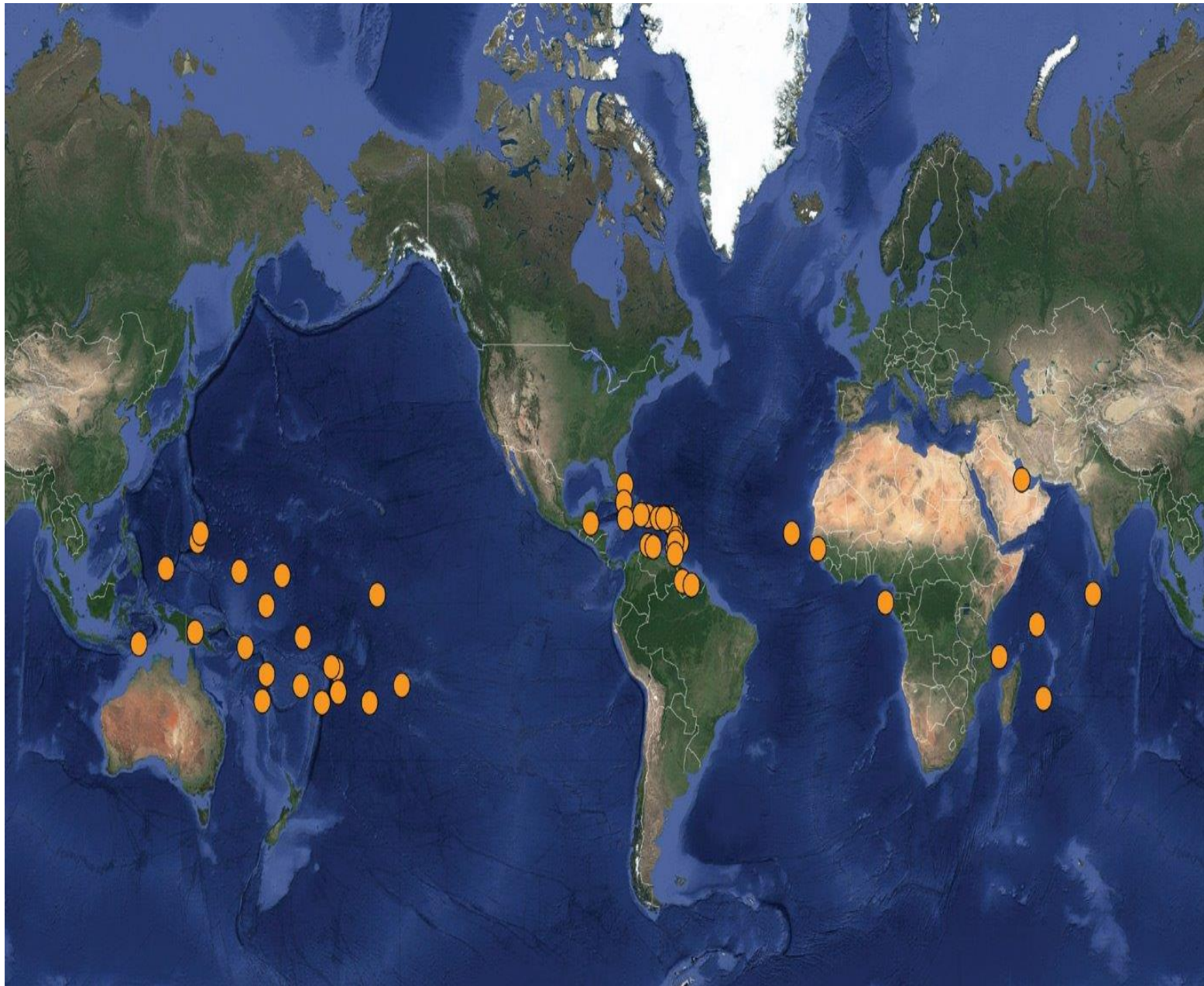


POLITICAL ECONOMY OF SMALL ISLAND STATES: STATES: A PUZZLE BETWEEN TERM LIMITS AND ECONOMIC PERFORMANCE.



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Adv. MSc. International Relations and Diplomacy.

MAY 2018.



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Cover photo: World Map. The yellow dots represent areas where most of small islands are located.

The picture is taken from the website/ Mission LIFEFORCE that deals with environmental protection.

Available at: <https://www.missionlifeforce.org/small-island-developing/>. [Accessed May 2018].

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the name of Allah, the Most Beneficent, the Most Merciful.

I dedicate this work to my father, *Mr. Mtumwa Jecha,*

My mother, *Mrs. Maulid Amour,*

&

to my *Family.*

THANK YOU FOR EVERYTHING.

Acknowledgement.

The submission of this thesis indicates the completion of two years of MSc program ‘International Relations and Diplomacy’ at Leiden University in collaboration with the Clingendael Institute. Personally, being a product of Leiden University is something I will forever be proud of. Nevertheless, living in the Netherlands resulted to learn many new things in life.

However, the two-year journey could not be easy without a close assistance and courage given from the people that I describe as ‘the most important human kind’. At a family level, I would like give my special gratitude to **my father** and **my mother** whom I also consider them as my two heroes. I reserve special thanks to Mrs. **Yussra Amir Kassu** and **Hajra Al-haji Mtumwa** who always stood by my side and cheer me up. I would also like to acknowledge **Mwana, Ashura, Asha, Amina, Nasrin, Haitham, Sabra** and **Jamila** for their courageous support and being best sisters. I am thankful to all of my friends in Tanzania and in the Netherlands. Surely, their support shall never be forgotten.

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Preface.

Studying about the uniqueness of economic system and politics of small islands is something that I have always consider and admire. Perhaps, being an islander myself plays a huge role in this admiration. Most people do not understand that islands do not operate their economic systems in the same way that mainland countries do. Not to mention politics of small islands, which also differ with politics of mainland countries. In most islands the territory is small, so as the number of people. The politics and life system in small islands is more or less what Jack Corbett (2013) calls ‘Everybody knows everybody’.

After learning the beauty and uniqueness of small islands in relations to its politics and economy, I asked myself;

“Why don’t I contribute my ideas that still evolves within politics and economy of small islands? Perhaps I may find something interesting!” Hence this thesis.

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Preface.

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Abstract.

Term limits in the Small Island States (SIS) is a subject that requires critical consideration. Do term limits truly matter for economic growth in Small Island States? The challenge of this issue escalates when there is demand for a stronger economy from the public in SIS, while their pool of competent candidates is often small in comparison to larger states. Scholars have extensively discussed the impact of term limits on the economy. However, their focus and results are generally limited within the large state dimension. There is a lack of empirical accounts testing the validity of such claims within SIS. This shortcoming is addressed by applying the principal-agent theoretical framework to identify the problem between voters and candidates, formulate the hypothesis of this study, and then suggest in the debate section the logic that underpins the basic assumption about term limits and economic growth in SIS based on the findings. The study uses a method of time-series cross-countries analysis, from 1987 to 2010. Using panel data from thirty-four SIS with maximum population of 10 million, I investigate the impact of term limits on GDP economic growth rate in simple and multiple linear regression models. To test the fitness of models and robustness, three additional dependent variables are added: GDP per capita, revenue-to-GDP, and government spending-to-GDP. The study also performs robustness check to SIS with a maximum population of 1.5 million in order to compare with the results of 10 million population. The findings show that there is no statistical relationship between term limits and GDP economic growth rate. However, I found an interesting association between term limit and GDP per capita. Moreover, the findings show spending-to-GDP is the best model with a significant relationship in most of the independent variables. When robustness check is considered, the findings show revenue to GDP model has statistical significance than other models. Based on the findings, avenues for future studies are debated in the discussion and conclusion sections.

Keywords:

Term limits, GDP Economic Growth rate, Small Island States.

SECTION 1.

1. Introduction

1.1. A research puzzle.

Ever been curious as to what influenced the recent constitutional change in term limit in Comoros and Dominican Republic? These two islands – the first located in the African region and the second in the Caribbean - undertook constitutional amendments in 2009 and 2015 respectively. The reforms resulted in significant changes to presidential terms in office, each in a different way. The Dominican Republic opted for unlimited terms to allow the incumbent to continuously run for re-election, while in Comoros the new constitutional change resulted in a two term limits. Meaning that, the president can stay in office for no longer than two terms.

Commentators and experts from various disciplines link the constitutional changes to economic prosperity, building on the manifesto campaign before the referendum, and the added articles in the amended constitution of both sides. In the case of the Dominican Republic, Zovatto (2016) noticed the inevitable victory for the reformed constitution due to the consistent increase of economic growth by 7.1 percent since President Danilo Medina came to power and successfully controlled inflation to 2.5 percent. Nevertheless, the motive behind the public's support for Danilo's unlimited terms was after gaining credit from the World Bank Projection 'Dominican Republic At-A-Glance'¹ as the best-performing economy in the region, alongside Panama, for the past twenty-five years. Nonetheless, Crosby (2015) suggests that the constitutional reform could have negative repercussions for the stability of the Dominican Republic and a detrimental impact on the economy.

In the case of Comoros, President Ahmed Sambi anticipated constitution reforms of having unlimited terms as a way of holding simultaneous elections which seems too costly for poor small nations like one of Comoros. According to the president, allowing unlimited terms in a reformed constitution could allow the incumbent to consistently serve for the country's economic policies and long-term plans while making changes of leadership could incur negative consequences to the economy. However, when the referendum results came out, the people (voters) determined to chose the two-term limit presidency, and not otherwise. A well

¹ The World Bank (2018) Building Better Future Together: Dominican Republic policy notes. [Online] Available at <http://www.worldbank.org/en/country/dominicanrepublic/overview> [Accessed 24 April. 2018].

documented report written by Simmon Massey and Bakker and sponsored by Chatham House (2009)² explains the constitutional results in Comoros in length.

The decision to undertake constitutional reform in any sovereign state remains a concern of the domestic domain. However, observing the different conclusions reached in Comoros and the Dominican Republic regarding term limits and their influence on economic performance raises puzzling questions on whether or not limited presidential terms actually impact economic growth in small islands. This question provides an opportunity for empirical analysis to explore the correlation between term limits and economic growth across time, not only in Comoros and the Dominican Republic but in a number of Small Islands States (SIS). I will depart from this angle by performing panel data multiple regression analysis to seek tentative results and perhaps develop a solution to the on-going constitutional reforms in the Small Island States.

1.2. The Overview of the thesis.

The desire to understand the causal mechanism between term limit and economic growth of Small Island States (SIS) is an uncommon one, as most attention is given to Mainland States. Here, Mainland States correspond to all sovereign territorial landmasses commonly referred as contiguous (Pionar and Cannatella 1987), while SIS considered in this particular study refer to all maritime sovereign islands, continental and oceanic, with an average maximum population size of ten million as set by Kuznets (1960) and minimum of 1.5 million set by Commonwealth and World bank (2000). Most SIS appear to be invisible, marginalized and excluded by scholars in today's mainstream comparative politics and international political economy (Veenendaal W. & Corbett, J. 2014), despite their potential economic and political contribution to the modern world (Barro, 1991; Erl & Veenendaal, 2014). There are various reasons underpinning this exclusion, such as territorial size, small population, remote geographical locations and powerless influence in terms of economy and military at the global level.

Though this perception of marginalization remains part of a broader debate, many SIS have similarities with large mainland states, especially when it comes to democratic practices

² Simon Massey & Baker. (2009). Comoros: External Involvement in a Small Island State. Programme Paper AFP 2009/1. Chatham House. [Online] Available at <http://www.worldbank.org/en/country/dominicanrepublic/overview> [Accessed 25 April. 2018].

and economic objectives. One of the primary commonalities is the presence of ‘*term limits*’. Nearly all democratic states set principles regarding the period that an elected leader can stay in power and when the period ends. In a democracy, term limits are utilized to address the problem of careerism and to develop competences (Crane, 1993). SIS set term limits similarly to other mainland states. An example of this similarity between mainland states and SIS in term limits let us take Tanzania and Cyprus.

Term limits vary between states and are mostly dictated by the provision(s) in each sovereign state’s constitution (Basham, 2009; 1). These variations occur mainly in two main areas; the number of years that a leader can stay in office, and the number of terms a leader can run for re-election. For instance; in Comoros the leader is elected to office for five years, in Iceland a presidential term is four years’, while Singapore’s is six. Similarly, where some SIS (eg. Iceland and Singapore) have unlimited term limits, Vanuatu, the Solomon Islands, Fiji and Nauru have a finite term limit for the chief executive to run for election. This study focuses on the second variation: term limits.

While term limit is one primary phenomenon, economic performance is another. Armstrong and Read (2003) give insights regarding the rise of a number of Small Island States in the global economy. In recent decades, there has been a significant rise in the economies of small states overall, due to increasing globalized networks and the emergence of large regional trading blocs (Armstrong and Read, 2003: 99). There are an overwhelming number of success stories of economic growth, despite the challenges the SIS face due to their size and vulnerability (Armstrong and Read 2003: 100). In 2017, for instance, the Global Financial Center Index ranked Singapore alongside the British Virgin Islands as a ‘first world economy’, due to the economic achievements they accomplished.³ This economic trend stimulates interest in economic analysis of SIS specifically by focusing on annual GDP growth rate as an indicator a state’s economic strength.

Varieties of publications have highlighted the statistical correlation between term limit and economic-related variables such as fiscal policy, total expenditure and national debt, (Besley and Case, 1995; Filc and Scartascini, 2006; Balassone and Franco., 2001; Dalle Nogre and Ricciuti, 2011). In their analysis, they have endeavoured to explain for these correlations in the United States (even if the US is irrelevant to this study, yet valuable source)

³ The Global Financial Centers Index 22, September 2017.
http://www.luxembourgforfinance.com/sites/luxembourgforfinance/files/files/GFCI22_Report.pdf

by considering politicians as either opportunistic or public-spirited. Interpreting such correlation between term limits and economic performance results many politicians to seek on maintaining good reputation in check, so that to gain positive chances of entering or remaining in office, by winning (incumbent) elections. By comparison, voters demand to see economic progress as a means of developing trust for the incumbent. These mentioned studies reflect two-way preferences between voters and political candidates in their demand for economic progress. However, this academic pursuit of studying term limits and its effect to economy has less been enthusiastic in Small Island States (SIS), resulting in minimal progressive academic thinking beyond the point of speculation.

1.3. Research Question and a brief method of analysis.

This study aims to explore if there is a significant relationship between term limit and economic growth rate on SIS. Do term limits matter for economic growth in SIS? Between a new candidate and incumbent candidate, which one is most preferable for economic growth of SIS? Is there alternative model(s) that explain the performance of SIS economies best? Since most SIS have small amount of population in comparison with large state, it is then reasonable to argue that there is a small pool of competent candidates they can draw on after each end of the term. According to Aghion, Philippe & Jackson (2014:2) a competent leader is a type of leader that receives informative signals about whether a risky action is more likely to lead to positive or negative payoffs. Unlike incompetent candidates, the competent candidate or leader often receives the correct signal when approaching socio-economic problems, with a sufficiently high probability to succeed.

