SOCIO-ECONOMIC, POLITICAL AND SOCIAL CAPITAL FACTORS THAT INFLUENCE THE STATE EXPENDITURE: A COMPARISON OF RURAL COMMUNITIES IN THE MALDIVES

Mohamed Zahir

A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Philosophy (Development Administration)
School of Public Administration
National Institute of Development Administration
2019

SOCIO-ECONOMIC, POLITICAL AND SOCIAL CAPITAL FACTORS THAT INFLUENCE THE STATE EXPENDITURE: A COMPARISON OF RURAL COMMUNITIES IN THE MALDIVES

Mohamed Zahir
School of Public Administration

..... Major Advisor
(Professor Ponlapat Buracom, Ph.D.)

The Examining Committee Approved This Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (Development Administration).

..... Committee Chairperson
(Professor Sakon Varanyuwatana, Ph.D.)

..... Committee
(Professor Ponlapat Buracom, Ph.D.)

..... Committee
(Assistant Professor Nuttakrit Powintara, Ph.D.)

..... Dean
(Associate Professor Boon-Anan Phinaitrup, Ed.D.)

_____/_____/_____

ABSTRACT

Title of Dissertation	SOCIO-ECONOMIC, POLITICAL AND SOCIAL CAPITAL FACTORS THAT INFLUENCE THE STATE EXPENDITURE: A COMPARISON OF RURAL COMMUNITIES IN THE MALDIVES
Author	Mohamed Zahir
Degree	Doctor of Philosophy (Development Administration)
Year	2019

The Maldives is a nation in the Indian Ocean that includes approximately 1200 coral islands in 21 clusters known as atolls. For administrative purposes, these atolls are grouped into seven provinces located geographically in the Central, Northern, and Southern areas. These island communities operate as groups, which explains to some extent the unequal allocation of resources among the rural communities and Central city, as many studies have supported. Therefore, to understand the unequal distribution of wealth in rural communities, it is very important to determine the factors associated with the provision of public funding as a whole. This study's goal was to use multi-dimensional variables to estimate the factors that determine the provision of public funding, and economic, political, and social capital factors were combined to determine their relation to the Maldives' total expenditures. More interestingly, after 2010, many rural areas have made huge improvements in their education level, healthcare services, and infrastructure development. The constitutional reform in 2008 that mandates multi-party democratic elections are suspected to be the root cause of these improvements.

Ideally, citizen participation and engagement are intended to foster any state's development. The Maldives government always has been criticized for its process of electing government officials, specifically influences on the part of candidates and other stakeholders, either by mutual benefits or malfeasance. However, it is clear that there is an expectation on both sides' part. This basically indicates that public spending will be higher when it caters to the public's demands. However, to what extent is this statement true in the case of rural development? Therefore, this study attempted to analyze the provision of public funding at both the island and provincial levels, and two models were developed to investigate these relations.

ACKNOWLEDGEMENTS

First, I would like to express deepest gratitude to Allah almighty for providing me the strength and the means for achieving a little knowledge and wisdom to complete this thesis. And, from my inmost sincere appreciation to my advisor Professor Dr. Ponlapat Buracom for the endless support of my PhD study and related research, for his patience, motivation, immense knowledge and his endless guidance in all the way to this very end of my thesis.

Besides my advisor, I would like to thank the rest of my thesis committee; Professor Dr. Sakon Varanyuwatana and Professor Dr. Nuttakrit Powintara, for their insightful comment and encouragement, but also for the hard question(s) which incented me to broaden my research from various perspective.

My sincere thanks also goes to National Institute for Development Administration (NIDA), Graduate School of Public Administration (GSPA) for offering me scholarship and other non-financial assistance in settling myself into the Thailand. Without they precious support it would not be possible to conduct this research as successful.

Finally, I would like to dedicate this work to my parents and my beloved wife Thaleema Ibrahim, who encouraged me to extend my reach. With her endless support and god constant encouragement, I have able to successfully complete this thesis.

Mohamed Zahir

October 2019

TABLE OF CONTENTS

Page

ABSTRACT iii
ACKNOWLEDGEMENTS iv
TABLE OF CONTENTS v
LIST OF TABLES ix
LIST OF FIGURES xi
CHAPTER 1 INTRODUCTION 1
1.1 Significance of the study 1
1.2 Objectives of the Study 3
1.3 Scope and limitations of the study 3
1.4 Benefits of the Study 4
1.5 Types of Data set and Unit of Analysis 5
1.6 Organization of the Study 6
CHAPTER 2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK 8
2.1 An Introduction of Social Capital 8
2.2 Provision of public funds in a global viewpoint 10
2.3 Theoretical explanation on the determinants and the provision of public funds 12
2.3.1 Socio-economic factors 13
2.3.2 Political Factors 16
2.3.3 Social capital 18
2.4 Empirical Evidence on the determinants and the provision of public funds 21
2.5 Conceptual framework 24
2.5.1 Socio-Eco Variables 25
2.5.2 Political Variables 26
2.5.3 Social Capital Variables 27
2.5.4 Dependent variable (Provision of public expenditure) 30

2.6 Multi-dimensional conceptual framework (for Quantitative analysis) 31
2.6.1 Conceptual framework I 32
2.6.2 Conceptual framework II.....32
CHAPTER 3 METHODOLOGY 35
3.1 Research Approach.....35
3.2 Operational Definitions 36
3.2.1 Dependent Variables 36
3.2.2 Independent Variables.....38
3.3 Model Specification.....43
3.3.1 Defining the variables for the multi-linear regression equations 43
3.3.2 Defining the variables for the structural equation model equation 44
3.4 Data Collection.....46
3.4.1 Data collecting and analyzing qualitatively 48
3.4.2 Data collecting and analyzing quantitatively 49
3.5 Study Estimation Process 50
CHAPTER 4 THE ANALYSIS OF THE DEVELOPMENT OF EDUCTAION, HEALTH AND INFRASTUCTURE POLICIES IN MALDIVES.....55
4.1 Education Sector of the Maldives.....55
4.1.1 Administration and Management of the Education System.....55
4.2 Health Sector of the Maldives 60
4.2.1 Administering the Health sector of the Maldives.....60
4.3 Infrastructure administration in the Maldives 64
4.4 Recent trends of Maldives Education, health and infrastructure expenditure...67
CHAPTER 5 EMPIRICAL RESULTS AND DISSCUSSIONS PROVISION OF PUBLIC EXPENDITURE (island level Analysis).....69
5.1 Correlation and Multicollinearity 72
5.2 Multiple regression Analysis.....73
5.2.1 The estimation of Total Educational Expenditure Equation 74
5.2.1.1 Effects of Socio-Economic Variables.....75
5.2.1.2 Effects of Political Variables.....76

5.2.1.3 Effects of Social Capital Variables....76
5.2.2 The estimation of Total Health Expenditure Equation....77
5.2.2.1 Effects of Socio-Economic Variables....78
5.2.2.2 Effects of the Political Variables....79
5.2.2.3 Effects of Social Capital Variables....79
5.2.3 The estimation of Total Councils Budget Expenditure Equation....80
5.2.3.1 Effects of Socio-Economic Variables....81
5.2.3.2 Effects of Political Variables....82
5.2.3.3 Effects of Social Capital Variables....82
5.3 comparison of the three equations....83
CHAPTER 6 FURTHER INVESTIGATION ON THE PROVISION OF PUBLIC EXPENDITRE (Province level Analysis)....87
6.1 Confirming the Model II for District Level Estimation....89
6.1.1 meeting the requirements for SEM....89
6.1.2 Identification of Model II by using SEM....89
6.2 Structural Equation Modelling....91
6.2.1 Analysis of Model II to estimate the differences among Provinces....92
6.2.1.1 Empirical evidence of unconstrained (Base line) Model for Provinces....93
6.2.1.2 Empirical evidence of constrained (structural weights) Model for Provinces....96
6.2.1.3 Comparisons between Baseline and structural weights Model for Provinces....99
6.2.2 Analysis of paths differences in the Provinces of model II....102
6.2.2.1 Constraining the path, A: Socio-Economic and Political factors → Total Expenditure....102
6.2.2.2 Constraining the path, B: Social capital factors → Total Expenditure....104
6.3 Comparison between island and province level estimations....106
CHAPTER 7 CONCLUSION AND RECOMMONDATIONS....110
7.1 Theoretical and academic contributions....114

7.2 Policy implications from the study.....115
7.2.1 Simplifying the public policies and spread the awareness among citizens on their rights and responsibilities.....116
7.2.2 Implement the Maldives 2010 Decentralization Act fully. 116
7.2.3 Re-evaluate policy implementation's effectiveness and take necessary steps to align the policy objectives.....117
7.3 Suggestions for Further studies 118
BIBLIOGRAPHY.....119
BIOGRAPHY 126

