grimm (2017) showed that industry leaders would be more disposed to encounter erosion of their market share and/or deposition of their industry position relative to industry challengers in situations where they exhibit less aggression in competition, undertake more manageable range of actions, and execute competitive activities in a slower fashion. Mas-Ruiz & Ruiz-Moreno (2011) examined rivalry at the level of strategic groups within the Spanish banking industry and demonstrated that amplified rivalry and diminished performance characterized organizations fitting a strategic group that encompasses smaller organizations.

Industry rivalry has consequential implications for industry profitability. Cool, Röller, & Leleux (1999) showed that, during the 1960s, competition among the firms studied did not immensely impact the profitability of firms, nevertheless, in the course of the 1970s, rivalry among incumbents posed a progressively detrimental effect on firms' profitability. Cool& Dierickx (1993) demonstrated that an examination of the United States pharmaceutical industry in the course of the period 1963 to 1982 showed that a considerable decline in industry profitability is sturdily related to growing competition. They further demonstrated that snowballing rivalry is connected with variations in strategic group structure

and an attendant change from intra-group competition to inter-group rivalry. Teixeira Dias et al (2020) observed that rivalry and organizational size impacted competitive position, while dynamism, on the other hand, had minimal effects on competitive position. Chatain & Zemsky (2011) demonstrated that rivalry interrelates significantly with other competitive forces impacts on industry potential profitability.

#### IV. FURTHER EXTENSIONS TO THE PORTER'S MODEL OF INDUSTRY ATTRACTIVENESS

##### a) *Optimal Capital Structure of the Industry*

Numerous studies have documented the existence of an optimal capital structure. In other words, a specific combination of debt and equity or a mix of capital structure that maximizes the value of the firm. Given certain conditions, Miller (1977) showed that a single optimal level of aggregate debt prevails for the entire corporate sector or industry. However, he also posited that debt and value are independent at the specific firm level. Modigliani and Miller (1958) investigated the importance of taxes for the irrelevance of equity versus debt in the capital structure of the firm and, together with Miller (1977) demonstrated that that under certain assumptions, the optimal capital structure can be complete debt finance because of the preferential treatment of debt in relation to equity in the tax laws. Nevertheless, issuing equity does not amount to leaving shareholders' money on the table in the form of superfluous company income tax expenditures. Miller (1977) demonstrated that an organization could generate higher after-tax income by elevating the debt-to-equity ratio and utilize this supplementary income to accomplish a larger payout to bondholders and stockholders. Still, this financial transaction would not certainly result in an increment in the value of the organization. This is because as equity is replaced with debt, the percentage of firm payouts by way of interest on debt capital increase in relation to payouts by way of dividends and gains on equity capital (Miller, 1977). If taxes on interest payments are higher than that on dividends as usually is the case, the advantage of debt finance to the organization is eliminated. In the final analysis we would end up with an optimal capital structure at which point there is no incentive to further increase debt or equity and that which maximizes the value of the firm (Miller, 1977). Other empirical works provide additional evidence in support of the existence of an optimal capital structure. Flath & Knoeber (1980) provided empirical abutment to theoretical proclamations that taxes and costs of financial distress do suggest an optimal capital structure, at least for industries. Lew & Moles (2016) investigated indications of the reality of an optimal capital structure and found evidence for the incidence of orderly patterns in debt ratios and approaches that firms adopt to regulate their

capital structures. They asserted that these observations constituted implicit evidence for the paradigm of optimal capital structure and suggested that firms should seek to establish the appropriate capital structure predicated on industry and republic factors.

Although it is established that an optimal industry capital structure exists, whether firms actively seek to optimize their capital structure is another issue. Bowen, Daley & Huber (1982) demonstrated that companies exhibited a statistically substantial propensity to navigate towards their industry average over both five-year and ten-year periods of time. Myers (1984) contrasted two approaches to thinking about capital structure, including the static tradeoff framework and the pecking order framework. In the static tradeoff theory, the firm is perceived as setting a target debt-to-value ratio and steadily navigating towards it, in a manner closely related to the methods that a firm alters dividends to locomote to a targeted payout ratio. On the other hand, in the pecking order framework, the firm has a preference for internal over external financing, and debt over equity whenever it sells financial securities so that in the pecking order model, the firm does not possess any precisely-defined targeted debt-to-value ratio. Myers (1984) further argued that the pecking order theory accomplishes at the minimum as adequately as the static tradeoff theory in elucidating existing knowledge of financing preferences and their mean effects on the prices of financial securities.