In order to testify the validity of the claim; *term limits impacts economic growth*, this empirical research applies longitudinal data regression to measure how term limits determine economic growth. The panel consists of thirty-four SIS across time, 1987 to 2010. SIS were selected as an area of focus simply because they lack explanatory power in development studies and in research field overall. In order to explore the robustness of the model; I included seven controlling variables to regress with the main dependent variable; GDP economic growth rate. These control variables includes the historical colonizer, Official Development Assistance (ODA), natural resources, natural disasters, trade openness, level of high-technology production, remoteness and insularity. More so, three dependent variables are added to contest for model fit by observing the strength of R-square and significant

correlations. Adding more dependent variable is also important for the multiple regression because it enables us to test term limit and other control variable with a different dependent, which may result to discover potential significant result.

Data source such as World Bank, CIA World Factbook and United Nations Trade and Development facilitate to retrieve most of the data for the variables to be tested. I believe using empirical study provides a much-needed contribution to a field of research otherwise dominated by case studies.

1.4. Social and Academic Relevance.

Academic literature has traditionally put more weight on analyzing these same variables in mainland states (Anckar, D. 2002; Srebrnik, 2004; Besley and Case, 1995; Filc and Scartascini, 2006; Balassone and Franco, 2001; Dalle Nogare and Ricciuti, 2011). However, these close assessments done by previous studies did not take into account that there might be a differential impact of term limits for mainland states and SIS. For instance, Dalle Nogare and Ricciuti (2011) empirically investigated the effects of term limit with economic fiscal policy across 52 countries, from 1977 to 2000, using a panel data estimation strategy. The selection strategy of the countries was random and focused mostly on large developing states. This indicates that there is a gap in scientific knowledge concerning Small Island States. Examining the empirical correlation of term limits and economic performance in a setting of SIS, which differs from Dalle Nogare and Ricciuti, perhaps enables a different outcome that was not put into the account by either Dalle Nogare and Ricciuti (2011) or other scholars. Therefore, this study seeks to fill this gap in scientific research field. The product of this study may trigger a change in scope by scholars that are somewhat biased against SIS practices of term limit and economic performance.

The testing of principal-agent theory on term limits and accountability of leaders has been extensive (Besley and Case; 1995; Elgie, 2002; Aghion and Jackson, 2016; Waterman and Meier 1998; Banks et al., 1998). For example, by taking a study of Elgie (2002), the author applied principle-agent theory as a heuristic device to identify both empirical and normative claims regarding accountability of the European Central Bank and democratic deficit. The central theme of location that Elgie specified is Europe under the institution of the European Union (EU). However, so far, none of the scholars have gone far to test the principle-agent theory through the lense of term limits in SIS. Expanding the application of

theory into SIS in this study could contribute to existing literatures with possible tentative results.

In social terms, this study could contribute to what I call a “perceptual shift” for voters in regards to selecting which incumbent and model of term limit contributes to economic growth best in their respective SIS. A study by Aghion & Jackson (2016), Banks *et al.*, (1998) and Elgie, (2002) explains considerable risky actions that voters might take which could result to costs. To abstain from negative consequences, the mentioned studies enlightens appropriate incentivizing tools for electing competing candidate. For instance, people from Comoros and Dominican Republic have decided the number of terms which a candidate or incumbent can serve for better economic growth. The product of this study, therefore, could stir voters from SIS in making decisive decision when confronted with similar constitutional reforms and elect the candidate whose policy they can rely on. The findings may also influence government policy bodies to re-assess their positions regarding executive term limits and decision regarding economic growth.

1.5. Conceptualization of term limits and economic growth.

Before digging deeper into the study, it is important to first define the primary concept of term limit. Additionally, I find it necessary to explain the term Small Island States (SIS) and how it is utilized in this study, since the core interpretation of ‘smallness’ is the subject of much scholarly debate.

1.5.1. Term Limits.

Term limit is not a modern formality; it is a concept with an ancient heritage that stretches back to the republics of Athens and Rome in the fifth century B.C (Harrison, 1959; Maltz, 2009). Further, it aligns with classical liberal models of limited and democratic government, valuing freedom of persons and free trade (Harrington & Pocock, 2008). During the colonial era from the seventeenth century, term limit was referred to as the ‘rotary system’ or the principle of ‘rotation in office’ that bound colonial officials. For instance, the charter in the New England Colony stipulated a limit on the number of years a leader could hold office.⁴ These traditional proceedings have laid the groundwork for constructing a contemporary perception of term limits, with additional reforms and adjustments that suit the interests of a

⁴ A history of the working of the American government for thirty years, from 1820 to 1850: Benton, Thomas Hart, 1782-1858: Internet Archive. Retrieved 28 February 2018.

defined state. This brief historical account reappears later in this study as colonization variable when measuring robustness within economic growth.

Today, term limits tend to be closely associated with regime performance and its effect on the adverse selection of economic policies. For instance, a comprehensive database by Cruz, Keefer and Scartascini (2015) collected contemporary data on a number of states that made constitutional changes after independence based on economic and regime interests. Some SIS placed a limit on the number of terms for executives to stay in power, while others, such as Vanuatu, Malta, Mauritius and Suriname to name a few, favoured unlimited terms to run for office. Whereas some states (Cuba, Dominican Republic, Jamaica) embraced socialism - at least for a short-time period - as a mode of economic welfare, others incorporated their economy with bourgeoisie model of western states, such as Singapore. The adaptation of both regime system and number of terms by states all retained a focus on ensuring a progressive economy (Zhanga and Gao, 2008).

When term limits were developed from obscurity, they started to attract more attraction and popularity from the public (Beyle, 1992). The idea of limiting the number of terms that the highest executive could serve in office was received positively by most people across the world. Term limits allow the public, who are also the voters, to gauge the strength of a candidate both before and after the post. On the other hand, a candidate under term limits becomes more committed and opportunistic. The candidate is capable of taking risks for incentive gains. These risks include policy choices in economic, political and social domains.

Perhaps it is undeniable that term limits overall have resulted in elections that are more competitive (Basham, 2009). A number of new candidates keep rising to challenge the incumbents while the incumbents persistently keeps performing well to maintain their post in the office. For voters, the turnout has increased since the of pool of candidates is sufficient to allow choices that better correspond to voter preferences. Voter choice increases because term limits increase the number of candidates that seeks election. The product of a competitive election with term limits is the quality of representation that the majority of voters have chosen. Term limits have more advantageous effect on state legislative careers than previously thought. By increasing the number of experienced new candidates, term limits have minimized the benefits of demanding re-election to state executive, even to those incumbents eligible to re-run. Cummins (2008) went far by expressing that electoral competition helps countries to avoid budgetary problems. Overall, term limits have stimulated

more energetic candidates to continue stepping up, as well as voters to effectively choose the candidates of their own preference.

This research aims to focus on two dimension of term limits: *limited term* and *unlimited term*. Crane (1990), and Coyne and Fund (1992), refer to limited terms as a fixed number of terms that are constitutionally set for an executive to serve. When the terms set by the constitution are over, an executive needs to leave office to allow other candidates to run for a same post. On the contrary, for unlimited terms, the number of terms are constitutionally not fixed, hence an incumbent can be re-elected by the voters as many times as possible. The common denominator that limited and unlimited terms share is that power is vested to people to decide through the ballot box. Crane (1990) emphasizes this shared similarity by adding that having the constitutional number of terms results in voters selecting a candidate who is a ‘citizen-statesman’ and has a ‘citizen legislature’. In general, term limits produce politicians that are more representative and responsive.

1.5.2. Small Island States.

On the side of Small Island State, there is an existing conceptual contradiction regarding this term. Within academia, the distinction between Small Island States (SIS), Small States, and Small Island Developing States (SIDS) is generally blurred (Armstrong and Read, 2003: 100). There is little agreement in literature on the smallness of the state and the exact measurements, resulting in inconsistency and inaccuracy. I will try, however, to clarify these terms based on the contributions of various sources.

Simon Kuznets (1960) sets the limit for ‘smallness’ of a country at a population of 10 million and characterizes the population as socially homogenous with strong internal ties. Kuznets is considered to be an early scholar who set the limit for the smallness of a nation when addressing the economic vulnerabilities of small states and consequences due to the size of the nation. “... *because of their smaller population, small countries have a handicap for economic growth*” (Words of Kuznet (1960), as described by Eloi Laurent, 2008: 2).

Demas (1965) raised the bar to 15 million in the attempt to link small state and international open trade. In 2000, the Commonwealth and World Bank established a new set of definition of small state by reducing to 1.5 million population or less (Commonwealth & World Bank 2000). The motive from World Bank of setting a bar of 1.5 million was due to a

special program devoted to nearly 45 developing countries in tackling the challenges of isolation, limited diversification and poverty.

Sutton and Payne (1993) categorize a small state, be it an island or otherwise, not only by its geographical size but also habitual features. According to them, small states often tend to have conservative behavior and retain their traditional forms of economy and political representation either in their own right or alongside modern representative institutions (p.586). Examples of these states include Tonga, Bahrain, Micronesia and Marshall Islands, which show political activeness, hereditary, and traditional leadership. Because of the homogeneity of interests and political desires, most of the small states have limited opportunity for policies and dynamic ideas that threaten their status quo. In this regard, Sutton and Payne's conceptualization of a small state departs beyond a normalized thinking of physical size, by adding more about psychological behavior and habitual characters.

Alesina and Spolaore (1997; 2003) take a different approach that includes empirical analysis on describing the scale of smallness of a state and how big a nation ought to be. Their studies partially overlap with Sutton and Payne (1993) when it comes to cultural and habitual homogeneity. Alesina and Spolaore argue with empirical evidence that the higher the ties in culture and public goods between individuals, the greater the chances for positive correlation with the size of the country. Unlike large states, which are heterogeneous, small countries are relatively homogenous with public choices that are close or similar to individual preferences. Small countries are simple to identify since they often have a habit of producing public goods that are a close fit to all the members of their small population.

Small Islands Developing States (SIDS) are maritime geographically located states, categorized as a distinct group of developing countries facing special social, economic and environmental vulnerabilities (UN-OHRLLS report, 2013). According to the UN, there are 57 SIDS nations, 37 of which are UN members.⁵ However, it is important to understand that not all SIS are SIDS members, but all SIDS members are SIS.

Therefore, Small Island States in this study encompasses all maritime sovereign islands, with a maximum population size of 10 million as set by Kuznet, (1960) and as defined by the United Nations under the SIDS platform.

⁵ Sustainabledevelopment.un.org. (2018). *List of SIDS ... Sustainable Development Knowledge Platform*. [online] Available at: <https://sustainabledevelopment.un.org/topics/sids/list> [Accessed 7 Mar. 2018].

The structure of this paper is organized as follows; there are total of 7 sections. Section one consist of introduction of the topic and conceptualization. The second section consist of the literature review that explores the contribution from previous literature together with the uncovered gaps. The third section discusses the theoretical framework linking the cases, principle-agent theory, and hypothesis to the theory. The fourth section on research design includes methodology, case selection and data collection. Then I compute the relationship of the variables in section five under the name of empirical analysis. Section 6 consist of discussion based on the findings. The final consist of conclusion and offers some area for future studies.

SECTION 2.

2. Literature Review

2.1. Overview of Existing Research.

Today, the debates about the effects of term limits on economic growth are subtle, and viewed as a double-edged sword based on the heterogeneous opinion of scholars. A closer look shows that there are two major camps with conflicting ideas on term-limits. Some scholars claim that having term limits has a positive effect on a growing economy, while the other camp argue that term limits are damaging to economic growth. For the sake of clarity, I refer to the first camp of scholars as ‘Orthodox’ for backing a standard set of finite rounds for the chief executive to stay in power, as suggested by Jeffrey Knopf (2006: 129). Meanwhile, the name ‘Unorthodox’ represents scholars in favour of unlimited term-limits for better results.

A. Orthodox stream of literatures (Pro-limited terms)

To most of the orthodox stream of literature, the primary focus is closely associated with the moral hazard of a leaders accountability and the nature of multi-party elections as confrontational and competent. Goodin and Lepora (2015) developed a skeptical assessment toward unlimited term politicians, especially in unconsolidated democratic states. According to them, there is often a potential risk that any election may well be the last with minimum reassurance to other competent leaders that ‘their time will come’ (p.365). Przeworski (2015) develops the idea further, suggesting that unlimited terms could increase the ability for a repeatedly victorious politician to manipulate electoral law and policy in such a way as to perpetuate their position in power. Przeworski references Mugabe of Zimbabwe and the likes of Museveni of Uganda as leaders that never succeeded in causing the country’s economy to flourish, despite being repeatedly re-elected and successfully reforming electoral laws (p. 102). His experiment concludes that there is a high probability for incumbent rulers to turn themselves as verdict to people, unchallenged in decision-making, and having powerful effect in shaping beliefs of political prospect, if term limits are not set.

Johnson and Crain (2004) found across a number of different countries observed between 1972 and 1990 that the size of government expanded more rapidly in countries with a

defined term limits than the undefined, along with competence effect of a leader. Further studies show that the incumbent in limited term governments tends to work with more sincerity in their final term (Figlio, 1995; Tien 2001; Snyder and Ting 2003). Even in the judicial field, Gordon and Huber (2007) explain that judges in a partisan competent system with term limits tend to sentence more punitively than those in a retention (unlimited term) system. Glazer and Wattenburg (1996) extended the remarks to the global level, arguing that a world without limited terms spoils the future by creating excessive incentives for politicians to secure their re-election. They argue that term limits reduce the value of gaining re-election and induce politicians to focus more on legislative work.

Also from an economic perspective, orthodox scholars Ely and Valimaki (2003) advocate for a fixed term limit as a solution for continuous market failure of a state. Ely and Valimaki made an observation in a market economy in which long-lived players interact with a series of short-lived players, and the results showed that there could be complete market failure if the long-lived players are too concerned about their future reputation (p.801). This demonstrates a need to avoid the excessive reputation of incumbents who are more likely to put the market economy in jeopardy. In a similar vein, in a frequently cited publication of Besley and Case (1995a) on gubernatorial term limits, the findings showed in the U.S, the capital spending and taxes were high under term limit between 1950 and 1986. However, in 2003, the authors revised their analysis on the same sample but over an extended time period, through the mid-1990s, and conclude that having term limit does not negatively affect the economy, suggesting other omitted factors may attribute to the cause.