LIST OF TABLES

Page

Table 2.1 Summary of Socio-Economic Theories of public Spending 15

Table 2.2 Summary of Political Theories for Public Spending 18

Table 2.3 Summary of Social Capital Theories for public spending 20

Table 2.4 Summary of Empirical evidence on Socio-Eco Factors 21

Table 2.5 Summary of Empirical evidence on Political factors 23

Table 2.6 Summary of Empirical Evidence on Social Capital Factors.....24

Table 3.1 Operationalization of the Concept 36

Table 3.2 operationalized definitions for the independent variables 39

Table 3.3 specification of data collection 46

Table 3.4 Descriptions and data collected sources 51

Table 5.1 Descriptive Summary (Model I) 70

Table 5.2 OSL Estimation of ETOL 74

Table 5.3 OSL Estimation of HTOL.....77

Table 5.4 OSL Estimation of CBUG 80

Table 5.5 A summary of the determinant of Expenditure at island level 84

Table 6.1 Descriptive Summary (Model II).....88

Table 6.2 Regression weights of unconstrained model for provinces 99

Table 6.3 Regression weights of constrained model for provinces 100

Table 6.4 Chi-square differences test for moderation experience 101

Table 6.5 Path A, constrained and unconstrained model comparisons.....103

Table 6.6 Chi-square thresholds for experience as a moderator.....104

Table 6.7 Path B, constrained and unconstrained model comparisons.....105

Table 6.8 Comparisons between the variables from Island and Provincial level 107

LIST OF FIGURES

Page

Figure 2.1 Wagner's Hypothesis of increasing States Activity 14

Figure 2.2 Conceptual Framework Derived from Socio-Economic concepts and Theories.....26

Figure 2.3 Conceptual Framework Derived from political concepts and theories 27

Figure 2.4 Conceptual Framework Derived from social capital concepts and theories 29

Figure 2.5 An expression of government major expenditure for islands.....30

Figure 2.6 Proposed Multi-Dimensional Analysis of policy determinants (MAPD) ..32

Figure 2.7 Proposed Structural Path Analysis for Policy Determinants (SAPD).....33

Figure 3.1 Sample calculation.....48

Figure 4.1 School enrollment trend for Maldives between year 2005-2015 59

Figure 4.2 Major portion of budget distribution across atolls 67

Figure 4.3 Maldives Budget Functional Classification.....68

Figure 4.4 Fiscal indicators as Percentage of GDP.....69

Figure 6.1 Identified model for district level estimation 90

Figure 6.2 Baseline model for Central province estimation 93

Figure 6.3 Baseline model for Northern province estimation.....94

Figure 6.4 Baseline model for Southern province estimation.....94

Figure 6.5 Structural weights model for Central province estimation.....97

Figure 6.6 Structural weights model for Northern province estimation 98

Figure 6.7 Structural weights model for Southern province estimation 98

Figure 6.8 Path A model for Central, North and South provinces: Socio-Economic and Political → Total Expenditure 103

Figure 6.9 Path B model for Central, North and South provinces: Social capital factors → Total Expenditure.....105

CHAPTER 1

INTRODUCTION

1.1 Significance of the study

The fundamental question on which this study focuses is the two primary policy determinants for the Maldives: 1) factors that influences the provision of state funds, and 2) to what extent this provision of funds is distributed equally among rural communities. This study's process and outcomes offer useful information both for academics and policymakers. Given that social science research is not conducted in one specific way, this paper also adopts a unique method that incorporates multi-dimensional factors into one model.

The Maldives established its first university officially in mid-2011, which conducts systematic national level research. Before this university was established, an institution referred to as the Maldives Higher Education (MHE) had coordinated higher education since 1973 as a knowledge management institute. Most students acquire their higher education abroad. Therefore, this is one of the main reasons that research often has focused on issues related to other countries. Accordingly, little research has been conducted formally on the Maldives, particularly in the area of social science. Therefore, this policy study will contribute greatly to our understanding of the multi-dimensional factors that are an important area for a developing country like the Maldives.

Social capital is a new area of academic exploration that incorporates various elements that address its effect on government decisions. Therefore, this study will help academics and practitioners relate the power of social networking to the management or implementation of public policies. Specifically, the study integrates both multiple linear regression (MLR) and Structural Equation Modelling (SEM) to

analyze the relation proposed between the provision of public goods and socio-economic, political, and social capital factors to confirm the established theories/concepts and estimate their relation with the existing data.

This study offers meaningful insights into the influences of the provision of public funds. The relation between economic, political, and social contributions are pronounced factors that are useful to investigate to enhance development, and particularly to allow the state to govern the country in a sustainable manner.

This research also identifies many significant factors that are responsible for increasing state expenditures incrementally. These factors can be used to reach consensus between the state and its people to achieve healthy policy development. This study explains the Maldives' social structure in a democratic setting, as the country is in its infancy as a modern democratic system, and the way a state institution can be formed and aligned to achieve state objectives by using its human capital effectively. Thus, this study explores local governance and the reasons for its effectiveness.

Moreover, the questions' scope is designed to study the imbalanced distribution of public funds throughout the Maldives with a needs-based analysis. These findings will help decision makers visualize the current status of public funds distribution. The Maldivian political system also is examined in depth to identify the driving forces to elect pubic officials.

Finally, citizen participation is the key dynamic in any democracy. If public participation is limited and discouraged, then democratic values are under question. Therefore, it is very important to understand the way in which states are governed. Most commonly, good governance traits mandate that citizens are the focus for a successful administration. Thereby, this study identifies the role that citizen participation plays in government that contributes to the country's betterment. To realize this goal, public resources must be allocated efficiently to the right people.

1.2 Objectives of the Study

This study employed both qualitative and quantitative analyses by building a framework based on various literatures and then created variables to generalize the phenomenon. The study's main concerns are listed below:

- To assess the factors that determine the major portion of public expenditures (for Education, Health, and Infrastructure) by conducting an island level analysis.
- To examine the developmental stages of the major expenditure types of the Maldives, and particularly, the effects of recent constitutional reform.
- To construct and test a model that is suitable to assess the provincial differences in wealth distribution.
- To examine provincial differences using the model constructed, and estimate the provision of public funds in rural communities.
- To provide policy recommendations to improve the allocation of public funds nationwide.

1.3 Scope and limitations of the study

This study assumed that increasing public spending will improve the nation's development as a whole. Therefore, public spending is the key factor to acknowledge in development. However, public spending is allocated differently in different districts/provinces based on the communities' contributions and influence. Although there is much support for this claim, as the literature review below shows, no study to date has proven the concept that development derives fully from the provision of state funds.

Accordingly, this is a comparative study that examines the social capital contribution in rural areas in the Maldives and then explains the leading factors that determine the provision of public funds. As previous studies apparently support the notion that social capital can be analyzed in various respects, to comprehend its broad scope, public participation in rural areas was selected for this study at the horizontal level (group level) to understand the degree of social capital's capability. However, few studies have addressed social capital's importance and its influences on

government decisions. At least, there is no substantial evidence in the case of the Maldives, which limits the relevant information for this study to the data at hand.

Further, in addition to the given scope and general limitations, there are certain specific limitations in this study, including: 1) there are few existing studies (particularly in the Maldives) that confirm the role of public participation and engagement and its relation to policy decisions; 2) particularly given the current political turmoil in the Maldives, it is very difficult to obtain substantial data from the stakeholder groups, primarily because the nature of the study is related to local politics, and 3) the very nature of various aspects of social capital intensity is difficult to quantify to achieve very clear explanations of societies' social capability. Therefore, latent variables constructed might not offer the clearest explanation of social capital factors, but merely suppositions that are bound to vary over time.

Finally, the effect of the provision of public funds may vary depending on the period in an electoral cycle as well, simply because the frequency of distributions of resources before polling apparently is higher. Therefore, this might have a greater degree of influence on public engagement than otherwise. However, the goal is to reduce these limitations by collecting the data at the same time for all of the comparative locations simultaneously to maintain the sample's face validity and the study's robustness.

1.4 Benefits of the Study

This study is one of the few of its kind conducted on the Maldives; therefore, the findings are expected to provide a perspective change for academics, policymakers, and institutions in the country. The following are this study's likely major outcomes:

- There are many theories and concepts elsewhere that demonstrate the nature of public contributions; however, confirmatory model studies have been tested rarely. This study confirmed a model using SEM to determine the data's

consistency and integrate them with the social capital factors in Wagner's Law.[1]

- This study's primary contribution is to test and confirm the variables used traditionally and introduce new social capital factors (from Kaufman and related theories). Further, it offers a more comprehensive model to understand social capital factors' importance as a major function that drives the provision of public funds, particularly for small community-based nations like the Maldives.
- Further, the theory that claims that public expenditures drive the economy (as introduced in Wagner's law) has been supported well in capitalistic economies and later in democratic countries. However, this study offers a multi-dimensional view to explain public expenditures, specifically by incorporating the social capital factors we see in rural communities today in a multi-democratic party system that has the potential to increase the provision of public funds.
- Throughout this paper, a mixture of literature reviews and empirical assessments are provided in simplistic form to guide junior researchers as a whole. Particularly, this study can help such researchers plan and present their insights clearly. Although a large number of research papers is accessible on the web and in other different sources, few of them really gives explicit step by step guidance. The vast majority of the papers has concentrated on a purely positivist case study approach which perhaps is less useful to social science researchers. Consequently, a mix of qualitative and quantitative techniques was used in this paper in a simple and well-ordered way that is adequate for junior specialists.