The extant capital structure that is observable among industries does vary from industry to industry (Bowen, Daley & Huber, 1982; O'Reilly Media Inc, 2022) and is determined by specific industry attributes. This may imply that either the optimal capital structure varies from industry to industry and/or that not all industries are able to attain the optimal capital structure. Industry characteristics can exert a bearing on a firm's ability to navigate towards the optimal capital structure or a firm's preferences for capital structure. Numerous researchers have argued that, industry-specific attributes along with firm-level elements, can impose a noteworthy bearing on the financial choices of firms (Harris and Raviv, 1991; MacKay and Phillips, 2005). Saxena & Bhattacharyya (2022) explicitly analyzed the influence of industry-level characteristics on capital structure decisions of firms and found that an increment in industry munificence motivates firms to reduce their reliance on external financing and additionally that firms in a comparatively concentrated industry that is associated with more excellent opportunities for growth elevate their dependence on debt financing. Maksimovic (1988) demonstrated that, under certain conditions, there exists an optimal capital structure, which is dependent on the degree of concentration of the industry, the prevailing discount rate or cost of capital for the industry, the elasticity of demand, and other associated factors that impact on market equilibrium for products generated in

oligopoly industries. Degryse, De Goeij & Kappert, (2012) demonstrated the existence of considerable heterogeneous intra-industry attributes, portraying evidence for the fact that the degree of industry rivalry, the extent of agency skirmishes, and the lack of homogeneity in the technology employed across industries are crucial determinants of the structure of capital in the industry. Bancel & Mittoo (2004) found that the financial policies of firms are shaped by both their international operations and the institutional environment. Kale & Shahrur (2007) found lesser levels of debt for firms functioning in industries characterized by predominant occurrences of joint ventures and strategic alliances with organizations in customer and supplier industries. They also found a favorable relationship between the firm level of debt and the extent of concentration in industries of customer and/or supplier in consistency with a negotiating attribute of debt.

The capital structure of a firm has consequences for the firm's investment decisions, product strategy, product innovation, organizational profitability, the value of the firm, and therefore, the overall attractiveness of the industry. Myers (1974) postulated that corporate financing and investment choices should be executed concurrently, for the reason that both decisions intermingle in significant ways. Brander and Lewis (1986) demonstrated that the capital structure of a firm might signal the credibility of its precommitment to impacting strategic interaction within an industry. O'brien (2003) proposed the necessity for organizations that seeks to develop a competitive strategy founded on innovation to maintain some level of financial slack, the absence of which might result in poor performance. Gill, Biger, & Mathur (2011) demonstrated that a favorable relationship exists between both short-term debts to total assets and total debt to total assets and profitability in the service industry. They also found a favorable relationship between short-term debt to total assets, long-term debt to total assets, and total debt to total assets and profitability in the manufacturing industry. Chevalier (1995) found that the announcement of leveraged buyouts (LBOs) of supermarkets elevated the firm market value of local rivals of the LBO chain and that supermarket chains have a greater propensity to make an entry and undertake expansions in a local market if a substantial proportion of the incumbent organization in the local market implemented leveraged buyouts. Abor (2005) found a substantially favorable relationship between the short-term debt to total assets ratio and return on equity for firms listed on the Ghanaian Stock Exchange but, on the contrary, an unfavorable relationship between the long-term debt to total assets ratio and return on equity and finally a significantly favorable relationship between the total debt to total assets ratio and returns on equity. Nasimi (2016)

empirically analyzed the impact of capital structure and determined that an optimal level of capital structure, as well as effective application and allocation of available resources is fundamental to achieving the target level of productivity in business. Shubita & Alsawalhahn (2012) found substantially unfavorable relationship between debt and profitability for industrial companies listed on the Amman Stock Exchange in the course of a six-year time frame ranging from 2004 to 2009. Adeyemi & Oboh (2011) observed a significant positive relationship between the preferences for the capital structure of a firm and its market value within the ranks of publicly listed firms in Nigeria.

#### b) *The Power of Lenders*

Lenders are powerful and their tendency to portray this supremacy has various ramifications. Boot & Thakor (2011) demonstrated that since lenders will institute control rights over firms, firms have a preliminary management preference for financial securities that make the most of executive project-selection independence, suggesting the prevalence of lenders proclivity to exercise their power over firms through debt covenants that can restrict the executive capabilities of firm managers. The power of lenders is also exhibited in terms of the cost of debt capital provided or the amount of loan extended. Sengupta (1998) provides evidence that firms that receive high disclosure quality ratings from market or financial analysts have access to a lesser effective cost of raising debt capital. Broberg, Tagesson & Collin (2010) demonstrated that firms with superior disclosure practices have higher debt ratios. The power of lenders is also be reflected in the variability of the ease with which firms in various industries can raise debt capital. The airline industry is characterized by excessive debt load and a resultant excess capacity (Oum, Zhang & Zhang, 2000), signaling relatively more straightforward access to raising desired capital for capacity expansion. The real estate industry, including real estate investment trust companies (REITs) and property firms, have higher levels of debt capital because of their perceived lower level of operational risk in relation to other industries (Morri & Cristanziani, 2009).