B. Unorthodox stream of literature (Against limited terms)

The core position of the unorthodox scholars relies on the competence of a leader and deny that term limit improves politics (Kinsley, 1990). The absence of term limits empowers voters to retain their incumbent choice, whose level of competence has increased over time with experience (Padro i Miquel & Syder 2006). A regression model by James Alt, Ethan and Shanna Rose (2011) with variety of economic and political control across states across countries finds that economic growth is higher and taxes, spending, and borrowing costs are lower under re-election-eligible incumbents than under term-limited incumbents. An investigation into Brazilian mayors found that in the last period of office, those who were

eligible for reelection engaged in less corruption than term-limited mayors (Ferraz & Finan, 2011).

In a different study, Besley and Case (1995b) found a significant correlation between unlimited term and economy precisely when incumbents apply the strategy known as “a yardstick competent” in winning voter’s choice. Most voters around the world make a comparison between home state and other foreign states on the increase or decrease of taxes. This results to the behavior of yardstick competition between states, each caring what others do. Therefore, when incumbent performs well in regulating the tax movement, playing a better off than neighbour states, (s)he has higher chances to win trust and repeatedly win elections. The point here is that unlimited terms allow the competent incumbent to endure successful regulation of tax economy in home states, presuming the incumbent has done well in tax economy in the past records than other states.

Another rival explanation against limited terms is offered by Presley (1990), arguing that finite term limits are a waste of talents and experience. Presley indicates that a state could run a potential risk of losing a talented experienced leader who can revive the socio-economic welfare of a state for the sake of having a finite term limit. The study done by Cohen and Spitzer (1992) used Presley’s comment that; ‘the newly elected leaders take a long time to learn the more intricate aspects of a legislators job particularly budgeting’ (1992;482). The additional sizeable study shows when countries set a limit of rounds a chief executive can run, most these officials tend to “shirk” in their final terms prior to their retirement. The word “shirking” is defined in terms of reduced effort, such as voting less frequently (Vanbeek 1991). This means fixed term limits produce unresponsive representatives in the “lame duck” term. Moreover, executives who know that they will leave office soon tend to worry about their prospects after leaving (Polsby, 1991). As a result, these executives curry favour with special personal interests, utilizing the public resource for personal interest, particularly with firms that might hire them after constitutional constraints force them to retire.

Scholars’ common ground.

However, it is important to acknowledge that both camps contributes to a greater scientific understanding of term limits. Both orthodox and unorthodox plays a common role of exploring term limits and its significances. The two camps of scholars pave the way of

further scientific study which correlates term limits with other parameters, such as assessing the impact of term limit to economic performance. Scholars also raises the subject of accountability in term limits, and it provides a way for the public to elect the leader they seem fit to carry out progressive economic policies. Therefore, all relevant scholars agree having either unlimited or limited terms contributes to the positive transition of power enhancing people to elect a favourable candidate through the ballot. Thus, overall the literature bring conventional wisdom that is applicable to this research, to say the least.

2.2. Identification of the Research Gaps.

The above literature review provides a general overview of the centre of this research and are an important preliminary step for the hypothetical assumption. However, we find that most of literatures focused on the U.S and excluded SIS. The reason of focusing in the U.S perhaps, there are many variables that are similar and constant in all fifty states. Hence simplicity in finding and regressing multiple variables. In SIS, there are variables that exist uniquely to all islands, for instance external shocks and climate vulnerability. This study seek to pursue control variables that co-exist in most of islands while regressing with the economic growth and alternative dependent variables that this research reflects.

In addition, the contribution provided by the Orthodox scholars are comprehensive and accurate, yet do not explain why unlimited terms countries like Singapore, flourish in their economies. Likely because term limit is not a single factor affecting economic performance. This study attempts to add more factors as controls, such as natural resource, remote, trade openness in order to find other possible explanations for rapid economic performance in Singapore and other SIS.

2.2.1. Is the literature insufficient?

The literature discussing exclusively term limits and economic GDP economic growth rate are also less extensive. But scholars have integrated term limits with different economic models and factors that could assist in guiding this research. Because we are going to include some of those economic models in fourth section, it is convincing then to add those literatures in the same section, in order to avoid repetition of same information. Nevertheless, some additional literatures will also appear while analyzing the results of our study in fifth section.

SECTION 3.

3. Theory

3.1. Theoretical Framework.

Introduction of the theory.

The principle-agent theory has been the core basis for an extensive set of disciplines related to political science, sociology and economics in a wider range of explanations (Mitnick 1973, 1975; Moe 1985; Wood, 1988; Sholz and Wei 1986). The economic originality of the theory itself is defined as the contractual relationship between buyers (principals) and sellers (agents) within the market system; each with the goal of rational utility maximization (Ross 1973; Pratt and Zeckhauser 1985; Charles Perrow, 1986).⁶ Meanwhile, in an alternative classical form, the principal-agent theory determines the relationship between two characters: principal and agent, where the principal is an individual(s) that hires the agent(s) to perform a task(s) that the principal do not have sufficient time, information, money or ability to perform by themselves (Mitnick, 1986; 4). Richard Waterman (1998) speculates the principal-agent theory is an ‘infectious’ idea, as once the general concept is understood, its application can spread into a diverse range of analytical cases from various disciplines and research studies. In short, principal-agent theory has developed to be a significant analytical tool for examining a vast array of real-world challenges.

Assumption of the theory.

The assumption of the theory as explained by a plethora of scholars (Elgie, 2002; Keser & Willinger, 2007; Moe, 1985; Worsham, Eisner, & Ringquist, 1997; Gailmard, 2012; Waterman & Meir, 1998) is also the basic start of the situation. It occurs where actor(s) who are the ‘*Principal*’ have an incentive to assign power to another actor, the ‘*Agent*’, with the hope that the latter will subsequently act in a way that is consistent with the initial preferences of the former (principal). The incentive to assign power is normally motivated by a desire to minimize transaction costs. Delegation to the agent occurs to save on transaction costs, but adverse selection is rather a consequence of delegation. Adverse selection in relation to our

⁶ The original form and in its simplest vision of Principle-agent theory as describes by Charles Perrow; The theory assumes that social life is a series of contracts. Conventionally, one member, the ‘buyer’ of goods or services is designated the ‘principal,’ and the other, who provides the goods or service is the ‘agent’-hence the term ‘agency theory.’ The principle-agent relationship is governed by a contract specifying what the agent should do and what the principal must do in return, (1986,224).

thesis topic of term limits refers to the situation where voters (principals) cannot necessarily know and acknowledge which competent candidate is best qualified to be a leader (agent). Provided that all candidates running for the post will try to sell themselves in equal way, the voters may well elect a candidate whose price is greater than their economic value (cost-output). Moral hazard occurs when voters does not know how effective a candidate will be once he/she has been elected. In other words, voters simply cannot observe everything that the candidate does and desires.

3.2. Integrating the theory with term limits.

Given these problems, the closest solution is to design a contract – i.e. establishing (term) limits - that provide an incentive for the candidate to perform efficiently. In theory, when such a contract is well-established, then only competent candidates who are truly qualified will (re)run for the post (incompetent candidates will not) and, once elected in office, there will be no need for voters to monitor a competent leader's behaviour. Hence, principal agent theory provides a suggestion rectified by Calvert *et al.* (1989: 590 – 1): in an ideal situation, well chosen agents, in an agency constructed to channel their incentives correctly, can be left alone to determine the policy that the elected officials would themselves have chosen, given the time and resources. Therefore, delegation of power from voters to competent candidates remains a rational act in an institutionalized world, given that the contract determines the time (limited or unlimited terms) and resources (economy) a candidate can explore.

Recently, political scientists have integrated the theory into a broader institutional and bureaucratic setting and diverted away from just being economic model. These bureaucrats involve politicians, legislators and public administrators, where most attention is focused on the problem of moral hazard (Waterman, 1998; Alt, Bueno de Mesquita and Rose, 2011). Politicians as agents tend to raise the so-called 'shirking' problem; a form of noncompliance to the initial objectives set by the public voters, who are also the principals. This results in a conflict of goals between voters and politician(s) (McCubbin, 1987; 410). The politician's decisions could depart from the agreed position by either legislature or executive under his own discretion after being elected. Alternatively, the agent may encounter an issue known as 'agency slippage'. This occurs when the structure of issuing power (delegating power) itself brings perverse incentives for the candidates to act in a way that is unfavorable to the

preferences of the voters (Pollack 1997). In agency slippage, it is not the competent candidate (the agent) that divert from the principal's preferences, but rather the decision-making mechanism of the institution is shaped in a way that diverges from the objectives of voters. Therefore, the agent could have a good faith in pursuing the general objectives of the principal, but the system does not allow him to do so.

How does Principal Agent Theory fit with Term Limits and economic growth?

In answering this question, let us apply the principal agent theory to the topic of term limits and economic growth in Small Island States. I use the theory as a heuristic device (Elgie, 2002) that helps demonstrate and identify the assumption(s) that underpin the research question and hypothesis of this study.

Term limit positions are consistent with the level of faith that there has been no candidate (agency) shirking or slippage problem. It can be said that through term limits, principal (voters) delegate sole authority to a candidate for the purpose of increasing the economy through policies that they sold during their campaign. In doing so, the candidate has been entrusted with the expressed preferences of the voters (the principal) during the moment of delegation. Hence, on that basis, the theory can be understood to suggest that term limits, through an entrusted candidate, do impact economic growth. The dilemma, however, occurs within the duration of the contract (limited or unlimited), and asymmetrical information that the agent has to behave.

Let us stress the logic behind the candidate's delegated power from the principal. In this point, it is important to notice that once the candidate has been vested power from voters, he (the candidate) enjoys autonomy and operational independence. Often, in many principal-agent studies, agent autonomy slippage or shirking goes hand in hand. In fact, the assumption of principal-agent theory is that the more autonomy an agent enjoys, the higher the opportunity it has to act according to self-centered interests and deviate from the preferences of the principal (Elgie, 2002: 190). But for SIS, the assumption might be argued in a somewhat dissimilar case. In SIS, the competent agents that match with the principal's preferences are small in number. In other words, there is small pool of competent candidates for the post, since, by nature, SIS are small in size and small in terms of population. As a result of this, it creates weaker competition due to somewhat limited number of qualified candidates in SIS.

The theory indicates a puzzle based on the uncertainty of asymmetric information between agent and principal, and also the impasse of shirking agents. An incompetent candidate having imperfect information on how to run the state either could raise effort to improve his policy before his term ends or otherwise could induce less optimistic behavior to the principle. In this regard, when the voters are unsure about incumbent behaviour, they may assess the period of first term in office as a gauge to measure the performance of the incumbent. If the incumbents desire is to remain in office, due to the influence they obtain in determining policy, then the probability of re-election will affect their economic choices (Besley and Anne, 1995; 770). For the issue of shirking, the uncertainty rises among principals when the agent is not guilty of shirking and still capable of manipulating public votes. Since the agent holds the autonomy of the state, he may forge the election results to favor his preferences and change the principal's contract to indulge his partialities. In this way, the principal-agent theory may suggest that the agent has acted in undemocratic manner, beyond term limit principles, and perhaps impact the economy negatively.

The principal-agent approach is a useful background for understanding the argument about term limits: the relation between candidates and voters and their impact on economic growth. I expect this theory to help to identify which underlying basic assumptions of the hypothesis are correct and which are acrimoniously debatable. We should expect intuitive results.

Literatures of Principles Agent theory and Term Limits.

Previous literature suggests a number of scholars with similar beliefs when combining the theory with term limits. In the earliest period, Barro (1970) observed electoral results and the role of incumbents, while Banks and Sundaram (1993) advanced the theoretical approach based on unobservable efforts by incumbents in pursuit of building a good reputation. A recent extension of the framework by Harrington (1993) looks at distortions in economic policy choice indicated by elections. Additional scholars made clear attempts to link principal agent theory with economy and electoral behaviors. In their attempts they developed models that show that particular policy choices are delivered as a result of a yardstick competent and asymmetric information between incumbents and voters within political business cycles (Coate and Morris, 1993; Rogoff, 1994; Besley and Case, 1995).

Besley and Case's (1995, 2003) theoretical evidence on electoral term limits and their impact on economic policy choices appears to be a useful model for state leaders and

members of the public seeking appealing directions. Besley and Case's reputation-building-model faces criticism. Scholars (Cane-Wrone, Herron, and Shotts, 2001; Maskin and Tirole, 2004) also speculate that, from the reputational-building model, re-election results can alter incumbents' policy choices in a way that is harmful to the electorate's welfare, pandering rule of law and causing policy distortion.

Critics of the theory and alternative explanations.

Given symmetric information between the agent and principal, Dutta & Yanni (2017) showed the probability of an agent's acceptable behavior to the society, following his signal. These symmetric inflows bring two-folded benefits: they generate the highest first term expected payoff to the society and they reveal whether the agent is competent. However, the asymmetrical and symmetrical revelation of information is what creates an incentive problem, since an agent caring only about remaining in office may disregard his signals or choose safer actions, thus avoiding the chances of being revealed as incompetent and, henceforth, facing an ouster (p.7).

Kurfirst (1996) has developed other plausible normative frameworks regarding term limits that are useful in this research, namely; term limits progressivism and term-limit populism. Beginning with term-limit progressivism, Kurfirst upholds the progressive movement ideal of an expert professional legislature with the objective(s) of restoring good governance and policies' implementation. In other words, progressivism simply defends the leadership of legislative professional expertise in order to produce stability, whereas definite term limits weaken the executive system and internal leadership. Accepting professionalism indicates voters prefer stability and efficiency to participation (Cain and Levin 1999: 168) more than just having constant 'fresh new faces' in power. However, Petracca (1992) reacts to this normative framework by arguing as a corrupted ideology. According Petracca, professionalism invites candidates that put much effort for reelection above the public good. Petracca (1992) speculates that most political scientists are skeptical toward finite term limits as they perceive them as a threat to their self-proclaimed status as professional, for example, by rejecting their advices.

3.3. Hypothesis.

The main testable hypothesis.

H1- There is a significant relationship between unlimited terms and economic growth of SIS, assuming that the competent agent cares about public preferences and balancing the egoistic payoff. Here the principal prefers to extend the contract to the agent as incentive achievement due to the fact that agent has bounded rationality and production of public goods. The principal should expect increases in economic growth from the agent.

SECTION 4.