1.5 Types of Data set and Unit of Analysis

[1] Increase in government spending leads to economic prosperity(Wagner, 1883).

This study followed an objectivist approach that leads to a positivist phenomenon, and is accompanied with quantitative analysis that qualitative explanations and the literature support to understand and estimate multi-dimensional factors that lead to increases in major public expenditures (education, health, and infrastructural expenses) in the Maldives. Both island (micro) and provincial (macro) analyses were conducted to identify the relation between the response and exploratory variables, in which the unit of analysis is the group level. Data were gathered both from primary and secondary sources, including observational surveys and the existing literature.

1.6 Organization of the Study

This This study includes seven chapters, each of which illustrates a different set of concepts that leads to the next. Chapter 2 reviews the literature related to the study's main concern, and comprises empirical studies, articles, and theories to form a conceptual framework for the basis of the study. Chapter 3 presents the study's methodology and explains the research approach, the variables' operational definitions, and data collection methods.

Chapter 4 is dedicated to the research conducted on the Maldives' education, health, and infrastructure development over time. These qualitative explanations are aligned with the research at hand to assess and facilitate the study's empirical evidence. Chapter 5 describes the Multi-Dimensional Analysis for Policy Determinant (MAPD) model that was used to estimate the island-level equations, test the variables under ordinary least square (OLS) assumptions, and align the variables with the model. Finally, the model was estimated using linear regression. Chapter 6 provides a further investigation at the provincial level. A separate model was created and tested for its ability to assess the provinces and the paths of the Structural Path Analysis for Policy Determinants (SAPD) model. A comparison of the island and provincial level analyses is presented at the end.

Finally, Chapter 7 provides the study's conclusions, and includes its theoretical contributions, as well as policy recommendations and the justification for future studies.

CHAPTER 2

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter reviews the literature on the variables used to conceptualize the models in this study. First, an introduction to social capital factors is presented to describe their development and demonstrate their importance. Second, public expenditures are discussed in the global context, followed by theories and concepts associated with the provision of public funds, and the literature on the socioeconomic, political, and social capital factors that informed the conceptual framework. Fourth, empirical evidence is provided to prove the theme of the literature selected, and finally, a multi-dimensional conceptual framework is presented for both models, Model I, for the MAPD, and Model II, for the SAPD.

2.1 An Introduction of Social Capital

A growing number of studies has provided empirical support for social capital's relation to government decisions, but this paper contributes multi-variations and model confirmation methods (see Figure 5) that cover a broader area to address the social capital concept more fully. The main focus in this part of the paper is to develop a theoretical framework for this study's original question, what is the relation between rural communities and the state's provision of public funds in the Maldives? Knowing that there is no solid theory or theories constructed thus far that can explicate government spending and allocation of goods and services fully(Domar, 1957), this literature review offers a critical assessment to form the multi-dimensional theoretical factors that may clarify government allocation's effect in the light of social interaction and engagement (i.e., social capital or social networking).

To begin, the concept of social capital is introduced to show its factors' importance and its role in rural communities. Nearly all scholars agree that there are

two distinct types of social capital, bridging and bonding, that are a combination of various traits of social capital initiatives (Coleman J. S., 1994; Putnam, Leonardi, & Nanetti, 1993; Knack & Keefer, 1997; Uslaner, 2002; Zmerli, 2003). Hence, the combination of variables needs to maintain a balance of both bridging and bonding factors and should have a positive influence on a nation or community. Bridging social capital refers to a diverse group of people with a common interest in a community (e.g., political parties, NGOs, etc.). Bonding social capital refers to similar types of individuals who exist to achieve certain outcomes, such as family or religious groups, and so on (Knack & Keefer, 1997; Putnam R., 2000). Further, it is vital to understand the quality (sense of knowledge) and the ethics of the group's interaction to achieve better governance(Callahan, 2005). As Zmerli (2003) indicated, bonding social capital has an adverse influence on governance by influencing individuals and their self-interests, contrary to Zak and Knack (2001) and Uslaner (2002), who believe that bridging social capital is favorable for governance. However, both types are treated as one in this study, and split into political and social capital variables, as these can determine the provision of public funds regardless of good governance and its effects(Putnam, Leonardi, & Nanetti, 1993).

In many countries during the 1970s, the topic of public spending became more prominent when countries became involved in pluralist and colonial movements, and discovered that the government could experience bankruptcy and financial losses. These trends raised scholars' awareness of the importance of understanding social capital and the provision of public funds. Similarly, the World Bank was particularly active in incorporating social capital in research methods, which gained additional support among scholars. For example, Dasgupta and Serageldin (2001) edited the bulk of studies on social capital in Social Capital: A Multifaceted Perspective. Further, the World Bank developed the Social Capital Implementation Framework (SCIF) as a guide to incorporate the practice into operations(Grootaert & Bastelaer, 2001).

With this introduction to social capital, this study used the social capital factors discussed below to conceptualize the models for this study. A number of both qualitative and quantitative studies has been conducted using various modified methods to build the relation between development and social capital factors. For

example, Knack and Keefer (1997) conducted a study on social capital's effect on economic growth, Narayan and Pritchett (1999) investigated the relation between income level and social capital factors in rural Tanzania, and Putnam (1993), examined social capital with respect to civic involvement and governance, institutional performance, and development in a study of Northern and Southern Italy.

2.2 Provision of public funds in a global viewpoint

In the early eighteenth century, public intervention in public affairs appeared to have disastrous effects. Similarly, early theorists' view was to limit the government's role in national defense, law enforcement, and administration because the government cannot play any role but territorial defense(Tanzi & Schuknecht, 2000). However, in the beginning of the nineteenth century, redistributing public funds from the wealthy to the poor was recognized as a path to economic prosperity(Rothbard, 1970). Given World War I's effects, many countries began to recognize and spend on public affairs and equal distribution. Moreover, post-World War II, particularly between 1960 and 1980, there was an excellent opportunity to increase public expenditures for states' development. More and more theories and concepts were developed on the role of state funding that leads to economic and states' development(Musgrave, 1960).

Today, the provision of public funds seems to be a simple concept that mandates the state to distribute its resources equally among its citizens, yet in actual terms, that would be difficult to achieve and involves considerable political debate and many other influences(Mullard, 1993). Moreover, when the concept of public allocation is examined in detail, we also realize that it involves great cost, effort, and time to distribute goods equitably throughout a country. In addition to this discrepancy, citizens typically urge the government to allocate goods in favor of one community over others, which creates an undesirable imbalance. Therefore, public goods and public expenditures are defined strictly in this study as two different concepts that nonetheless contribute to each other; in fact, public expenditures are the best way to examine the public allocation of resources(Domar, 1957).

As we know, public allocation and expenditures today is a political debate that has become more prominent and addresses market demands that hypothetically are consistent with the state's decisions, i.e., states recognize public choice and involvement increasingly(Klein, 1976). Allocation of public goods can be broken down from the macro perspective of total spending. Such a breakdown of spending eventually derives from public policies. This also involves inputs (understanding the mass population's needs), processing (budget finalization debates) and outputs (financial policy) of public policy as a whole to understand which policy requires allocating resources to what degree as a means of spending(Mullard, 1993).

Similarly, a number of public goods is mobilized throughout the country; however, for this study, education, health, and infrastructure expenditures were selected as the main indicators to understand public allocation. Largely, public demands for education, health, and infrastructure development are those that citizens demand most commonly and are one reason for their motivation to engage in social activities. Wagner (1883) and Peacock and Wiseman's (1961) remarkable works in analyzing public spending also indicated that the subjects of health services, education, infrastructure, and Social Security are the policies used most widely in public fund allocation.

However, given that a state's entire administration revolves around a political process serves as a major challenge to appreciate specific policies as major means to allocate public funds. The key players in the political process (i.e., the politicians) demand more votes and public support to defend their positions, and demand that public resources (education, health, and so on) be mobilized at any cost for their interests or the benefit of favored individual/s(Banerjee & Duflo, 2011). In any case, policies related to these three major services also are known to be the most influential among other types of fund allocation policies in developing countries(Trujillo, Gonzalez, & Estache, 2007). Therefore, this study focuses on education, healthcare, and infrastructural developments as the indicators of public allocation. The Asian Development Bank (2015) also used these same three major indicators in previous studies conducted in the Maldives to understand the major portion of public funds.

Notably, focusing on state expenditures, particularly education, health, and infrastructure, has given states economically favourable positions, not only in

economic terms, but also in terms of state stability in political and environmental standings, according to an IDB report on the case of Peru[2].