There are variabilities in the power and nature of lenders native to a specific industry. Large retailers can substantially rely on trade credits from suppliers (Liberman, 2014), who, because of their relatively smaller size, have lower bargaining power. The financial industry, and specifically commercial banks, are uniquely blessed with the breadth and depth of lenders that are available at its disposal. As I have previously suggested, deposit providers or savers in commercial banks can be viewed as lenders to banks with a flexible or indeterminate maturity on their loans (savings). In addition, commercial banks can access loans from the central bank (acting as the lender of last resort) in the



event of unforeseeable events, financial crises or a liquidity crunch. Banks have a financing advantage over firms in other industries from the perspective of having unparalleled access to lenders (savers) that are in a weaker bargaining position and to statutory lenders (the central bank) that would not renege on their promise or disappoint in times of adversity.

Many finance authors assert that the cost of debt is lower than the cost of equity (for example Modigliani & Miller, 1958). Therefore, a firm is likely to be more profitable, the higher the level of debt that is incorporated into its capital structure, all other factors held constant. As a result, a firm that can mitigate the power of lenders, by way of raising debt capital at a cheaper cost, stands a chance of enhancing its profitability. The ability of commercial banks to attract cheaper financing from deposit providers is fundamental to their profitability. Trujillo-Ponce, (2010) demonstrated, by the application of the GMM-SYS estimator to an extensive sample of banks in Spain, that the relatively substantial profitability of Spanish banks for the period studied was related to a significant fraction of deposits of customers, among other factors. Although Al-Harbi (2019) reported that deposits contributed negatively to the profitability of banks, this should be understood from the perspective of the interest rates paid on bank deposits, such that a rise in interest rates on bank deposits will result in a lowering of banks' profits. Some large retailers develop cheap sources of debt by relying on supplier credit. For instance, Walmart, a retail behemoth in the United States, employs four-times more financing from suppliers than short-term debt (Lieberman, 2014).

The power of lenders to advance loans or impose a higher cost of debt tends to be influenced by the disclosure practices of firms. Sengupta (1998) furnishes indication that firms that have the privilege of great disclosure quality ratings coming from financial analysts benefit from a lower effective interest cost of issuing debt. This observation is in line with the debate that a policy of timely and detailed disclosures diminishes lenders' perception of the risk of default for the disclosing firm, decreasing its cost of debt. Broberg, Tagesson & Collin (2010) found that size, and the debt ratio are favorably related to the depth and breadth of material voluntary disclosures. Given that Industry characteristics significantly influence voluntary disclosures (Broberg, Tagesson, & Collin, 2010); the inclination for firms in industries with a more extensive intensity of concentration to make less disclosure and circumvent certain financing choices that have significant disclosure consequences (Ali, Klasa, & Yeung, 2014); and the variability of the power of lenders in consonance with disclosure practices (Sengupta, 1998; Tagesson & Collin, 2010), then I would argue that the power of lenders must exhibit a

dependency on and is at variance with industry characteristics.

## V. CONCLUSIONS

In this essay, I provided additional theoretical grounding for porter's five-forces framework. I specified the elements that make the model incomplete and provided a theoretical justification for the incorporation of these elements. In the final analysis, I propose that the attractiveness of an industry could be more exhaustively explained by extending the five-forces framework into the seven-structure paradigm. The chief implication of this extended model is that firm managers' attempt to formulate effective competitive strategies must not only consider ways of dealing with the bargaining power of buyers, the bargaining power of suppliers, the threat of entry, industry rivalry, and the threat of substitutes but must also account for the feasible industry optimal structure of the capital with which those strategies must be implemented and the power of lenders in setting constraints on the utilization of the firms capital

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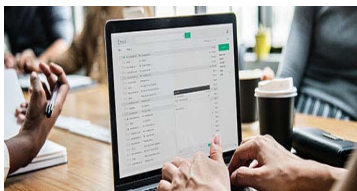
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Global Journals follows the definition of authorship set up by the Open Association of Research Society, USA. According to its guidelines, authorship criteria must be based on:

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2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

### Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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### Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

### Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

### Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

## PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.





### ***Manuscript Style Instruction (Optional)***

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

### ***Structure and Format of Manuscript***

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

- a) A title which should be relevant to the theme of the paper.
- b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
- c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
- d) An introduction, giving fundamental background objectives.
- e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
- f) Results which should be presented concisely by well-designed tables and figures.
- g) Suitable statistical data should also be given.
- h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

- i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
- j) There should be brief acknowledgments.
- k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

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**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### **Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### **Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### **The discussion section:**

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### **General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### *Mistakes to avoid:*

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.





- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

**What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

**Discussion:**

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

## THE ADMINISTRATION RULES

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*Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.*

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*Written material:* You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.



CRITERION FOR GRADING A RESEARCH PAPER (COMPILATION)  
BY GLOBAL JOURNALS

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form  Above 200 words	No specific data with ambiguous information  Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring





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