4. Research Design

4.1. Case Selection.

The panel consists of 34 sovereign small island states that are examined in this research. These islands are Antigua and Barbuda, the Bahamas, Bahrain, Barbados, Belize, Brunei Darussalam, Cape Verde, Comoros, Cyprus, Dominican Republic, Dominica, Fiji, Grenada, Guinea Bissau, Guyana, Jamaica, Kiribati, Ireland, Iceland, Malta, Mauritius, Marshall Islands, Micronesia Federal State, Papua New Guinea, Samoa, Seychelles, Singapore, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Trinidad and Tobago, Tonga and Vanuatu. As noted, The selection strategy ensured that all regions of the world—Africa, the Middle East, the Caribbean, Europe, the Asian Pacific region, and Central America—are covered. The reason for this is to provide credible results without isolating any region, not to mention the objective of minimizing selection bias. Selection bias occurs when omitting individuals that represents similar features with those selected from the study (Corinna & Mehryar, 2014). The islands are picked based on several criteria. First, online data accessibility of all variables that this paper aims to find was essential. Another criterion is the independent recognition of the islands as sovereign states by many other states. Because of this, some islands with resounding economic growth such as Hong Kong, Taiwan, the British Virgin Islands, Niue and Zanzibar to name a few are not included in this study. Furthermore, the research selected a combination of SIS that are geographically located near a continental shelf and those located far from the continent (Oceanic). The reason of combining the distance factor is to enhance the coherence of the results.

However, it should be noted that there are some SIS for which it is debatable if they truly practice term limits, for example the decision to include Bahrain and Brunei Darussalam in the research. Some could argue that the two countries are monarchic systems and highly authoritarian, without term limits. Hence, the two countries are irrelevant especially if term limits is concerned. This argument is permissible and critical. However, Brunei Darussalam and Bahrain are included in the research database that this paper collected the data. The database is the World Bank's Database of Political Institution (DPI; Beck et al., 2001), which constitutes countries that practice term limits and those that do not. DPI overall is a

comprehensive source supported by the World Bank serving as a pool for data in the discipline of comparative political economy. As Bahrain and Brunei Darussalam are included in the aforementioned database as countries practicing either limited or unlimited term limits, I have included them in this research as well.

With thirty-four SIS in this thesis study, I established a panel with conventionally large-N cross-countries dimension (King, Keohane, & Verba, 1994). I opted for large-N research in order to demonstrate a compelling explanation that fits the model of all variables included accurately. Ray (1995: 134) supports the decision of using a large-N experiment in empirical studies when arguing that having a large number of cases to analyze often leads to results beyond the theme of the topic, as long as all interpretations of a case have testable implications for the related case.

4.2. Method of Analysis.

Investigating the impact of term limits and economic growth in a number of SIS over 20 years requires a longitudinal research design for vigorous results (Hsiao, 2003, 2014). From a longitudinal study, we will observe the same subjects over a long period in order to identify correlations between term limits and economic growth. Longitudinal data often enables researchers to understand the variation of complex models in-depth, as well as to extract more information. Additionally, longitudinal data, also known as panel data, could discover if there is any turning point of either a problem or benefit and could show the disparity of the population: years before and years after a certain effect. The major weaknesses of using longitudinal data, according to Todd *et al*, (2014) which are also important to address in this study are; firstly, it can usually only make statements about association of variables rather than causation; secondly, it is frequently-time consuming to collect data; and thirdly there is less space for either intervention or manipulation of variables. However, it all depends on the research. One could think of fixed effects model which allows for causal inference.

The panel time survey is carried out from 1987 to 2010 for two reasons. Firstly, the period allows us to filter and sort at least a minimum of three years of observation in terms of executive changes of a country. In other words, if a SIS has a seven-year constitutional limit the executive can serve before new elections, a timeframe of 1987 to 2010 lets us observe changes of regime three times, and measures the changes in economic growth. Of course, the

results of the measurement will be redirected afterwards to the constitutional portfolio of that particular country, whether it allows term limits or not.

The second reason is data constraints. In most cases, in our panel, the countries lack data prior to 1987. SIS are particularly prone to this missing data problem, often caused by lack of recordings before 1987 due to either the ruling system during that particular time or technological limitations (Nakagawa, 2015). Therefore, in order to get a balanced panel with the statistical power of a study and no missing data, at least on the main independent and dependent variables, starting from the year 1987 serves best for case.

Since it is a panel data study, which indicates that the research aims to observe changes of variables overtime, then study intends to apply between random-effects model (Pooled OLS) and fixed effect model. In order to find which model will dominate our research, Hausman test (Hausman, 1978) is a statistical hypothesis tool that will identify which model is the best to apply in our case. The null hypothesis (Ho) that Hausman Test considers is that the preferred model is random effects. Thus, there is no correlation between the unique errors and the regressors in the model. The alternative hypothesis (H1) is that the model is fixed effects. Meaning, there is a correlation between the two. If Hausman test identifies random effect (Pooled OLS) model as best for our study, then this means, there is no unique attributes of individual within the measurement set as well as no universal effect across time to impact our research. In Hausman test rejects the null hypothesis, then it applies fixed effect is appropriate. In other word, there are unique attributes of individual that varies across time (Hsiao *et al*, 1999). In our case then a fixed-effect would assist in assuming differences in intercepts of term limits across SIS. For instance, in our panel, the variation of differences is observed in some of the contries namely Comoros, Dominican Republic, Grenada, and Suriname. However, for now it early to tell about the fixed effect until Hausman approves in empirical section as good model of analysis.

4.3. Research Approach.

Linear regression model is the core method of analysis that this paper will utilize. A linear regression model is a quantitative research method that is used when the research involves modelling and variable analysis. The assumption of linearity is simple: there is a linear relationship between an independent and dependent variable. Linear regression analysis enables the researcher to find how significant the correlation is and forecast the best model.

4.3.1. Hausman Test.

Before computing the relationship, the study first performs Hausman test to identify which effect between Random and fixed is the best for our study. The Hausman test in longitudinal data can assist in choosing between a random effects model or fixed-effect model (Hausman, 1978). The null hypothesis (Ho) that Hausman Test considers is that the preferred model is random effects. There is no correlation between the unique errors and the regressors in the model. The alternative hypothesis (H1) is that the model is fixed effects. Meaning, there is a correlation between the two.

4.3.2. Simple linear regression.

When estimating a difference in GDP economic growth rates, which have a continuous annual outcome, and term limits, which have categorical features (limited or unlimited), a simple linear regression is often used to test the parameters. This study will firstly show a simple linear regression model, where the variable of interest will be tested. The objective for this regression is to estimate the significance of the association between term limits as predictors and the level of economic growth. The general assumption that we pursue in this simple linear regression is that a change in economic growth is correlated with the change in term limit. In simple linear regression it is difficult to prove that there is a cause-and-effect relation between the predictor and the outcome. Since it is a simple linear regression, the study will therefore apply a basic form of regression equation:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

In an expanded form:

$$\text{GDP economic growth rate} = \beta_0 + \beta_1 (\text{term limit}) + \text{Predictor error}$$

Where Y_i is denoted as dependent variable, which for our case is economic growth rate. It is a variable whose value depends on all term limit and other covariate parameters in the equation. In view of the fact that the model is linear regression, the dependent variable is said to be continuous.

X denotes the independent variable of term limit, that assists in explaining the variance in the economic growth rate. The independent variable, term limit, is divided into categories: unlimited and limited.

β_0 is the constant or intercept. This is a predicted value of the outcome when all other explanatory variables are equal to zero.

β_1 is the slope of the independent variance, also known as regression coefficient.

ε is an error term (predictor error), which tests the fitness of the model.

β_0 and β_1 are both considered as parameters to be estimated.

4.3.3. Multivariable linear regression.

In most cases that aim to address a problem and seek potential solutions within research, the contribution of a single independent variable is not sufficient to explain the dependent variable. Therefore, the study will incorporate multivariate linear regression to investigate the effect of multiple variables on the dependent variables. Our basic assumption that drives this multiple linear regression is that an estimated change in economic growth (or additional dependent variable that will be introduced later) is associated with two or more predictor (control) variables. However, the process of adding more control variables without theoretical and literatures consideration may reduce the credibility of the work. In this regards, the variable added in this study associates with the character of SIS.

Multivariable linear regression also covers the subject of collinearity. Collinearity (also known as multi-collinearity) simply occurs when there are high associations between two or more explanatory variables. A good way to detect collinearity is by computing the regression coefficient of all parameters. The results obtained from this method should determine whether the collinearity is perfect or otherwise, and which variable should be detached from the model, if possible.

Below is the basic equation of the multiple linear regression.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

In Expanded Form:

$$\text{Economic Growth} = \beta_0 + \beta_1 (\text{term limit}) + \beta_2 (\text{colonizer}) + \beta_3 (\text{Natural resource rent}) + \beta_4 (\text{ODA}) + \beta_5 (\text{Trade Openness}) + \dots + \text{residual}$$

4.4. Robustness Check.

Kuznets (1960) has put into account that the smallness of a state encircles within the population of 10 million. Meanwhile Commonwealth and World Bank considers a small state if the population does not exceed 1.5 million. After performing panel regression that includes all thirty-four SIS with a population to 10 million, this study will then perform robustness check analysis for SIS with maximum population of 1.5 million. The reason of applying this approach is to examine how certain 'core' regression coefficient estimates behave when the regression specification is either change or modified some way, typically by eliminating or adding regressors (Lu and White, 2014: 194). Moreover, we apply robustness check to observe how our conclusion change when certain individuals are dropped and to demonstrate whether our previous analysis were fine. A result that the coefficient did not change in either of the regression is considered to be an evidence that these coefficients are robust and commonly interpreted as evidence of structural validity (p. 195).

4.5. DATA

In an ideal world, research experiments would be perfect if they did not come across any problem concerning data. However, this is not the case, for there are always challenges. In our study, two major challenges occur in relation to data, which are important to address at the outset. The first challenge is concerned about the uncertainty of the data. Most of our data is not exact, and consistently differ between sources that recorded the data for our study. For instance, the IMF and World Bank have the most-used databases for many scholars in this field. However, when comparing GDP growth rates as recorded by the IMF to those recorded by the World Bank, for instance, data of the same year varies between the reported sources. Because of this problem, most analysis often falls on the threshold of being biased and irrelevant to reality.

More so, the problem of missing data is another challenge. Most scholars and academic researchers fail to acknowledge the missing data problems for fear that their work may be perceived either as weak or less credible (Van Buuren, 2012). This study faces similar challenges of missing data and acknowledges the importance of addressing it. Variables such as high-technology manufactured for export and trade openness have high levels of missing data. I will explain this in-depth when introducing variables in the next sub-section.

4.5.1. Variables and Data Collection.

Variable Selection in Multiple Regression Model.

As explained in the introduction section, our main area of focus is primarily on Small Island States. Thus, almost all of the independent variables are selected based on their close contribution to small island's economies. In that regard, the control variables are picked based on close relationships with, or influence on, GDP economic growth rate of SIS. Several articles assisted in finding credible variables for measuring the economic performance of island states. A study of economic vulnerabilities in small islands by Lino Briguglio (1995) contributes in indicating quantified index for measuring economic vulnerability with a number of policy recommendations for economic resilience. Other prominent scholars and experts on economies of SIS include Bertram (1986), Armstrong and Read (2003), Campbell & Hall (2009), McElroy & Morris (2002) and McElroy & Parry (2010). I selected nearly all variables from the studies conducted by the aforementioned scholars.

When regressing the multiple linear model, three additional dependent variables are set to find robustness and a best model for the study. Our target in multivariate regression is to measure if one continuous dependent variable can be predicted from a set of explanatory variables. This means how much variance in our continuous dependent variable is determined by a set of independent variables. There are two main selection criteria for the additional three (continuous) dependent variable are: (a) The nature of the research: The research's overall primary target in seeking (a) determinant(s) that foster(s) economic performance of SIS. In that regard, GDP per capita, spending-to-GDP, and revenue-to-GDP have been widely speculated as useful determinants in measuring the economic success of country (Read, 2002; Briguglio, 1995); (b) The second selection criteria is the suggestion from the literature. As shown in the literature review section, most scholars attempt to study the correlations and causality between term limits and different economic factors. Among others, Besley and Case (1995, 2003), Alt, Bueno de Mesquita and Rose (2011) and Dalle Nogare and Ricciuti (2011) have studied term limits and their impact on spending-to-GDP, revenue-to-GDP and GDP per capita.

Therefore, there are six independent variables (including main independent variable), and four dependent variables in total (including main dependent variable). I formulate a model by regressing each of the dependent variable with the six-predictor variables. Four

models should be expected in the empirical results section. Below is the description of the variables:

A. DEPENDENT VARIABLES

i. GDP economic growth rate (main dependent variable of interest).

GDP economic growth is the main outcome variable that this paper emphasizes. The reason behind its selection is that it is considered as an acceptable measure of a country's economic progress by vast swath of literature (Costanza *et al.*, 2009; Marcus & Kane, 2007; Armstrong & Read, 2003; Bruguglio, 1995). Gross Domestic Product (GDP) overall is an estimate of market throughput, which consists of the value of all final goods and services that are manufactured, traded, and delivered, for money, within a defined period of time (Constanza *et al.*, 2009; Armstrong and Read, 2003). Growth percentage rate indicates the expansion (or shrink) of an economy based on the total value of all goods and services produced over a specific time-period (Kitov, 2006). GDP growth rate's value can be easily identified due to the increasing or decreasing of economic performance of a state, however, this indicator is limited in expressing the standard of living of each individual nonetheless.

Applying GDP economic growth rate to measure the quality of economic performance has some weaknesses. According to Kuznets (1934), GDP economic growth is measured only by monetary transactions, hence portraying an incomplete picture of the system within which the human economy operates. Furthermore, researchers consistency of using GDP overall to measure the progress of economy depicts a 'threshold effort': it has a negative impact of lowering community cohesion, connection with nature, healthy relationship, knowledge and other dimensions that encircles human happiness (Max-Neef 1995; Talberth, Cobb *et al.* 2007). In this study, GDP economic growth is applied in SIS nonetheless.

The data for GDP economic growth rate is collected primarily from the World Bank⁷. For the SIS with missing data from this data source, the International Monetary Fund (IMF)⁸ is used to fill the missing gaps as a secondary source of data. Therefore, there is no issue of missing data for this variable, hence a balanced panel. This variable is measured by percentage rate, collected from each year and it is a continuous variable.

⁷ Data.worldbank.org. (2018). *GDP growth (Annual %)* | Data. [Online available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG> [Accessed 03 April, 2018]

⁸ World Economic Outlook Database (2018). Real GDP Growth. | Data. [online available at: http://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEO_WORLD?year=2018 [Accessed 5 April, 2018].

ii. GDP per capita.

The indicator, GDP per capita, is mostly used when comparing the economic situation of individuals in a country. It shows an average income of a person that is derived from a country's economic output relative to its population (Boulhol et., 2008). The indicator has also been applied to term limits in previous studies (e.g. Dalle Nogare and Ricciuti, 2011) with promising results, at least on large states.