2.3 Theoretical explanation on the determinants and the provision of public funds

Most of the literature on social capital today investigates primarily its correlation with economic development, governance, administration, and growth. For example, Alesina and Drazen (1991) explained that social groups shift the policy burden from one group to another, and similarly, (Alesina & Rodrik (1994) agreed that internal conflicts reduce growth, while Zak and Knack (2001) suggested trustworthiness' importance to growth. Ideally, a government maintains itself, society, and the economy overall continually. The primary reason for this is because the recognition of major financial operations is used as a tool to manage the economy and simulate growth (Agenor & Dodson, 2006). Failing to address a society's social needs and infrastructural development, such as roads, clean water, sanitation, transport, telecommunication, etc., has led to crippling transactional costs that may have a tremendous effect on trade, and thereby reduce a country' competence as a whole in the global market(Baca Campodónico et al., 2014).

These studies largely address both the macro and micro perspectives of the subject and have shown possible relations empirically. Notably, these studies used ordinary least square (OLS) techniques to estimate determinants and their relation to public expenditures. However, the datasets were not static, and spurious regressions that may be found in time series could not be identified, which may not be adequate for multi-dimensional variables. Therefore, in this study, a multi-dimensional variable

[2] IDB report 2014: The Impact of Public Expenditures in Education, Health, and Infrastructure on Economic Growth and Income Distribution in Peru (Baca Campodónico, Cassinelli, & Mesones, 2014)

was used for static estimation methods and path analyses. Others who have used the most recent and sophisticated econometric methods of analysis are Hulten and Schwah (1991), Holtz-Eakin (1994), Pereira (2000), and Dasgupta and Serageldin (2001). Some of these relations are similar to those identified previously. In fact, no direction in the relation between a specific expenditure type and economic growth has been specified.

This shows that few attempts have been made to explain the public expenditures social capital leads. Therefore, the gap identified is addressed in this study to reveal the relation between social capital and the provision of public funds from a social science perspective, primarily using social capital variables (Putnam, Leonardi, & Nanetti, 1993; Coleman J. S., 1994; Knack & Keefer, 1997; Uslaner, 2002; Zmerli, 2003). Moreover, this study also incorporated political and socioeconomic factors as important ways to justify the relation. The following subheadings provide the theoretical explanations for the main variables in this study.

2.3.1 Socio-economic factors

Wagner's law, which German economist Adolph Wagner (1883) developed, explains the welfare state, in which government expenditures have a complementary relation with economic growth. Originally, he argued that social and administrative activities, and welfare functions increase state expenditures. Later, Musgrave interpreted Wagner's law as the socio-political, economic, and historical activities that explain state expenditures. This interpretation assigns a greater role to socioeconomic factors that explain public expenditures. The basic concept of Wagner's Law is illustrated in Figure 2.1 below.

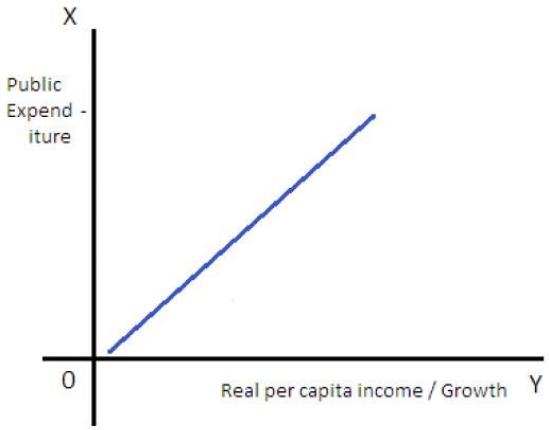


Figure 2.1 Wagner's Hypothesis of increasing States Activity

The figure shows that public expenditures's function is a cause for growth, in which the real per capita income grows (Y axis) as public expenditures (X axis) increase. This positive relation shows that a state's activity will increase automatically with public expenditures, such as population growth, urbanization, family size, etc

Peacock and Wiseman (1961) tested Wagner's Law and found that it was valid in the case of the UK between 1891 to 1955. However, later, Wagner (1883) and then Peacock and Wiseman (1961), proposed a similar kind of approch to explain public spending and ignored the importance of political involvement and institutions' role in promoting public expenditures. Unlike Wagner's Law, this theory explains public expenditures as a stepwise trend. Peacock and Wiseman (1961) hypothesized that state expenditures grow when social upheaval (unrest) increases in a stepwise pattern. Later, scholars incorporated social activities and group behavior as functions of increasing public expenditures. Three effects explain the pattern of public expenditures: 1) the displacement effect, which refers to such social unrest as war, economic reccesions, political instability that lead to increased state expenditures; 2) the inception effect, which is an after-effect in which displacement takes over government expenditures on some activities required to increase revenue by imposing taxes and public financing, which leads to a new equilibrium of expenditures, and 3) the concentration effect, which refers to the condition after the displacement and inception effects on which the social activities are based. Primarily, the theory

explains the social activities that lead to public expenditures in a stepwise pattern through these three effects(Peacock & Wiseman, 1961).

Similarly, Keynes' Counter-Cyclical theory suggests that the economy can be efficient and function fully when government intervenes(Tanzi & Schuknecht, 2000). This indicates that revenue generation and public expenditures control the economy as a whole. Thus, the government can intervene by increasing or decreasing public expenditures and the way it collects its revenue (such as taxation). The theory is based on the concept of unemployment, excessive saving, and fiscal policy and multiplies the effect that acts between the social activities and public expenditures. Keynes' main argument is that stimulating the aggregate demand has a positive effect on economic growth(*The collected writings of John Maynard Keynes—volume VII: the general theory of employment, interest and money*, 2013). This indicates that government intervention is the crucial and principal way to stimulate the market by public spending and revenue generation. Therefore, decision makers must address the society's condition lest they worsen the country's economic condition, and there is a direct relation between social conditions and government decisions on spending (i.e., public expenditures).

One of Thomas Malthus' (1798) remarkable works, as well as those of such early economists as William Petty and William Godwin, showed the relation between economic changes and population growth that explains a fundamental expansion of state expenses attributable to such population growth. The "Iron law of wages" was proposed to explain the income level's important relation to population size and the number of state resources supplied(Ricardo, 1817). According to the author, wages should not be controlled, and instead, must move freely according to the market demands. Ideally, anything that causes the population to increase will demand more production that requires more laborers and equates to more cost to states.

Table 2.1 Summary of Socio-Economic Theories of public Spending

Scholar	Theory/hypotheses	Determinants
Adolph Wagner	Wagner's Law	Public and State Activities; • Welfare faction • Administrative function • Social activities

Alan T. Peacock and Jack Wiseman	Displacement effect, Inception effect and concentration effect	• Social Upheaval (political influences) • Social activities
David Ricardo	Iron law of wages	Population growth, Income level
Keyens	Counter-Cyclical theory	Simulating Aggregate demand • Income level • High employment • Tax revenue (receipts)

2.3.2 Political Factors

Citizen involvement in state affairs is an important characteristic of a healthy state, and a higher level of public engagement leads to greater accountability that always is foremost in potential voters' minds. In addition, government rules and regulations become easier to implement (and more cost effective) and people living in the society become easier to manage(Boix & Posner, 1998). Voter participation reflects the political referendum in democracy, and voter turnout can establish the measures of social capital(Guiso, Sapienza, & Zingales, 2004).

Inevitably, decision making theories must be ignored at this point because collective decisions that finally become state policy are at the heart of any public referendum. Herbert Simon and Charles Lindblom in 1959, proposed that the decision making process as a bounded rational decision making model is combined with the incremental process of administering a decision(Lindblom, 1959). The rational bounded decision making process requires having full knowledge of the conditions (i.e., public concerns, resource supply and demand, etc.) to make the best decision, and this leads to the information asymmetry problem. Therefore, it is more practical to use a growing number of incremental decisions more often, particularly in highly politicized environments. Hence, both approaches are highly questionable in today's democracies. Therefore, Etzioni (1967) suggested a third approach that is a mix of both rationalism and incrementalism. The mixed scanning method allows the decision

maker (state) to concentrate on environmental concerns in the political arena to make sound decisions(Etzioni, 1967).

Moreover, the mixed scanning method also is consistent with Putnam, Leonardi, and Nanetti (1993), who illustrated five measures for social capital: membership for mutual aid, membership in corporative, strength of mass parties, open electoral participation, and associations' involvement, all of which largely are under the umbrella of political participation and involvement in government decisions, which voter turnout can measure. As Putnam, Leonardi, and Nanetti (1993: p. 63) suggested, "responsiveness to constituents" and "effectiveness in conducting public business" are two dimensions used to measure regional differences in social capital in Italy. These two dimensions are described as political participation and voter turnout in this study. According to Banerjee and Duflo (2011), public participation in developing countries' political processes, particularly voting, fosters education, health, etc., in return for public engagement.