GDP per capita as an income-based measurement has been discredited (Armstrong & Read, 2003: 108) as an adequate indicator providing a long-term structural and institution scale of economic performance of small islands. Briguglio (1995) explains that GDP per capita fails to capture the unique problem of vulnerability that small states struggle with on a daily basis. But these speculations are rejected by a study of McElroy and Morris (2002) when exploring African islands' economic development experiences. The study found GDP per capita continuously rising by 50 percent higher than continental countries (p.41). Cockerell (1995) found similar positive findings on GDP per capita income in relation to tourism. Moreover, the fact that GDP per capita has often been measured in line with vulnerabilities of SIS as discussed above (see Briguglio, Armstrong and Read), switching to a more political variable by testing GDP per capita and term limits may produce tentative outcomes. Thus, the results may lead to a new direction that was previously not given enough attention. Most people assume that the higher the GDP per capita of a country, the greater the likelihood of having a better life. However, this is not always the case (Dasgupta, 2009)

This (continuous) dependent variable is applied to regress with term limits as well as other control variables. It is measured by the US dollars currency and is labelled as model 2. The data is collected from the World Bank⁹ as a key data source. In a few cases such as Micronesia Federal State and the Marshall Islands, data was missing from the World Bank, so the IMF¹⁰ database was used to fill the gap.

⁹Data.worldbank.org. (2018). *GDP per capita (current US\$)* | Data. [Online available at: <http://databank.worldbank.org/data/reports.aspx?source=2&series=NY.GDP.PCAP.CD&country=> [Accessed 10 April, 2018].

¹⁰ World Economic Outlook Database. (2018). *GDP per capita, current prices U.S Dollars* | Data. [Available online at: http://www.imf.org/external/datamapper/NGDPPDC@WEO/OEMDC/ADVEC/WEO_WORLD?year=2018 [Accessed 10 April 2018].

iii. Government spending-to-GDP

Barro (1990) describes government spending as the total government expenditure on final goods and service. The indicator combines all the investment expenditure by the government: salaries to civil servants, purchases of military equipment and other development project expenses. When government spending is incorporated with GDP to become spending-to-GDP, foreign transfer payments made by the government are taken into account. The reason is that GDP is a measure of productivity within the national borders of a certain country and these types of payment do not reflect purchases made by the government for goods and services inside the country, but rather an overall movement of income (Holm, 1990).

In regards to term limits and spending-to-GDP, scholars give supportive empirical evidence that this study could rely on. Payne's (1991) study shows that the longer the incumbent individual remains in office, the greater the support for increased government spending. Reed et al. (1998) explain the consequences of limited terms as reducing the special competences of executives in performing better spending policies. The updated results of Besley and Case (2003) from the previous study of 1995 shows that term-limited governors tend to significantly increase country spending. Tanzi (2004) indicates positive signals in research by arguing that when spending-to-GDP is correlated to term limits and higher taxes, it often generates robust results. On the contrary, findings by Dalle Nogare and Ricciuti (2011) show that term limits have no effects on government spending and surplus. Chief executive does not seem to play a big role in shaping spending of the government.

The presence of spending-to-GDP as a dependent variable adds to the third model. The variable is presented in percentage rate and it is a continuous variable. Again, the addition of this dependent variable aims to find a strong model fit. There are missing data in this variable. To some SIS, the variable lacks data from 1987 to 1990. The closest explanation appears to be a lack of recording of this data. The central database to collect the data for spending-to-GDP is the IMF,¹¹ though the World Bank¹², which enabled some data in some of the missing values.

¹¹ World Economic Outlook Database. (2018). *Government expenditure, percent of GDP (%)* | Data. [Available online at:

<http://www.imf.org/external/datamapper/exp@FPP/USA/FRA/JPN/GBR/SWE/ESP/ITA/ZAF/IND/TUR?year=2011> [Accessed, 23 April 2018].

¹² Data.worldbank.org. (2018). *Expense (% of GDP)* | Data. [Online available at:

<http://databank.worldbank.org/data/reports.aspx?source=2&series=GC.XPN.TOTL.GD.ZS&country=> [Accessed 27 April 2018].

iv. Government revenue-to-GDP

The OECD database (OECD, 2018) describes revenue-to-GDP as a variable that indicates the share of a country's outgoing that is collected by the government through taxes. In most cases, it is considered as one of the measures with which the government controls the economy's resources.

A number of political economy scholars have debated extensively regarding fiscal revenues of a government and its relation to governors and chief executives. For example, Persson and Svensson (1989) and Tabellini and Alesina (1990) shift their focus to a lame duck leader by arguing that in a limited term an out-going chief executive, a lame duck, extracts next term's fiscal revenues and uses the revenue for his or her preferences. Consequently, in unlimited terms an incumbent would encourage saving the revenue to implement policies promised during the incumbent's election. On the contrary, Crain and Tollison (1993) found that governors under limited terms have a more significant effect on revenues and budget deficit than governors with unlimited number of terms. Empirical studies by Johnson and Crain (2004) and Besley and Case (1995) provide evidence that a term limitation results in higher government expenditure and higher government revenue.

Government revenue-to-GDP stands as our fourth model that regresses the predictor variables. The variable is continuous and measured by percentage rate. The data is collected from the World Bank¹³ data source. However, this variable also consists of missing values in the early years (from 1987 and through the 1990s). The extent of missing data differs from one SIS to another.

B. INDEPENDENT VARIABLES

i. Term Limits (Main Independent Variable of interest).

Term limit in our study has binary features (0, 1), hence a categorical variable. It is measured by observing whether the state has either limited (fixed) terms or unlimited (unfixed) terms from the period of 1987 to 2010. Those SIS with limited term limit will be named 'Yes' and coded 0 while the SIS with unlimited term limit will be named 'None' and coded as 1.

¹³ Data.worldbank.org. (2018). *Tax Revenue (% GDP)* | Data. [Online available at: <http://databank.worldbank.org/data/reports.aspx?source=2&series=GC.TAX.TOTL.GD.ZS&country=> [Accessed 3 May 2018].

The primary source of data for term limits is the constitution of each country. Whenever there is a difficulty in understanding the constitution of a certain country, due to either language barriers or an inability to find the article regarding limits of executive officer, the CIA Factbook¹⁴ and Database of Political Institution (Beck et al., 2001) served as a secondary source. The problem of missing-value in this variable was not observed.

ii. Colonial Ruler

Colonial rulers are foreign imperial powers considered to hold control in all important aspects; socio-economic and political, until a colonized state gains its independence. Many colonized states have similar traits and even sometimes indirectly dictated by the colonial rulers. For example, the post-British and French colonization in Africa and other parts of the world led to the emergence of economic policies that favour the system of specialization of commodities, as used commonly by British and French during the colonial period (Austin et al, 2016; Frankema & Williamson, 2015).

I have listed each state with its former colonial ruler while assigning categories to the SIS that belongs to the same colonial ruler. For SIS which had more than one colonial ruler, such as the Dominican Republic that was colonized by Haiti and later Spain until independence, the last colony to colonize a certain state before independence is the one that this study prefers. The primary data source used for this variable is the CIA Factbook, while the secondary source, used mainly for confirmation and assurance, Wimmer & Min (2006) facilitate this need.

iii. Insularity and Remoteness.

Insular is defined as the territorial landmass with direct access to the sea or ocean, while remoteness can be defined as the average weighted distance between two countries with weights reflecting the absorptive capacity of the partner country (Borgatti, 2007). I use insularity and remoteness as a control variable to find out how geographical factors such as the location of the SIS influences the economic performance of SIS.

¹⁴ The World Factbook, (2018). Washington, DC: Central Intelligence Agency, 2018. <https://www.cia.gov/library/publications/the-world-factbook/fields/2088.html>

In this study, the degree of insularity and remoteness dimension is measured based on the distance of the analyzed SIS from the nearest continent. The assumption is, the closer the island to the continent, the higher chances for economic growth. I categorize this variable into binary characters; SIS that is beyond the average of one thousand kilometer (1000km) from the continent, I categorize it as “Remote” and record it as ‘0’ and the SIS that is less than one thousand kilometer (1000km) distance from the continent, I categorize it as “Not remote and record it as ‘1’.

The method of collecting data is not straightforward, since complete information on insularity and remoteness is quite rare and disperse. I favor mostly the United Nation Environment Programme (Unep) and Worlds Island Info databases that are repeatedly used in most empirical, studies (Armstrong et al, 1998; Bertram and Karagediki 2004; Vania 2013).

iv. Trade Openness

The term ‘small open economy’ often favors the Small Island States due to limited capacity of producing volumes of surplus goods and services for the world market. Manufacturing industries produce specified products as demanded for the domestic market, with high degree of openness to trade upon imports (Marcy, 1960; Scitovsky, 1960; Triffin, 1960).

The puzzle between the successful and unsuccessful side of degree of trade openness, brings interest on finding the correlation between the degree of trade activities, import and exports, and economic growth. To capture this level of trade exposure, I choose the trade-to-GDP ratio as a determinant indicator for the measurement. Trade-to-GDP ratio is calculated by dividing the aggregate value of both imports and exports over a period by the GDP for the same time-period. The data will be collected from the year 1987 to 2010, from World Integrated Trade Solution¹⁵ as a primary source. Whenever a shortage of data of a certain country occurs, World Bank and International Monetary Fund would act as a secondary (alternative) source of data.

¹⁵ World Integrated Trade Solution, 2018. *Trade to GDP ration*. [Data] available at <https://wits.worldbank.org/CountryProfile/en/country/by-country/startyear/LTST/endyear/LTST/indicator/NE-TRD-GNFS-ZS> [Accessed 6 May 2018].

v. **Natural Disaster.**

Disasters create additional to cost and may disrupt the whole economy (Briguglio, 1995). The major root causes for disaster proneness and vulnerability to natural hazards on SIS are well-documented in literatures (Chambers, 1995; Glantz, 1976; Hewitt 1983, 1997; Sen 1981; Gaillard, 2007, 2010; Wisner et al. 2004, 2012). The objective of this variable then is to test and observe how the variation of natural disasters affects the economy growth in this study. This variable is frequently connected to SIS due to the vulnerability that most islands suffers, such as floods, earthquakes, hurricanes, typhoons, fire, volcanic eruption, climate change, and landslide naming a few.

The gauging countries' level of natural disasters ranges from 1 to 3, where 1 stand for 'stable' from natural disaster, meaning that a state has never been reported with any natural disasters. Number 2 is for 'unstable': in a sense that a country has been reported with one or two disasters and number three is 'critical' with more than two reported cases of natural hazard. The data is collected from the United Nations Office for Disaster Risk Reduction¹⁶.

vi. **Official Development Assistance.**

Small Islands are the most aid dependent states in the world (Dornan & Pryke, 2017). The aid targeted here is in terms of financial aid, mainly funded from Official Development Assistance¹⁷ (ODA) in forms of loans and grants. There is historical connections and benefits between ODA and most small islands that is traced back since the end of the Second World War (Riddell, 2007) and it functions parallel to MIRAB¹⁸ economic theory that suggests a nearly central role for aid in funding government expenditure and service delivery for economic growth (Lewis, 2013). However, as time passes by, some SIS have stopped using ODA for different reasons such as economic success.

¹⁶ United Nations Office for Disaster Risk Reduction, 2018. Data Available at <https://www.preventionweb.net/english/professional/statistics/> [accessed 6 May 2018].

¹⁷ ODA is defined by the Organisation for Economic Co-operation and Development (OECD) as government aid that promotes and specifically targets the economic development and welfare of developing countries. (OECD.org, 2018). [Online] Available at <http://www.oecd.org/dac/stats/What-is-ODA.pdf> [Accessed 14 April 2018].

¹⁸ MIRAB economic model is an acronym Migration, Remittance, (foreign) Aid, and (public) Bureaucracy.

I use ODA to measure the targeted SIS of this study and assess the performance of aid to economic growth across time. The data used is collected from World Bank Database while the indicator is net ODA received in percentage of Gross National Income (GNI).

vii. Natural Resource.

Natural resource has been one of the important source of national wealth for any state. Since the end of Cold War, most developing states have reformed their economies, especially the extracting sectors and non-renewable resources, with the assistance of the World Bank (Onorato et al. 1998; World Bank, 1992, 1996). This has resulted to a direct flow of capital investment and income in the natural resource sector, with progressive economic growth and sustainable development.

The indicator that will measure the presence of natural resource is values of non-renewable exports as used by Ibrahim-Shwilima (2016). (one sided and unwarranted). I obtain the data from United Nations Conference on Trade and Development (UNCTAD)¹⁹ available under merchandise trade-matrix category. The data however, are available only from the year 1995 and not before, which results missing data from 1987 to 1994, hence unbalanced.

viii. High-manufactured technology for exports.

The level of manufactured technology is our last variable for this study, but certainly not the least. The objective of investing in technology industry is highly driven due to overwhelm difficult challenges, such as climate vulnerabilities, that SIS face. Important emphasis in technology industry in SIS is given to renewable energy sector, fishing technology, greenhouse projects in order; (a) to combat with unpredictable vulnerabilities and ensure resilience (Bishop, 2012) and (b) to waive trade imbalances by exporting most recent technological innovation to other parts of the world (Marjoram, 1991). In most of tropical islands, Bahamas for instance, manufactures Ocean Thermal Energy Conversion and Deep Ocean Water system, which may be used in generating electricity and addressing natural disasters in advance (Osorio *et al.*, 2016).

This control variable is used in multivariate regression model to seek whether it has significant correlations with term limits. The variable is measure by percentage rate and the

¹⁹ United Nations Conference on Trade and Development. (2018). *Natural Resource – Merchandise trade Matrix* | Data. [Available online at: <http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=24741> [Accessed 4 May 2018].

data is collected from the United Nations Conference on Trade and Development (UNCTAD).²⁰

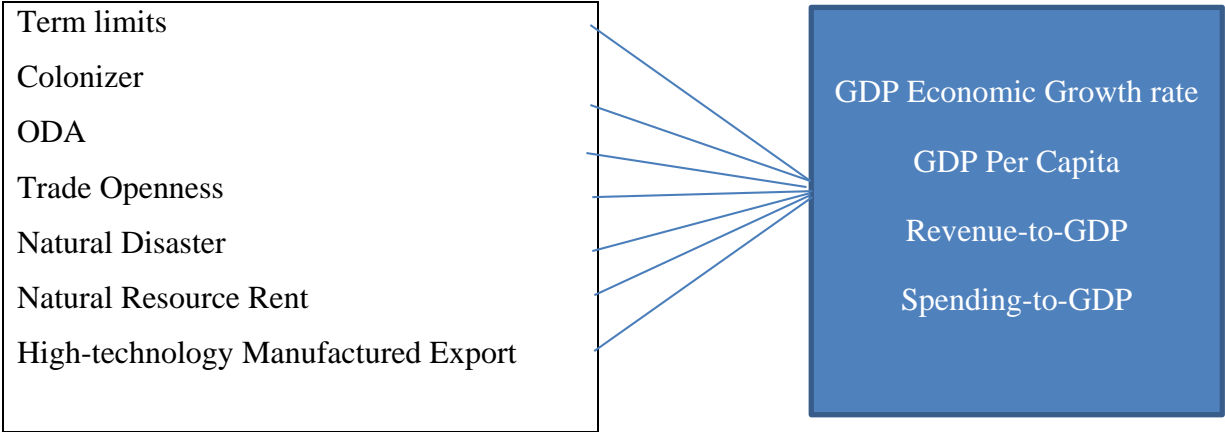


Fig. 1. Models for the quantitative panel regression –whereas the blue box on the right shows our dependent variable (the variables that is tested or measured). The white box on the left shows independent variables (variables that can explain the change in dependent variable).

²⁰ United Nations Conference on Trade and Development. (2018). *High-technology manufactured exports* | Data. [Available online at: <http://unctadstat.unctad.org/wds/TableView/dimView.aspx> [Accessed 4 May 2018].

SECTION 5.

5. Empirical Analysis.

In this section, we compute the relationship and explore the regression results of simple linear regression and multiple linear regression of all thirty-four countries. The analysis begins with the Hausman Test to define our model of regression, between either fixed effect or random effect (Pooled OLS).

```
----- Coefficients -----
(b)          (B)          (b-B)          sqrt(diag(V_b-V_B))
fe           re           Difference          S.E.

CatTL -.8439308   -.6053752   -.2385556   .7089704

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test:  Ho: difference in coefficients not systematic

chi2(1)      = (b-B)' [(V_b-V_B)^(-1)] (b-B)
              =          0.11
Prob>chi2    =          0.7365
```

Table1: Hausman Test: Fixed-Effect & Random effect.

The table above shows the p-value is 0.7365, which is above the 0.05 significance level. This indicates strong evidence to favor the null hypothesis; in other words, we fail to reject the null hypothesis. Therefore a random-effects specification is appropriate for individual-level effects in our model. Having no missing values for the regressed variables of interest indicates the comforting result that pooled OLS is superior for our study.

5.1. Simple Linear Regression.

	(1) DGDPGrowthrate
CatTL	-0.506 (0.321)
_cons	3.694*** (0.259)
<i>N</i>	812
<i>R</i> ²	0.003

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1: Pooled OLS – Term Limits and GDP growth rate.

By looking at the main variables of interest, term limit and economic growth, the simple linear regression shows that there is a no relationship between term limits and economic growth. This means, having unlimited terms does not impact the growth rate of the economy, hence this relationship is not statistically significant. Since the term limit is coded 0 or 1, with 0 for limited and 1 for unlimited, the interpretation in the simplest form would be: for unlimited the predicted score is five points lower than limited terms. Because there is no relationship, there is not much to discuss here.

5.2. Multiple Linear Regression.

In this sub-section, the study aims to answer two important questions:

- i. Which other predictor variables, besides term limit, influence the change in outcome variable in a significant way, and to what extent?
- ii. Which model fit best in explaining the strong association between variables?

	(1) GDP Growth rate	(2) GDP Growth rate	(3) GDP Growth rate	(4) GDP Growth rate	(5) GDP Growth rate	(6) GDP Growth rate
Term Limits	-0.546 (0.320)	-0.835* (0.330)	-0.805* (0.342)	-0.901** (0.342)	-0.866* (0.343)	-0.422 (0.398)
Colonizer	-0.0837 (0.0802)	-0.0295 (0.0814)	-0.00178 (0.0876)	0.0101 (0.0872)	0.0172 (0.0873)	0.119 (0.0998)
Remoteness & Insularity	-0.961** (0.336)	-0.772* (0.338)	-0.521 (0.355)	-0.814* (0.367)	-0.816* (0.367)	0.0193 (0.453)
Official Development Assistance		-0.0442** (0.0135)	-0.00766 (0.0165)	-0.00891 (0.0164)	-0.00375 (0.0169)	0.0333 (0.0345)
Trade Openness			0.0257*** (0.00539)	0.0311*** (0.00566)	0.0322*** (0.00572)	0.0243*** (0.00696)
Natural Disaster				1.049** (0.356)	1.072** (0.357)	-0.642 (0.434)
Natural resource rent					-0.0280 (0.0217)	-0.0588* (0.0298)
High-technology manufactured						-0.00860 (0.0130)
constant	4.207*** (0.319)	4.567*** (0.336)	2.920*** (0.497)	1.130 (0.784)	1.069 (0.785)	3.495*** (0.921)
<i>N</i>	812	812	753	753	753	436
<i>R</i> ²	0.017	0.030	0.051	0.062	0.064	0.066

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Pooled OLS –GDP economic Growth rate model.

The regression of table 3 is the estimated model of the control variables to GDP economic growth. In this table we observe that trade openness and natural disasters have a significant relationship to the economic growth of SIS. Despite not being variables of interest to this study, it is worth briefly exploring these associations.

Beginning with trade openness and economic growth, it has a coefficient of 0.0257. This indicates that when an SIS increases the degree of openness to trade (imports and exports) and integrates with international economy, there is 0.027-unit increase of GDP economic growth rate while holding all other variables constant. It also has a coefficient of 0.0243 when all variables are regressed (see GDP economic growth column 8), together with a strong p-value of less than 0.05. This result is interesting when linking to what some scholars have argued. According to the empirical study conducted by Tumbarello et al (2013), trade openness has increased over time and integration has benefited the SIS in the Asian Pacific and the Caribbean by allowing them to import capital goods such as energy and food, while countries such as Fiji, Samoa, Bahrain and Vanuatu have a high number of trade exports. A study by McGillivray, Naude, and Sato-Paulino (2010: 818) explores the trade flow in SIS. The empirical analysis indicates that commodity exports and imports relative to GDP are far higher in SIS in comparison to all other Developed Countries and Less Developed Countries between 1980 and 2007. For SIS, small national economies and deep integration into world markets make SIS particularly open to the vicissitudes of experiencing economic globalization (Fairburn, 1999). Earlier studies of Triffin (1960), Helleniner (1982) and Marcy (1960) had similar views regarding the urgency of integrating SIS to open trade at the international level. The ideas of significant relationship between trade openness and economic growth are weakened by Naude (2009), Santana et al. (2007) and Saayman et al. (2009), all of whom argue that trade openness does not provide an immediate effect on the economy, hence suggesting other determinants such as the role of government.

For natural disasters, the results are remarkable and raise some points of interest. The coefficient is 1.049, which means a significant relationship between natural disasters and GDP economic growth rate. A simple interpretation of this would be that for every unit increase in a natural disaster, a 1.049-unit increase in GDP economic growth rate is predicted, holding all other variables in account. There is controversy of the results of natural disasters and economic growth in the literature. Pelling and Uitto (2001) engage in a deep analysis of natural disasters and economy in small islands. The results of their studies had two interpretations: firstly, islands with repeated disaster shocks are the ones that also experience unstable economies and weak political institutions (page 20). Secondly, islands that had suffered a single yet catastrophic natural disaster had the highest relative loss in economy. The second interpretation favors our results more than the first interpretation. Pelling and Uitto point out Singapore as an exceptional case. It is the only island state in their study that

did not experience a disaster, with a relative low level of exposure to physical risk and relatively high levels of economic development and infrastructural capacity (p.50).

Additional scholars such as Burton et al. (1993), Giddens (1984), and Bryant and Bailey (1997) have applied natural disasters and vulnerability through the lens of political economy and human ecology approaches. There is a connection of these results to the work of Ilan Noy (2009) who addresses the consequences of disasters in macroeconomics. Ilan Noy stresses that countries with higher literacy rates and stable economies are better able to withstand the initial disaster shock and prevent further spillover to economic calamities. However, the variable of natural disasters in our study is just a control variable and not the central focus of interest.

The rest of the control variables—Colonizer, remoteness and insularity, ODA, natural resource rent and high-technology manufactured for export—are not significant. The coefficient of these variables is negative, which are not significantly different from zero, making no impact on the main dependent variable.

The R-square of the above regressed model is 0.066, which is significantly low making it hard to rectify it as a good model. Nevertheless, there were an average number of SIS with missing data on trade openness and natural disasters due to data accessibility, which were removed during the regression process. As a result, the interpretation of the above outcome could be viewed as less cohesive. The remaining control variables have less impact in determining the dependent variable, and so have been skipped.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DGDPp	DGDPp	DGDPp	DGDPp	DGDPp	DGDPp	DGDPp	DGDPp
	ercapita	ercapita	ercapita	ercapita	ercapita	ercapita	ercapita	ercapita
Term Limits	2559.5**	2411.1**	2182.1**	204.7	-	-359.7	-182.3	55.54
					3			
					8			
					2			
					.			
					9			
	(782.7)	(784.4)	(721.0)	(706.9)	(712.0)	(714.5)	(712.2)	(1032.6)
Colonizer		-430.0*	-37.85	497.1**	572.0**	567.2**	603.5**	768.2**
		(208.7)	(194.6)	(190.8)	(195.9)	(196.4)	(195.5)	(257.9)
Remoteness & Insularity			-	-	-	-	-	-
			9001.0**	7546.4**	6669.7**	6588.1**	6578.7**	9166.3**
			*	*	*	*	*	*
			(751.4)	(722.1)	(734.8)	(760.0)	(755.2)	(1171.4)
Official Development Assistance				-	-	-	-	-
				296.3***	264.8***	264.5***	238.8***	576.2***
				(29.60)	(34.15)	(34.18)	(34.90)	(89.08)
Trade Openness					85.42***	83.84***	89.20***	39.12*
					(11.09)	(11.70)	(11.75)	(18.08)
Natural Disasters						-310.6	-197.5	2690.4*
						(733.0)	(729.2)	(1125.0)
Natural Resource Rent							-141.7**	-164.1*
							(44.31)	(76.88)
High-technology manufactured								194.5***
								(34.09)
Constant	7038.3**	7960.2**	10085.7	12284.9	7719.7**	8258.8**	7966.3**	6039.6*
	*	*	***	***	*	*	*	
	(635.8)	(776.4)	(735.2)	(726.1)	(1030.3)	(1637.4)	(1629.7)	(2398.8)
<i>N</i>	776	776	776	776	735	735	735	431
<i>R</i> ²	0.014	0.019	0.173	0.268	0.326	0.326	0.336	0.405

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Pooled OLS – GDP per capita model.

Switching to GDP per capita as a dependent variable with term limit as the main independent variable of interest, we observe a significant correlation between the two variables. To every increase unit of term limits, there is a coefficient of 2559.5 unit rise for GDP per capita. In other words, when putting the variable into a bi-dimensional plot, x-axis and y-axis, and x-axis (term limit) has a measurement unit from 0 to 1, then more the variable moves to 1, which is unlimited in our case, the higher the chances of GDP per capita increasing as well. Hence this is a significant model. The result however is bivariate; there in nothing else held constant (*ceteris paribus*). Because of omitted variable bias, term limit loses significance when you control for other variables, which means that the correlation found in the bivariate model is spurious (confounded by some third variables).

This association of term limit and GDP per capita has support from the literature but not extensively to SIS. A study by Besley and Case (1995) indicates that when a governor in the U.S faces a term limit, the level of GDP per capita increases by three percent in comparison with the governors that are eligible to stand for reelection repeatedly. A panel data model generated by Carter and Nordstrom (2016) between term limits, leader preferences and GDP per capita shows that there is a strong correlation between GDP per capita and limited terms, especially when a democratic leader is electorally accountable. The findings from the aforementioned scholars match with the results of table 2 on term limits and GDP capita.

When regressing the GDP per capita with the rest of control variables, we find remoteness and insularity, trade openness and high-technology manufactured for export have a positive relationship. In other words, these control variables are helpful in explaining the variance of GDP per capita and term limits, and are hence worth having in our model. This corresponds to Sufrauj's (2011) clarification of how geographical distance and strategic locations of SIS could determines the level of GDP per capita in relations to eco-tourism and trade relations. The relationship between technology flow and GDP per capita in Small Islands is also mentioned by Sufrauj and Keller (2001) in length. There are three asterisks (***)²¹ to each of the control variables that positively correlate with the dependent variable, which means the p-value is less than 0.001, hence statistically significant. But for ODA, natural disaster, natural resource rent and colonizer have insignificant correlations with GDP per capita. Again, in this case, it is important to acknowledge the fact that in most data

²¹ The asterisks are commonly used in statistical output to represent ranges of the p-value, where *** means the p value is less than 0.001; ** if the p value is less than 0.01; and * if the p value is less than 0.05

sources there is missing data for most control variables such high-technology manufactured for export and ODA; were the data not absent, there may be different interpretations. Nevertheless, the variables are again just control variables and not the main point of interest.

For the model fit the R-squared of all regressed data is 0.405, which is equivalent to 40.5 percent. Based on this result, the model is good, at least when compared to the previous model, GDP economic growth rate. This result triggers extensive further study with the two variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt
	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue
	GDP	GDP	GDP	GDP	GDP	GDP	GDP	GDP
Term Limit	63.10 (100.1)	61.35 (100.2)	70.67 (100.3)	79.93 (102.8)	89.34 (108.4)	87.33 (109.0)	51.01 (109.3)	-4.687** (1.569)
Colonizer		-10.98 (24.91)	-20.65 (25.50)	-24.10 (26.87)	-21.69 (28.45)	-21.41 (28.50)	-24.01 (28.39)	0.412 (0.391)
Remoteness & Insularity			180.2 (104.9)	170.0 (107.8)	175.2 (114.1)	168.3 (119.6)	163.0 (119.1)	-3.154 (1.790)
Official Development Assistance				2.033 (4.956)	3.024 (5.769)	3.056 (5.775)	-1.015 (5.951)	0.376** (0.140)
Trade Openness					0.0888 (1.663)	0.202 (1.762)	-0.360 (1.766)	-0.0312 (0.0274)
Natural Disaster						22.42 (114.4)	8.893 (114.0)	-4.411* (1.710)
Natural resource rent							18.29** (6.904)	0.0351 (0.117)
High- technologyman ufactured								0.135** (0.0510)
constant	34.38 (81.30)	57.68 (97.01)	14.35 (100.1)	4.952 (102.7)	-14.44 (154.1)	-52.65 (248.6)	-16.12 (247.9)	35.43*** (3.620)
<i>N</i>	696	696	696	696	665	665	665	428
<i>R</i> ²	0.001	0.001	0.005	0.005	0.006	0.006	0.016	0.107

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5. Pooled OLS – Revenue-to-GDP model.