This complements the Public Choice theory in the decision making process, and also is known as the study of political behavior in economic terms. This theory is consistent with neoclassic economic theory, in that it assumes that individuals (i.e., voters, parties, NGOs etc.) are self-oriented and act to maximize their self-interests. This theory explains to some extent the mutual benefits for politicians and voters to exchange promises for a seat with votes. Largely, this indicates voters' expectation is to realize improved lives by increasing public projects that increase public expenditures. One of the famous models in public choice is the Median Voter model, derived from Black's 1948, and later on the concept was known as Median Voter theorem during Anthony Downs' this explains as majority representative decision making in democratic setting during 1959(Holcombe, 1989). Peltzman (1980) examined the total contribution of maximizing the voting process. Nonetheless, budgetary overspending and fiscal crises may follow the fulfillment of mutual benefits. Therefore, a constitutional ceiling may be a solution, according to Tanzi and Schuknecht (2000). Similarly, the voter bias model explained in public choice draws a clear distinction between costly public programs that are initiated immediately before and after elections for potential voters' favors(Buchanan & Gordon, 1977). This

indicates that public spending for health and education, as well as infrastructure, will be high before and after elections.

Table 2.2 Summary of Political Theories for Public Spending

Scholar	Theory/hypotheses	Determinants
Amitai Etzioni	Mixed Scanning in social capital	Membership in mutual aid and corporative, Strength of mass parties, Public participation and Involvement of associations
Duncan Black, Randall G. Holcombe,	Median Voter model	Maximizing Electoral participation Mass political party involvement Mutual benefits
James M. Buchanan and Tullock Gordon	Voter bias Model	Public spending before and after elections

2.3.3 Social capital

Although the concept of social capital is relatively new, there are both some unique and similar characteristics used to define social capital in most of the literature. Putnam, Leonardi, and Nanetti (1993) agreed that social capital can be referred to as social organizations, including trust among communities, shared norms, and networks that have the ability to improve society. Since Coleman (1988) introduced social capital into social science, it has become a recognized discipline used to examine the economic growth the welfare state leads. Initially, he defined social capital, as "…social organization constitutes social capital, facilitating the achievement of goals that could not be attained by its absence or could only achieve at a higher cost" (Coleman J. S., 1994: p. 304).

These definitions assume that positive engagement leads to group synergy, either externally or informally. However, the effect of social capital may lead to adverse consequences of these groups' engagements, such as the "Cosa Nostra" in New York, the Mexican "Mafia," and so on, although none actually belongs to a

particular organization. Therefore, values, honoring truth, meeting obligations, and the direction of social engagement are important to economic growth, as Arneil (2006) explained. This indicates that social expenditures are important either to enhance social efforts or to reduce their consequences. Moreover, according to Dasgupta and Seragilden (2001), social capital shares knowledge, understandings, norms, rules, and expectations, all aligned to form a pattern that interacts with individuals and leads to recurrent engagement and results. Similarly, providing appropriate tools and equipment will foster the process of development, as Beugelsdijk & Schaik (2003) suggested; social capital operates by embedding resources in social networks and providing actors access to them. Therefore, it is very likely that social groups' cohesion will lead to selecting a candidate who ultimately will develop the provinces. Similarly, more involvement on citizens' part would suffice for the government to spend more on the community knowing that the money would not be wasted or misused.

Overall, there are many areas in the social capital concept on which to focus. However, scholars have developed five dimensions of social capital: 1) Networked associations that may be of various sizes and densities; 2) Expectation of mutual benefits in long- and short-term agreements; 3) Trust and willingness to initiate upon which others may act; 4) Formal and informal social norms that direct interactive behaviors, and 5) Personal and collective efficacy that engages the citizens in community activities (Bourdieu, 1986; Dasgupta & Serageldin, 2001; Coleman J. S., 1994).

Hirschi's Social Bond theory suggests that those individuals who are more attached, committed, involved, and hold similar belief systems, form more cohesive groups that perform better and reduce conflict among them. This saves considerable managerial costs in a society that might be used otherwise. Further, a socially bonded society is more likely to elect a candidate who will develop a district according to the public's preferences(Hirschi, 2002).

Nearly all of these scenarios require human interactions, and confidence and a sense of trust are two important aspects of interactions that improve their efficiency(Arrow, 1972). Further, if this confidence is established between governments and citizens, then the improvement is viable. This confidence and trust is

vital to reduce crime, gain public protection, and solve conflicts voluntarily while stimulating government initiatives(Mauro, 1995). Similarly, a rural area that has low confidence has been shown to exhibit low performance (Putnam, Leonardi, & Nanetti, 1993), and interestingly, social norms against women workers also are found in low confidence communities. Furthermore, in many circumstances, citizens' confidence, information's viability, and education levels affect alienation and the dropout levels on the part of community participants(Coleman, 1988).

These theories represent some key empirical regularities. First, social capital influences public expenditures consistently. Second, it enhances both political determination and government officials' selection and motives (Nannicini, Stella, Tabellini, & Troiano, 2013). Third, the political economy promotes an open interest that guides nations to prosperity, particularly by creating corruption-free nations(Banerjee & Duflo, 2011). However, voters may belittle these returns and accordingly, have a misplaced interest in self-sufficiency. Finally, the literature concludes that social capital advances financial development by expanding beneficial interests in education, health and, henceforth, resource development.

Table 2.3 Summary of Social Capital Theories for public spending

Scholar	Theory/hypotheses	Determinants
Pierre Bourdieu, James Samuel Coleman, Partha Dasgupta & Ismail Serageldin	Concept of Social Capital	Networked Associations, Mututal benefiting expectation, Trust and willingness to initiate, Social norms and personal and collective efficacy
Travis Hirschi	Social bond theory	Cohesive group perform better And reduce ill behaviors
Putnam, Leonardi, & Nanetti Coleman	Public confidence	Trust, Human interactions, Confidence in state, Information viability Education level

2.4 Empirical Evidence on the determinants and the provision of public funds

- **Socio-Economic Factors**

As discussed, Peacock and Wiseman (1961) tested Wagner's (1883) famous theory and determined that it was valid in the case of the UK between 1891 to 1955. The authors hypothesized that a state's expenditures grow in the face of social upheaval. According to Putnam (2000), the case of the US in the mid-sixties showed that social capital's power increases when the population increases, which affects the state's welfare. This has led to general agreement that social capital is an asset to a country and its governance. However, the ageing population, which increases public expenditures in such areas as health, social security, pension schemes, and other old age care facilities, challenges this interesting finding.

However, unlike population growth, gender inequality has been shown to decrease social capital when few women are in the workforce (Putnam, Leonardi, & Nanetti, 1993). Similarly, it is interesting to find that in different regions, social capital's relation to economic growth differs(Beugelsdijk & Schaik, 2003). Social capital is a very strong tool that fosters economic growth informally. As Tsai (2007) explained, temple villagers' motivation is to worship, hence it also is to increase funding for public safety, irrigation, and schooling in Taiwanese villages. According to her study, the temples also often work with the government to convene meetings and disseminate information, as well as determine the village's needs.

Table 2.4 Summary of Empirical evidence on Socio-Eco Factors

Scholars	Year	Determinants
Peacock & Wiseman	1961	Social Upheaval

Putnam, Leonardi, & Nanetti	1993	Population growth, ageing, and Gender balance
Beugelsdijk & Schaik	2003	Income level
Tsai Lily	2007	Culture, informal groups

- **Political Factors**

Public institutions and organized groups as political setups are human constructs of structures that interact economically, politically, and socially. Easton's (1953) early work introduced the System theory into political science, which suggests that the political system's environment creates supply and demand functions on behalf of which politicians act to make central decisions according to their feedback to continue the system and make progressive improvement in decisions(Farris, 1953). This indicates that the society has immense power to influence the state's decisions in allocating expenditures. According to North (1991), institutions and their activities in society act systematically to create a demand that caters to the needs of society at large. Therefore, to understand public policy decisions on expenditures, it is important to consider the environment in which they operate.

As North (1991) argued, it also is important to consider social interactions much more seriously to understand institutions and their functionality. Political affiliations are one way that citizens can express their perspectives and attitudes toward the government. When various groups join networks, such as political parties and groups of colleagues (known as bridging factors), they can exert pressure on the government to become more responsible and accountable.

Voters and political party members who work to elect representatives who will meet public demands and gain voters' interest is illustrated well in a US state elections' data analysis between 1968 to 1978(Peters & Welch, 1980), and Welch and Hibbing (1997) came to a similar conclusion. This is because their representatives have the power to determine the provision of public goods. As a result, many

followers are associated with a specific political party. Therefore, this study also attempted to confirm the correlation between political factors and the provision of public goods, as illustrated in Nannicini, Stella, Tabellini, and Troiano (2013).