Here, the relationship between term limits and revenue per GDP is significant, because the estimate results tell us that the amount increase of revenue per GDP would be predicted by a 63.10 unit increase in term limit, as in this study, the unlimited term gets the predicted score of sixty-three points higher than limited terms. The results do correspond with the work of Alt,

Bueno de Mesquita & Rose (2011). They found negative evidence of limited term effect and accountability. Their suggestion and conclusion showed that government revenue is lower under term-limited incumbents than under those who are eligible for re-election. Nevertheless, they found that the general performance improves with the incumbent's tenure in office (p. 182). Besley and Case (1995) also confirms the association between revenue and voting behavior towards incumbent. Their study demonstrates that, when the voters observe the incumbent's effort regarding reduction of government tax revenues and increasing policy choices, the likelihood for incumbent to be re-elected increases. Their results also encourage the view that vote-seeking that is needed by incumbents, and revenue-reduction that is demanded by voters, are tied together through the nexus of yard-stick competition. Government revenue appears to be a significant determinant of who is elected and the policy choices that a candidate will pursue. The R-squared and the p-value of revenue-to-GDP and term limit is not strong enough to declare the association as effective.

Regarding the multiple regression, perhaps this is the only model that shows many control variables having a significant relationship with revenue-to-GDP, with only the Colonizer variable having a negative correlation. These variables are remoteness and insularity wherein, with every unit increase in remoteness and insularity, revenue-to-GDP is predicted to be 180.2 units higher. Also, for every unit increase of ODA, the predicted value of revenue-to-GDP is 2.033. For every unit increase in trade openness, a 0.0888 unit increases in revenue-to-GDP. For natural disaster, for every unit increase in a natural disaster, a 22.42 unit increase in revenue-to-GDP is predicted. Additionally, for each unit increase in natural resource rent, there is a predicted 18.29 unit increase in revenue-to-GDP and an average of 0.135 unit increase in revenue-to-GDP for every unit increase in high-technology manufactured for export. But for every unit increase in ODA, revenue-to-GDP is predicted to be 10.98 units lower.

On the subject of p-value and R-squared of the regressed model of all variables, the result is 0.107 which is significantly low, so it can be contemplated as a bad model. However, it is important to notice that the number of observations (N) dropped to 428, which mean some of the data were not included in the regression due to a missing-data problem. Only natural resource rent and high-technology manufactured for export show p-values below 0.05 and hence statistically significant relationships to revenue-to-GDP.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt	Gvt
	Spending	Spending	Spending	Spending	Spending	Spending	Spending	Spending
	GDP	GDP	GDP	GDP	GDP	GDP	GDP	GDP
Term Limits	-3.168*** (0.784)	-2.356*** (0.680)	-2.354*** (0.659)	-0.987 (0.661)	-2.070*** (0.559)	-1.352** (0.494)	-1.262* (0.494)	-1.893*** (0.541)
Colonizer		2.729*** (0.165)	2.415*** (0.165)	2.159*** (0.163)	1.105*** (0.143)	1.015*** (0.126)	1.034*** (0.126)	0.877*** (0.136)
Remoteness & Insularity			5.111*** (0.692)	4.216*** (0.678)	1.693** (0.580)	3.792*** (0.530)	3.790*** (0.529)	-0.515 (0.616)
Official Development Assistance				0.209*** (0.0271)	0.197*** (0.0270)	0.205*** (0.0238)	0.219*** (0.0244)	0.321*** (0.0469)
Trade Openness					0.00703 (0.00880)	- (0.00819)	- (0.00826)	- (0.00946)
Natural Disaster						-7.604*** (0.515)	-7.545*** (0.514)	-3.656*** (0.590)
Natural resource rent							-0.0735* (0.0313)	-0.00387 (0.0404)
High- technology manufactured								0.0159 (0.0176)
constant	22.02*** (0.633)	15.79*** (0.665)	14.79*** (0.659)	13.09*** (0.673)	15.29*** (0.811)	28.31*** (1.134)	28.16*** (1.133)	23.15*** (1.251)
<i>N</i>	816	816	816	816	757	757	757	436
<i>R</i> ²	0.020	0.266	0.312	0.359	0.220	0.396	0.400	0.301

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Pooled OLS Government spending-to-GDP

The table above shows that for every unit increase of term limit, a 3.168 unit decrease in spending per GDP is predicted. Having a coefficient closer to zero in two pairs of variables, one can be confident of estimating the model as statistically significant, with no variable to control. The p-value of the association shows three asterisks which means less than 0.001 ($p < 0.001$). This provides evidence for the presence of a strong relationship, and so for a rejection of the null hypothesis. The supposed null hypothesis here is that there is no relationship between term limit and spending-to-GDP. The regression confirms the estimated effect of term limit and spending-to-GDP.

In the empirical study of Alt, Bueno de Mesquita & Rose (2011), which focused in-depth on government spending, incumbents' behavior and term limits found that government spending is higher under reelection-eligible incumbents than limited-terms incumbents. The study reflects with the results found in this study, making it interesting in the case of Small Island States. As said above in the coefficient results, with every unit increase in term limit, from 0 to 1 (0 being limited and 1 unlimited), there is an estimated decrease of 3.168 units in government spending-to-GDP. In other words, with an increase of incumbent leader to be reelected under unlimited terms, there is a 3.168 likelihood reduction in government spending. The importance of this result is heterogeneous. Not only does it enable an improvement in the way of thinking about mechanisms through which term limits affect spending-to-GDP, but also such estimates are critical for thinking about why unlimited terms matter in a society with a small pool of candidates. One of the potential answers is that it reduces government spending. The results are also consistent with the empirical finding that voters are normally 'fiscal conservatives' and often punish incumbent candidates for rapid spending as well as tax growth (Besley and Case 1995; Peltzman 1992).

Colonizer in this model has a significant relationship with government spending-to-GDP, with a p-value below 1 percent which indicates the presence of a strong significant relationship, holding other variables constant. Colonizer has a coefficient of 2.729 which means that for every unit increase in colonizer (ranging in category from 1 to 7), there is a 2.729 increase in government spending-to-GDP. Amongst all other model, colonizer has a significant correlation only with spending-to-GDP. The results suggests that SIS that were not colonized by the United Kingdom (which is grouped as number 1 in categorical variable), there is likely to be a 2.729 increase in government spending.

There are similar significant relationships with a p-value below 1 percent to remoteness, insularity and ODA. Trade openness and high-technology manufactured for export have been distinguished as having a significant relationship while natural resource rent and natural disasters do not have statistical correlations with government spending-to-GDP. The R-square of the accumulated variables is 0.301 which is low, hence a bad model. However, colonizer, ODA and all others mentioned with significant relationships are only control variables in this study, and are not of main interest.

	(1) GDPGrowthrate	(2) DGDPpercapita	(3) DgvtRevenueGDP	(4) DgvtSpendingGDP
Term Limit	-0.422 (0.398)	55.54 (1032.6)	-4.687** (1.569)	-1.893*** (0.541)
Colonizer	0.119 (0.0998)	768.2** (257.9)	0.412 (0.391)	0.877*** (0.136)
Remoteness and Insularity	0.0193 (0.453)	-9166.3*** (1171.4)	-3.154 (1.790)	-0.515 (0.616)
Official Development Assistance	0.0333 (0.0345)	-576.2*** (89.08)	0.376** (0.140)	0.321*** (0.0469)
Trade Openness	0.0243*** (0.00696)	39.12* (18.08)	-0.0312 (0.0274)	-0.0378*** (0.00946)
Natural Disaster	-0.642 (0.434)	2690.4* (1125.0)	-4.411* (1.710)	-3.656*** (0.590)
Natural resource rent	-0.0588* (0.0298)	-164.1* (76.88)	0.0351 (0.117)	-0.00387 (0.0404)
High-technology manufactured	-0.00860 (0.0130)	194.5*** (34.09)	0.135** (0.0510)	0.0159 (0.0176)
constant	3.495*** (0.921)	6039.6* (2398.8)	35.43*** (3.620)	23.15*** (1.251)
<i>N</i>	436	431	428	436
<i>R</i> ²	0.066	0.405	0.107	0.301

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Pooled OLS – Accumulated Models.

What is the best model? Table 7 shows four accumulated multiple linear regression models: each model regressing main independent variables and control variables. On the basis of R-squared, model number four is a good robust model in comparison with the rest. It has an estimated R-squared of 0.301×100 which is equivalent to 30.1 percent. Also, model four is the only model with a significant correlation with the main independent variable, term limit.

Other models have a poor outcome after regressing the variables. Model one for instance, which consist of our variables of interest, namely term limits and GDP economic growth, has the least R-squared of $0.066 \times 100 = 6$ percent. This shows the model is poor and less robust. The estimated relationship between predictor variables and GDP economic growth are not statistically significant. When attempting to remove non-significant variables from the model to measure the robustness, this would increase the strength of the association but also increase the level of bias.

Therefore, for SIS, model four is likely to be a good reliable model. But the results that consist of multiple variables could possibly be overlooked, particularly if the issue of missing values is given emphasis. In the next section, the discussion, I try to match the results with the theory of principle-agent as well as adding literature based on the model.

5.3. Robustness Check

In this section the study examines how does the regression coefficient estimate change when the regression specification is modified by removing SIS with a population above 1.5 million. Here, we conceptualize the smallness of SIS with the population number set by Commonwealth and World Bank (2000) of 1.5 million. Therefore, from a panel of thirty-four SIS, six of them are removed namely; Singapore, Guinea and Bissau, Jamaica, Ireland, Dominican Republic and Papua New Guinea This leaves us with 28 SIS which have the population of 1.5 million and below, making it possible for robust regression.

```

---- Coefficients ----
          |          (b)          (B)          (b-B)          sqrt(diag(V_b-
V_B))    |
          |          fe          re          Difference          S.E.
-----+-----
CatTL    |    -.8439308    -.6090979    -.2348329    .6417583
-----+-----

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test:  Ho:  difference in coefficients not systematic

        chi2(1) = (b-B)' [(V_b-V_B)^(-1)] (b-B)
              =          0.13
        Prob>chi2 =          0.7144

```

Table 8: Hausman test - Robustness check.

From the table 8, the Hausman test shows a p-value of 0.71 which is above 0.05, hence fail to reject the null hypothesis. Based on the this Hausman test result, we favor random effect model for our simple linear regression.

a. Simple linear regression.

	(1) DGDPGrowthrate
CatTL	-0.609 (0.545)
_cons	3.580*** (0.484)
<i>N</i>	668
<i>R</i> ²	0.0016

Table 9: Random effect: term limit and GDP growth rate

Table 9 shows that there is no statistical correlations between term limits and GDP economic growth rate, even after removing SIS above 1.5 million. Having observe similar results before and after robustness check, it shows that our results are robust. Despite of

changing regression specification, the coefficient estimates remain behaving the same. Therefore, the findings strengthen the conclusion that term limits do not impact GDP economic growth.

b. Multivariate Regression

---- Coefficients ----				
V_B))	(b)	(B)	(b-B)	sqrt(diag(V_b-
	fe	re	Difference	S.E.
CatTL	.992976	.6445598	.3484162	1.166594
NetODAGNI	.0036468	.048162	-.0445152	.0411768
TradeOpenn~s	.0253929	.0264138	-.0010209	.0180904
Naturalres~t	.1197446	.0139515	.1057931	.080828
Hightechno~d	.0401539	.0170056	.0231484	.0145959

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\text{chi2}(5) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$$

$$= 7.55$$

$$\text{Prob}>\text{chi2} = 0.1831$$

Table 10: Hausman test – Multivariate regression – Robustness check

For the Hausman test, the p-value of 0.18 shows we fail to reject the null hypothesis and hence finding random effect as a good model to regress the model.

	(1) GDP Growthrate	(2) GDP per capita	(3) Revenue GDP	(4) Spending GDP
Term Limits	0.645 (0.739)	827.1 (1629.8)	-7.674* (3.344)	0.290 (1.072)
Colonizer	0.0327 (0.199)	49.14 (843.1)	0.831 (0.915)	0.890 (0.557)
Remoteness and Insularity	-0.0501 (0.991)	-6003.4 (3932.6)	2.225 (4.566)	2.351 (2.596)
ODA	0.0482 (0.0486)	-175.9* (81.45)	0.504* (0.217)	0.286*** (0.0535)
Trade Openness	0.0264 (0.0187)	28.74 (32.96)	0.112 (0.0817)	-0.0258 (0.0216)
Natural Disaster	0.369 (0.816)	2844.1 (3311.7)	-7.855* (3.732)	-7.291*** (2.186)
Natural resource rent	0.0140 (0.0618)	521.9*** (124.9)	-0.271 (0.273)	-0.507*** (0.0821)
High- technology export	0.0170 (0.0203)	279.7*** (32.53)	0.0801 (0.0890)	0.0187 (0.0213)
_cons	0.729 (1.885)	1768.4 (5900.6)	36.33*** (8.435)	28.69*** (3.891)
<i>N</i>	350	345	343	350
<i>R</i> ²	0.0132	0.2153	0.1414	0.2144

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11. Pooled OLS – Robustness check

i. Interpretation of Model 1. GDP Growth rate.

The result of model 1 is robust. The model indicates no strong the relationship between independent variables and GDP growth rate, holding control variables constant. The estimate coefficient shows a positive correlation between term limits and GDP growth rate, holding other control variables constant, but not significant relationship.

For the control variables, result indicates changes of coefficient estimates when certain regression specifications (six countries) are removed from the panel, holding other predictors constant. Previously, we managed to observe significant correlation between predictors, trade openness and natural resources, when the bar of population is set to 10 million, but when the population bar is lowered to 1.5 million then such correlation does not exist. This changes may suggest that trade openness and natural resources decreases its strengths when the population of SIS is below 1.5 million.

To comment on the R-squared and the strength of the model overall, the results are robust and plausible. The reason is even after isolating six SIS with higher population to 10 million, most coefficient estimates remain unchanged and the model still remains poor, having a score of R-squared 0.0132 under robustness check, closely similar to 0.66 R-squared of thirty-four SIS (see table 7).

ii. Interpretation of Model 2. GDP per capita.

In model 2 result indicates a presence of robustness as far variables of interest (term limits and GDP per capita) are concerned, while holding control variables constant. The coefficients of the two models, 34-SIS model and 28-SIS model, shows similarly positive relationship between the variables with notable differences in coefficient units nonetheless. This tells us that the coefficient of the two variables behave the same even after removing some individual countries from the regression, hence valid correlations.

For the controls, there are observable robustness to three predictor variables, High technology manufactured export, natural resource and ODA. The coefficient estimate of the variable still suggests strong correlations in spite of dropping some regression specification, while holding other independent variables constant. However, there are changes of coefficient estimate to variables such as remoteness and historical colonizer which may implicate different interpretation. The two mentioned variables lack robustness because the estimate coefficient behaves differently when SIS with 10 million are removed from the regression. It minimizes the confidence to rectify the variables as significant.

For the R-squared, the findings show the model has a 0.2153 which has changed after dropping some countries. The R-squares has decreases by 0.19 which might somewhat minimize our confidence to declare that is model is strongly robust. Perhaps in-depth studies are needed for this model.

iii. Interpretation of Model 3. Revenue GDP.

The estimate coefficient of robust-check model indicates the existence of robustness in this model. The coefficient estimate of robust-check shows a significant relationship between term limits and revenue to GDP, holding controls constant, similarly to 34-SIS coefficient outcome. Both of the coefficient estimates have a p-value that is below 0.05, thus robust. This model is likely to be the most robust finding for our study in relations to term limits.

For the control variables, only the relationship between natural disaster and revenue to GDP is robust with coefficient that indicates statistical significant relationship, holding other explanatory variables. The estimate coefficient of high manufactured technology and ODA changes and loses their significance when six SIS are eliminated from the regression. The change of coefficient estimates of ODA and high technology export due to dropping of six SIS indicates that results of our model is less robust to these variables.

The outcome of R-squared has not changed a lot, from 0.107 (of 34 SIS) to 0.1414 (of 28 SIS) which simply indicates that both of the findings are poor. Based on similar poorness of the model, it then provides sufficient ground evidence to claim that this model overall is robust.

iv. Interpretation of Model 4. Spending to GDP.

The fourth model explores interesting findings. While there was a strong statistical relationship between term limits and spending to GDP (holding controls variables), the robust-check regression shows no such relationship exist, making our model less robust. The coefficient estimate has significantly changes when six countries that have high population of 10 million are removed from the regression.

Moreover, when dealing with control variables we find that the estimate coefficient of natural resources behaves differently by having significant correlations when there is reduction of SIS with 10 million population size, emphasizing that our model likely not robust, holding other predictors constant. Similar results to trade openness and historical colonizer. However, ODA and natural disaster remained statistical significant despite the removal of some SIS, hence robust control variables to spending to GDP.

When observing the R-squared results of both regressions, 34 SIS regression and 28 SIS regression, it is convincing to argue that there is less of robustness to the model. The reason is, the R-squared units have dropped by on average of 9 percent which reduces the confidence to announce the model as strongly robust.

SECTION 6.

6. Discussion

In this section I adopt a method of question and answer in explaining the overall finding of this study as well as a way of referring to back to research question, hypothesis and puzzles posed at the beginning of this thesis.

a. What have been the major finding(s) of this particular study?

The results of this study are two folded. Firstly, the study has failed to reject the null hypothesis, which means, there is no association between term limits and GDP economic growth rate in SIS. We manage to observe that countries of SIS, with either limited or unlimited terms could not impact the GDP growth rate. The findings are robust and plausible after performing the robustness check regression that removed six SIS with a population above 1.5 million, and showed no significant changes in estimate coefficient.

Secondly, the the study managed to identify strong correlations in spending to GDP and Revenue to GDP. Revenue to GDP had robust results in relations to term limits, making an important discovery in this study for society (voters) and scholars to consider. The result showed the longer the incumbents stays on power, the lower the revenue to GDP decreases. Therefore, SIS should encourage limited terms and changing of candidates in order to increase the amount of revenue to GDP. The methods and rules of collecting tax and fiscal revenues needs a dynamic body to emphasize its implementation (Landefeld, Seskin & Fraumeni, 2008). A dynamic body could imply to change of government with new mentality, which is achievable under limited terms.

For spending to GDP, the model showed strong correlations with term limit but not robust when some countries (Singapore, Guinea and Bissau, Jamaica, Ireland, Dominican Republic and Papua New Guinea) are excluded from the panel regression. Also, the model had significant correlations to most of predictor variables. The model overall tells us that for SIS especially with higher number of population exceeding 1.5; the longer the incumbent stays in power, the lower spending to GDP decreases, which is bad for economy. The governments need to be capable of spending more in order to bring development to its society

(Ramey, Zubeiry, 2014). The model also shows the robust result on natural disasters and natural resource that are statistically important to consider.

b. How does the finding of this study reveal new gaps in the literature?

The findings are promising and contribute to filling the gaps in the empirical literature that had not been adequately described in the past in relation to SIS. The results tell us that scholars from neither of the two camps listed in the literature review section, orthodox and unorthodox, support our findings of SIS between term limit and GDP growth rate. The camps from the literature review were divided into two parts: scholars in favor of fixed term, and scholars in favor of unfixed terms in facilitating GDP economic growth rate. The results in SIS show neither term limits nor unlimited could impact GDP growth rate. The study conclusions depart away from merely orthodox and unorthodox scholars. The finding creates perhaps a third way of thinking away from GDP economic growth rate and term limits. The findings indicate that term limits is not all that matters for economic growth in SIS. In fact, a SIS with either limited terms or unlimited does not guarantee the probability of having a rapid GDP economic growth rate, regardless of the size of the population.

There are two dependent variables, namely spending-to-GDP and revenue to GDP, with strong correlations to term limits and reflects to the literature. Firstly, the study strongly fills the gaps in relations to term limit and revenue to GDP. We discover that term limits impact the changes of revenue to GDP; when the incumbent gets reelected repeatedly, the revenue to GDP decreases. This finding is supported by Crain and Tollison (1993); Johnson and Crain (2004); Besley and Case (1995) who empirically explored the presence of term limit and revenue to GDP and consent that such relationship exists. These scholars advocated the urgency of having limited term for the revenue to GDP to increase.

To complement the literature that explored the correlations between term limits and spending-to-GDP in large states (Besley and Case, 2003; Payne, 1991; Reed et al, 1998; Tanzi, 2004; Dalle Nogare and Ricciuti, 2011), this study has interesting findings on SIS, which fill the gaps in empirical science studies. The findings of this study are in line with what Besley and Case (2003) argued in their study focused on the U.S: term-limited governors (in our case new candidates) tend to significantly increase the spending of the state. Our study also rejects the stance that Payne (1991) and Dalle Nogare and Ricciuti (2011) once

advocated. However, this finding is not robust; its evidence works only when all thirty-four SIS are included in the analysis and not otherwise.

c. Theory and effect of the findings.

What do the findings tell us about the principal-agent theory and the hypothesis?

In relations to principal agent theory, the findings could be interpreted that voters should not focus too much on examining the effectiveness or the shirking of the incumbent regarding the desire to achieve high GDP economic growth. This should not be understood to mean that voter filtering for a competent leader is a total waste of time, especially for SIS where the pool of competent leaders is narrow. Instead, as the findings suggest, voters from the thirty-four SIS panel should focus their preferences on spending to GDP and revenue to GDP when filtering their candidate. This means, voters (principal) should use the scope of spending to GDP and revenue to GDP to measure the efficiency of a leader (agent) before (re)electing for office. And so, after these findings, the principal-agent theory has identified the normative and empirical stance for voters to consider in the election.

d. Do the findings provide Answers to the research puzzle of the thesis?

For the recent cases of constitutional reform on term limits that occurred in Comoros and the Dominican Republic in 2009 and 2015, respectively, which by and large were driven to fuel economic growth (Crosby, 2015; Zovatto, 2016; Chatham House, 2009), based on the results obtained in this study, such changes are fruitless to GDP growth rate. Therefore, the chances of either Comoros or Dominican Republic succeeding in economic growth because of the change of term limits are very small.

Dominican Republics may wish to consider revenue to GDP as a robust model when re-assessing their decision. Based on the findings, there are likely chances for the revenue to GDP to drop when the incumbent, Denilo Medina, continuously gets reelected. Nevertheless, since Dominican Republic has an average population of 10 million, there is a probability for spending to GDP to decrease over time when the incumbent remains in power.

For Comoros, under limited term that the country has selected in their reformed constitution, we can predict that their revenue to GDP may increase over time. For the spending to GDP are also chances for spending to GDP to increase. The prediction of revenue to GDP also applies to all-limited-terms SIS included in the panel without regard to population size.

e. Can we use the results from this study to estimate term limits and the GDP economic growth of SIS that we did not either observe or include in this research?

The answer to this is; it depends on (a) the conceptualization of smallness of island state in terms of population, (b) data availability. By explaining (a) If a researcher for example want to find the relationship between term limits and economic growth to SIS countries that are beyond 10 million, then this results cannot be reliable, as the study explicitly binds within 10 million population size. To elaborate (b) - this study suffered from missing data problem, therefore, if the unobserved group of countries have sufficient data, the relationship between and GDP economic growth may differ with the results of this study. However, to most of cases, Small Island States does not exceed 10 million population size, and most of SIS have the problem of missing value due to the reasons mentioned earlier in this study. Therefore, if that is the case, then we can rely and use the results from this study to estimate term limits and GDP economic growth. The results regarding the relationship between term limit and GDP economic growth are strengthened with robustness check regression, which makes it a good evidence to depend on.

f. What have been the limitations of this study?

Every study has limitations despite the efforts of the researcher to avoid them (Wiersma, W. 2000; Hsiao, 2007). In this study, I identify two potential limitations and weaknesses that could perhaps impact the result of null hypothesis topic and possibly the overall validity of the results.

The first limitation is regarding data. Variables such as high-technology, revenue-to-GDP, GDP per capita, trade openness and GDP per capita were recorded in most of database engines but most of them consist of a high number of missing values. Lack of getting access

to record the data from a trusted source such as government is one of the reasons why the data are missing. In attempting to minimize the limitation, the study collected data from the alternative secondary yet reliable sources to fill in the gaps. This helped massively in fixing the empty gaps, but still, some data were not possible to find even in alternative sources, hence left blank

The second limitation is the presence of a number of categorical variables that lead to the loss of important information (Myers & Well, 2003; Cohen & Cohen, 1983). The study consists of four categorical variables—term limit, natural disasters, colonizer and remoteness & insularity—to simplify statistical analysis. However, limiting the study into categories could result in the variable reducing its statistical power, which could otherwise detect a significant relationship between, for example, natural disasters and GDP economic growth. Categorizing the aforementioned variables into two groups (example remoteness variable) or seven group (example historical colonizer) could increase the risk of a positive result being a false positive and vice-versa.

SECTION 7.

7. CONCLUSION

The essence of this study was to address the conflicting puzzle of term limits and its influence on economic growth in countries that are less exposed, the Small Island States. The study considered panel data model - Pooled OLS, across 34 Small Island States to monitor a larger number of observations over time, 1987 to 2010.

a. Conclusion on the theory.

The Small Island States are currently undergoing highly sensitive economic and political reforms, particularly by adjusting term limits through constitution to stimulate the economy. Candidates running for executive post and voters are in a dilemma as to what fits the best between unlimited terms and fixed terms vis-à-vis economic progress. The principal-agent theory has helped us to elucidate the conflicting logics that underpin the positions held by the different actors. In this way, the theory has allowed us to conceptualize the needs and the position of the voters 'principal' in (re)-electing the competent candidate and the agent's utilization of information as well as the possibility for the agent to shirk. The application of principal-agent theory in this study should not be taken as a means to prove the theory, weak or not. On the contrary, the usage of theory is set out to illustrate that both actors, voters and candidates, have intrinsically sound positions in choosing either fixed or unlimited terms, based on policy choices and implantations, and the economic vulnerabilities of the island. In this regard, through the lens of the theory, the results have indicated that the choice of reelecting an incumbent could not increase the probability of having a higher GDP economic growth rate, and also the choice of electing a new candidate could not increase the probability of greater GDP economic growth.

b. Conclusion of the findings.

I established a main hypothesis for this study, which, after regression, I failed to reject. However, alternative supportive models revive the probability of having better economies in SIS. A model that contained the two variables of interest, term limit and GDP economic

growth rate, had no statistically significant result even after robustness check. The best model that include all countries in our study is spending-to-GDP. The model indicates the presence of strong relationship between term limits and spending to GDP. When considering robustness check in multivariate regression, revenue to GDP remains as the only model that has statistical significance with term limits. By holding other predictors, the conclusion suggests that limited term has positive impacts to revenue to GDP. Therefore, SIS, particularly voters should keep emphasis on revenue to GDP model in their preferences as far as term limit is concerned.

There are a number of limitations regarding the study design, data collection, and possibly variable and countries' selection. For instance, the data collected indicated the problem of missing values that perhaps have resulted to misleading conclusion. Even if the robustness check assisted in rectifying our findings, the issue of missing data is worth mentioning, nonetheless.

c. Suggestions.

After observing the findings of this study, I offer my suggestions in two important areas; the decision-making bodies of SIS and to scholars and researchers of political science and economy.

i. Decision making bodies.

Instead of explicitly debating term limit and GDP economic growth, SIS governing bodies should encourage voters to oversee other economic determinants such as spending to GDP and revenue to GDP when (re)electing candidates. This encouragement process can be done by educating the voters on how to measure the overall performance of their economy and why spending to GDP and revenue to GDP are good models gauge the performance of the leader. By doing this, most of SIS may perform well in economy, beyond resilience.

Also, the governing bodies should look at diverse factors such as more engaging to Official Development Assistance, taking combative measure against natural disasters and openness to trade in international arenas as a means to fuel economic performance. For example in trade openness, in an interview aired by Channel News Asia, Tommy Koh, Ambassador-at-Large for the Ministry of Foreign Affairs of Singapore, suggested SIS could either formulate trade forum initiatives or join regional trade unions to amplify their economy

and advance SIS interests in the world.²² Moreover, other relevant sectors in SIS capacity could work on their advantages as these are capable of determining GDP per capita, revenue to GDP and spending-to-GDP. Policy makers may tie these positive factors together, alongside other external factors to the island, to pursue economic goals.

ii. Venue for future studies.

Building on the findings of this study three areas should be given serious focus in future studies as far as SIS are concerned. Firstly, I suggest future studies could look at the influence and the changing of political parties in determining economic performance, instead of term limit. Often, most islands have a long-ruling political party that stays in power, such as in Jamaica and Guinea Bissau. But these long standing ruling parties, most of them started ruling since independence, have recently been losing in elections allowing new parties in office. Hence, in relation to the economic growth, researchers could compare island states with a simultaneous change in political parties to islands with one or two ruling parties since independence. Perhaps the results could be more promising.

The second suggestion for further research is regarding natural resources and term limits. In this study, there was little exploration regarding natural resource rent despite the fact that most SIS contain various natural resources (Weeks & Adams, 2017). Perhaps because natural resource was just a control variable. In all of our four models, only the third model showed a statistically significant correlation with revenue-to-GDP, unlike other variables which had a minimum of two associations. This probably rises a question of interest because in an ideal world, the most generous assumption would be that having natural resources accelerates economic growth at a rapid pace, particularly in SIS with a small population. What happens in SIS regarding natural resources and economic performance?

Last but not least, the study limited itself to sovereign Small Island States. Yet there are a vast number of Small Island States that are not sovereign, semi-autonomous, and immensely marginalized in literature. Some of these islands are not even know that they exist. Therefore, it might be worth exploring how term limits and economic growth work in non-sovereign Small Island States.

²² Channel News Asia (2015, September 29). *Diplomacy of Small States*. Perspective Insider [Video File]. Retrieved from <https://www.youtube.com/watch?v=nokRHd7Z1zw&t=60s>

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