Table 2.5 Summary of Empirical evidence on Political factors

Scholars	Year	Determinants
David Easton	1953	Political Environment Demand and supply
Thomas Dye	2012	Institutions and its activities
Douglass North	1991	Role of Institutions
Peters & Welch	1980	Political involvement
Welch & Hibbing	1997	Voter turnout
Nannicini, Stella, Tabellini & Troiano	2013	Political orientation

- **Social Capital Factors**

As has been discussed already, trust, confidence, and public engagement are ingredients essential to positive outcomes. However, it also is important for citizens to be involved in the policy making process, as well as its implementation and evaluation. This helps policymakers and the institutions responsible be well informed so they can solve any problems in the policies. This is evident in study of Northern Italy, as well as similar studies, such as Knack and Keefer's (1997) cross-regional comparison, which supported the same hypothesis. This also can be explained as bridging social capital factors, as various authors have described (e.g., Knack & Keefer, 1997; Putnam, 2000), in which the provision of public goods can be distributed easily and brings favorable results, such as in the case in which Coleman (1988) indicated that parents' involvement in school activities improved students' achievement. However, when citizens feel the government interferes in their efforts to achieve positive outcomes, ultimately they will unite in social communities to achieve their common goals.

Similarly, government intervention alone cannot ensure efficient and equitable resource allocation; it requires citizens' involvement to make the process accountable. However, in developed states, such as OECD countries, social capital has declined with infrastucture development, which may be only one side of development that lacks the values of a healthy society and the loyal culture accepted traditionally. Moreover, there is no clear evidence to show that performance improves in relation to the speed of social capital's decline (Putnam, Leonardi, & Nanetti, 1993). According to Guiso, Sapienza, and Zingales (2004), social capital must be measured as variables that are a combination of social involvement and trust and confidence in government.

Table 2.6 Summary of Empirical Evidence on Social Capital Factors

Scholars	Year	Determinants
Knack & Keefer	1997	Trust, confidence and public engagement
Coleman J.	1988	Stakeholder involvement
Guiso, Sapienza & Zingales	2004	Social Bond

2.5 Conceptual framework

The following constructs were generated from the literature above, and thereafter, the conceptual framework was tested using primary and secondary data. The conceptual linkage was built upon a careful analysis of the literature in the field to create the multi-dimensional variables applied in this study. Moreover, the dependent variable was designed by considering both local and international public spending trends.

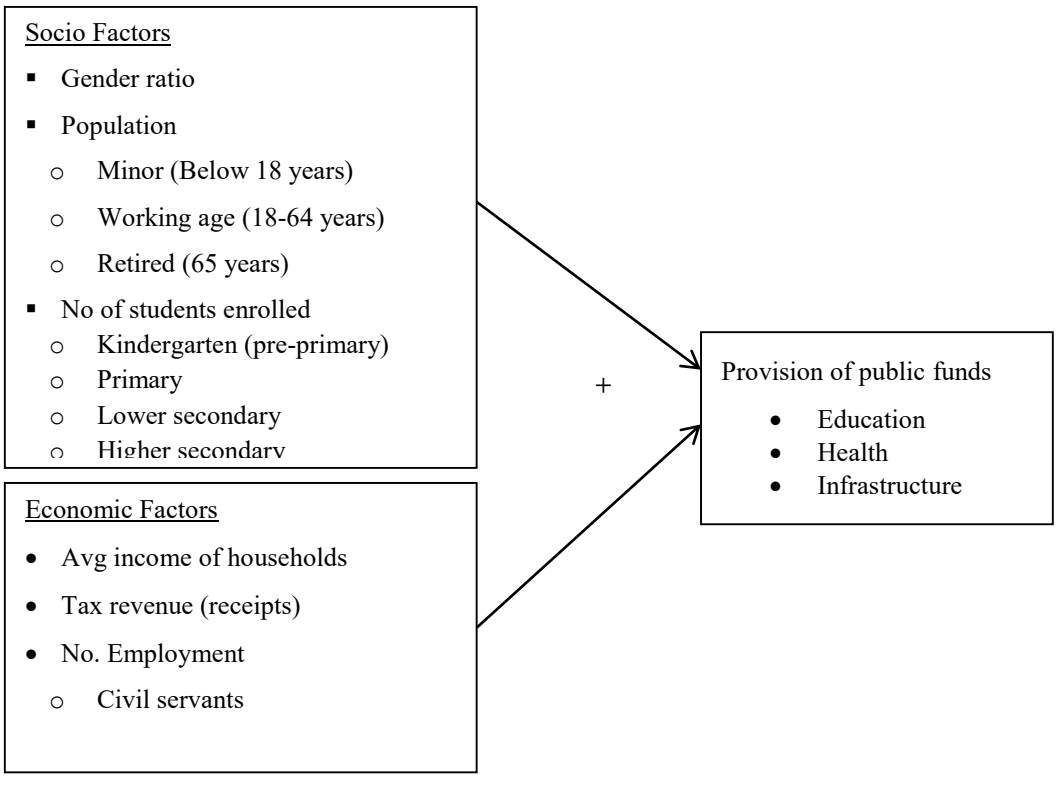
A cross-sectional, rather a longitudinal, approach was used in this study solely because the variables selected were designed primarily to take a snapshot of the phenomenon. Because most studies in the literature have used ordinary least square (OLS) techniques to estimate the dependent variable and its relation to public expenditures in datasets that were not static, and in which spurious regressions that are found in time series could not be identified, it may not be adequate for multi-

dimensional variables. Therefore, in this study, a multi-dimensional variable was used for static estimation methods and path analyses, as described by Hulten and Schwah (1991), Holtz-Eakin (1994), Pereira (2000), and Dasgupta Serageldin (2001).

2.5.1 Socio-Eco Variables

Two sets of variables were identified to test the socioeconomic factors that affect the provision of public goods. These variables were selected carefully and are consistent with this study's objective to investigate Maldivian public provision of goods, primarily economic factors such as employment rate and income level, which are variables identified in Keynes' counter-cyclic theory (The Royal Economic Society, 2013), and Wagner's law of public state activities (Wagner, 1883). On the other hand, as sociological factors, social upheaval indicates that the absence of social stability leads to unrest in society, high public expenses (Peacock & Wiseman, 1961), and Ricardo's Iron law of wage (1817).

Similarly, many empirical studies have used variables for public allocations, such as gender ratio, general population, number of students, and number of transportation vessels, as Peacock and Wiseman (1961), as well as Putnam, Leonardi, and Nanetti (1993), Beugelsdijk and Schaik (2003), and Tsai (2007) used in social upheaval.



+

Figure 2.2 Conceptual Framework Derived from Socio-Economic concepts and Theories

2.5.2 Political Variables

Political variables are derived primarily from public choice theories and political decision-making theory. Similarly, some empirical evidence supports the framework that can explain public funds' allocation.

Political decision-making is critical in understanding the way public choices are made, specifically in the context of developing countries, where political support directs public decision-making. Four main variables were selected based on the literature presented in this paper by considering the Maldives' past political experiences.

The first three variables are similar, yet important, as expressed in the mixed scanning model that indicates that social capital's strengths primarily involve public involvement and mass public demands (Etzioni, 1967). This also is evidenced by the state system of decision-making Easton (1953) presented. Such public participation involves the strength of party membership, political party activities, and the number of political representatives in each district, which may involve the party in power, the ability to oppose, and independent officials. Finally, the fourth variable was developed according to the Median Voter theory that acts as a public choice to influence decision-making by maximizing electoral participation, mass participation, and the public's and authorities' agreement on mutual benefits(Holcombe, 1989). Similarly, the power to defend a position may demand huge public expenditures before and after elections(Buchanan & Gordon, 1977), indicating that voter turnout plays a significant role in determining the public expenditures manifested before and after an election.

Substantial evidence illustrates the supply and demand in the political environment that act as institutions to influence and drive public decisions, such as Farris (1953), Peters and Welch (1980), and Nannicini, Stella, Tabellini, and Troiano's (2013) political involvement in decision making studies found. Further, political recognition can serve as an institution that gives strategic and formal approval in shaping the public's demands(North, 1991). However, the main stakeholders' role is vital and confirms healthy democratic decisions, as Welch and Hibbing (1997) illustrated.

The variables in the diagram were tested at the provincial level, and each province is represented with local council officials' political positions. Therefore, political party activities and voter turnout are predicted to illustrate public fund allocations.

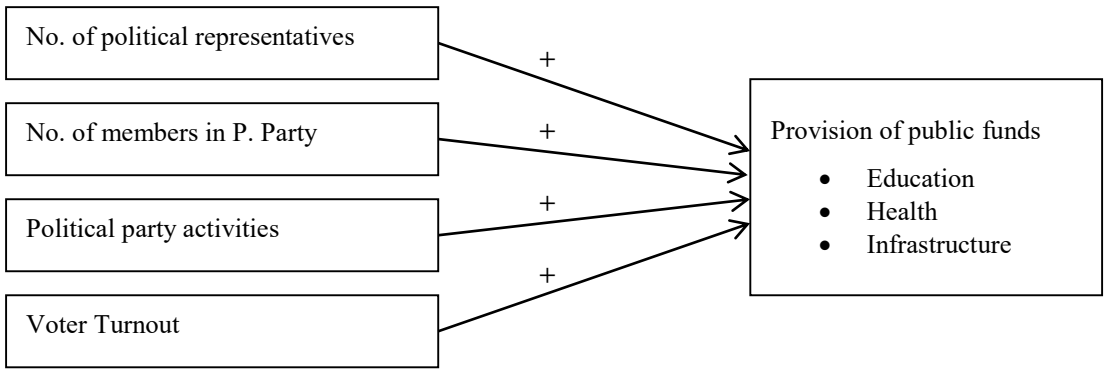


Figure 2.3 Conceptual Framework Derived from political concepts and theories

2.5.3 Social Capital Variables

Finally, for the social capital variable, the framework formulated the forces and resource allocation trends in the Maldivian local context to test the six social variables, as it is an emerging phenomenon that the social capital concept considers.

The first three variables, number of social groups, citizen-initiated programs, and the relations among the associations that operate at the provincial level are very common features in the rural Maldives, given that the social interactions and power to achieve common goals are expected to increase social capital efforts (Bourdieu, 1986;

Coleman J. S., 1994; Dasgupta & Seragilden, 2001). The fourth and fifth variables address the process of sharing information and the confidence in government actions. These two variables are very important, as citizens need to be able to share their common interests and communicate those interests to the authorities. The number of communication networks and confidence in the system make the best use of social capital (Coleman J., 1988; Putnam, Leonardi, & Nanetti, 1993). Finally, the last variable addresses public cohesiveness that influences the direction a community takes, and can reduce inappropriate behaviour in society at large. Hirschi's (1969) social bond theory explains the importance of individuals' bonds that motivate the demands they put forward to achieve their common goals (Phillips, 1972).

Moreover, there is varied empirical evidence for social capital, particularly Knack and Keefer's (1997) study that used trust and norms from a world value survey and found that homogeneous groups with similar educational levels and ethnicity performed better, had stronger trust, and followed norms. Similarly, more formal processes and enforcement reduce the effort needed to form social bonds, and thus, building social bonds among local associations provides better results in generating foreign investments (Guiso, Sapienza, & Zingales, 2004). Further, stakeholders who have an interest in government decisions need to be involved and considered in making collective decisions. Therefore, a clear and accessible link is vital for social capital (Coleman, 1988).

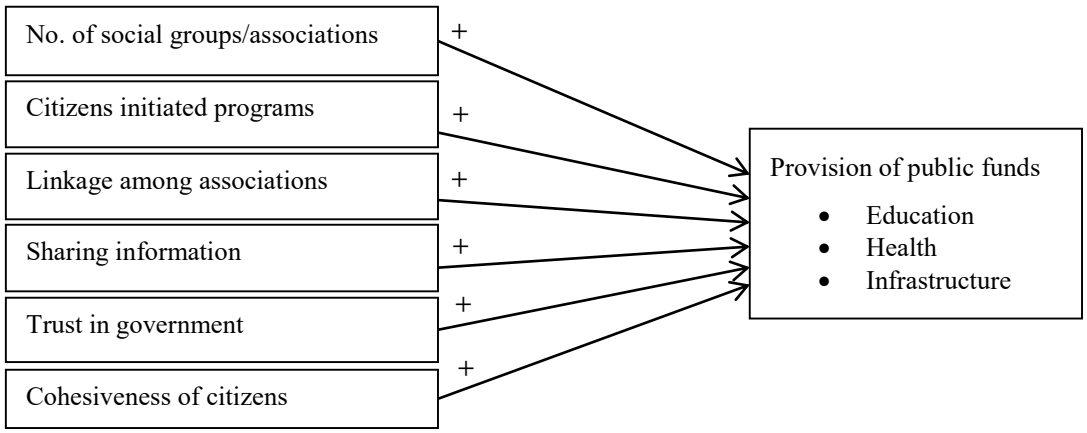


Figure 2.4 Conceptual Framework Derived from social capital concepts and theories

2.5.4 Dependent variable (Provision of public expenditure)

When analyzing public expenditures, it is important to understand that their true measurement changes depending on the revenue the country generates. Thus, the best way to understand the provision of public goods is to analyze public expenditures and the improvement in the services state policies deliver.

Most of the public expenditures in the Maldives are distributed primarily for social services. For this study, both the nation and provinces were taken as focus points to examine the expenditures for education, health, and infrastructure. The following proposed framework was used for both the national and provincial level analyses in this study.

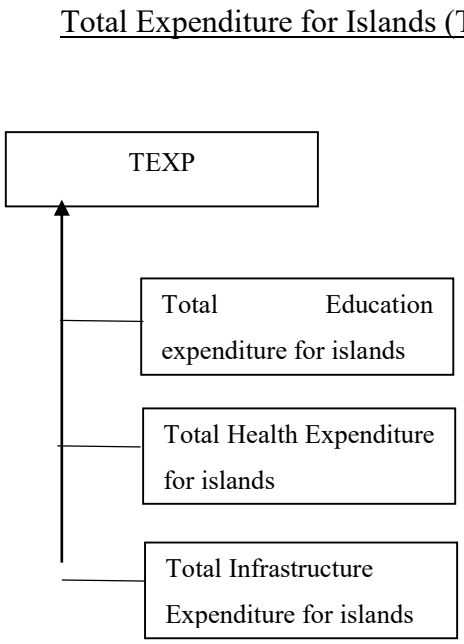


Figure 2.5 An expression of government major expenditure for islands

TEXP is the sum of EDU, the total facilities expenses and budget allocated to education in the islands, HEAL, the total facilities expenses and budget allocated to health for each island, and INFR, the total infrastructure expenditures and government major projects in the budget for each island. Because the Maldives is working to decentralize its governing system and empower the local communities, funds

allocation to the islands and provinces are intended to be reasonable and equitable throughout the Maldives as per the country's constitution.

2.6 Multi-dimensional conceptual framework (for Quantitative analysis)

The multi-dimensional conceptual framework proposed was based on the comprehensive literature review above. The Maldives islands are dispersed geographically, and thus, the island level of analysis was chosen solely because the cultural setting and worldview of the local island communities are structured in a similar way. Therefore, each particular island community has a very similar level of understanding in that particular area. Because each island makes its own decisions, it is very easy to see the contractual differences among them. For example, each island has a unique culture and communicates in a different local accent, which are features that demonstrate that particular island's local cohesion.

Islands' development depends primarily on island-level efforts and their power to exercise political influence. Three main policy themes were selected to examine the provision of public expenditures (i.e., education, health, and infrastructure). Scholars use these policies most widely because they have the highest cost in public spending. This also is very true in the case of the Maldives, as illustrated and discussed in the Maldives' policy-spending trend in Chapter 4.

Model I (Figure 2.6) was applied only for the island level data estimation. The explanatory variables included many sub-variables to illustrate the full model, and multiple regression was adopted to analyze this model.

2.6.1 Conceptual framework I

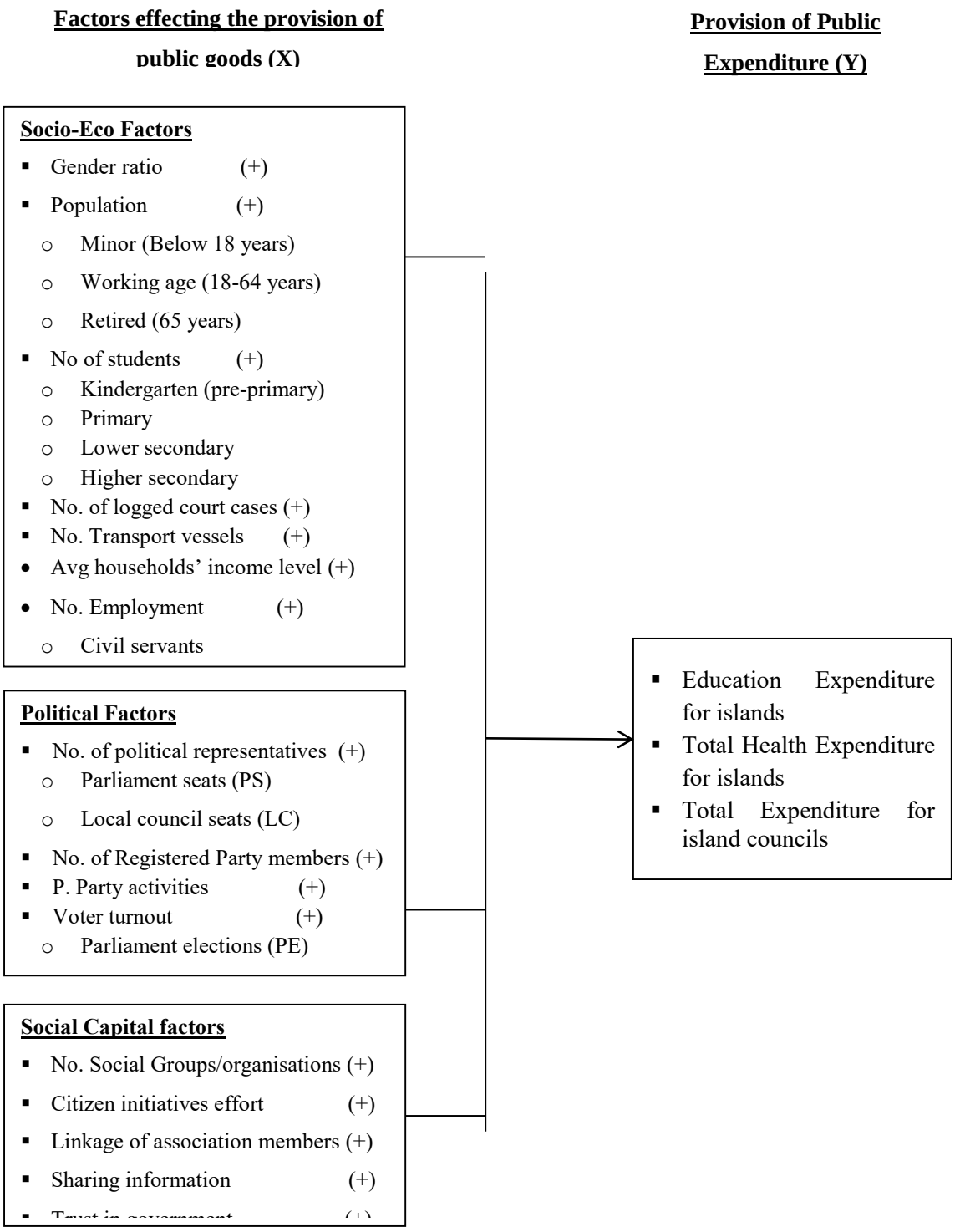


Figure 2.6 Proposed Multi-Dimensional Analysis of policy determinants (MAPD) Framework for Quantitative analysis of education, health and infrastructure expenditure.

2.6.2 Conceptual framework II

MAPD framework used to perform the island level analysis was modified according to the data available and the model specification. Specifically, this framework was designed to confirm the consistency of the data for the MAPD social capital variables. These newly introduced social capital factors need to be tested independently to determine whether the variables suggested can be incorporated as a part of the contribution for public distribution. This indicates that if the social capital factors have a significant influence on public expenditures, then they can be integrated into the original theory of Wagner's law(Musgrave, 1960). Therefore, Structural Equation Modeling (SEM) was used to analyze the social capital factors of the multi-dimensional variables in framework II (Figure 2.7) to determine whether this macro level variable predicts and illustrates the model's stability with the degree of correlation among the variables required. Further, SEM can analyze the covariance among the variables, which is more complex and dynamic to analyze with normal regressions.

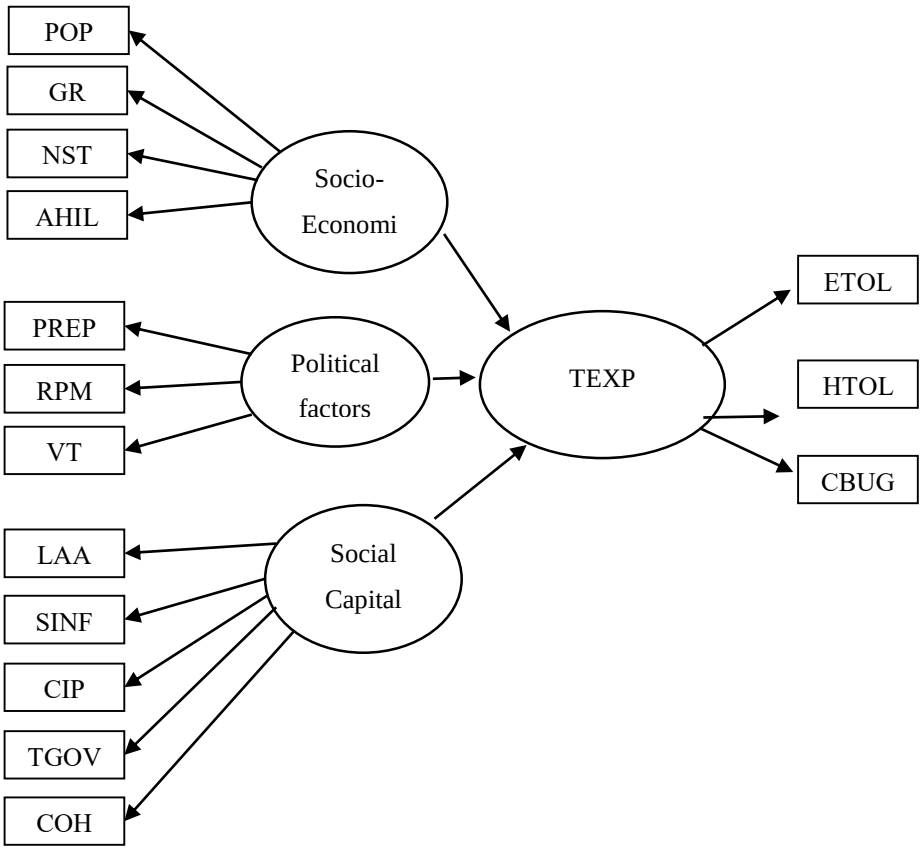


Figure 2.7 Proposed Structural Path Analysis for Policy Determinants (SAPD)

Framework for Quantitative analysis of education, health and infrastructure expenditures

CHAPTER 3

METHODOLOGY

Thus far, we have described two frameworks that need to be clarified to explain the variables and their characteristics for this study. This also includes the dependent and independent variables and the data sources for the quantitative analysis. Therefore, this chapter illustrates the data analysis techniques and methodology adopted in this study.

3.1 Research Approach

This study employed a positivistic approach. Because interpretivism is an inevitable aspect of understanding social science phenomena, this study also used both quantitative and qualitative methods to draw the conclusions. Scholars recognize and accept these mixed methods, as they achieve a better understanding of the subject observed(Creswell & Clark, 2010).

A qualitative approach is adequate to analyze the case study and experiences in the Maldives' recent history to obtain better insights into the provincial/district status. The qualitative approach also is a very interesting way to identify the previous historical events in the Maldives that actually are inconsistent in many social studies, particularly because there are very few existing studies in the field of social science. The Maldives' recent political turbulence has led to many policy changes because of unpredicted experiences that are difficult to illustrate with data that are not amenable to qualitative analysis. On the other hand, the quantitative approach offers deep insight into the factual data based on their authenticity. Recent priorities in the scientific methods used to analyze events have led the Maldives government to

concentrate more on data collection and factual arguments. Therefore, more reliable raw data have been collected and used.

As the study chose to employ both multiple linear regression (MLR) and Structural Equation Modeling (SEM) to analyze both of the conceptual models, to obtain a good grasp of the concept, it is very important to clarify the variables and their meaning for this study. Thus, the following section provides the variables' operational definitions and their relation to the dependent variables.

Table 3.1 Operationalization of the Concept

Concept	**Independent Variables**		**Dependent variables**
Socio-Economic, Political and Social Capital Factors that Influence the Provision of Public Funds	Socio-Eco factors	⎫	Education Expenditure for islands
	Political Factors	⎪	Health Expenditure for islands
	Social capital factors	⎭	Infrastructure Expenditure for islands

3.2 Operational Definitions

3.2.1 Dependent Variables

The dependent variables in this study are illustrated in the table above in main three categories: education, health, and infrastructure expenditures. As explained in the literature, these variables were selected specifically in accordance with many other previous studies. Moreover, they also are the three principal policies on which the Maldives focuses highly in distributing its funds. What this paper offers that differs from other literature are the sub-variables. Specifically, these variables address not only the budget allocation, but also a combination of other basic facilities citizens require. The reasons these variables were selected to analyze the relation follows:

Total Education (ETOL)

- Educational expenditures

- Current expenses for teachers
- Current expenses for schools

The education variable consists of the state budget allocated (i.e., current and capital expenditures) and the expenses associated with the number of schools and teachers. This variable plays an important role in identifying citizens' fundamental rights ensured by Maldivian law. However, practically, the quality of education and development can be evaluated by the quality of teachers and schools. Therefore, there is a very high demand from citizens to allocate more financial support to develop quality teachers and effective learning environments. When the education policy priorities are known, it is easy to judge the country's development progress. Further, the budget allocated influences the government's capacity to increase the number of schools strongly. Therefore, each province/island has to work as a communal unit to obtain a greater share of government allocations.

Total Health (HTOL)

- Health expenditures
- Current expenses for health centers
- Expenses for medicines

The health variable is one of the most important and vital aspects that focuses on developing a healthy society, and has been documented as the most difficult and challenging policy to maintain in the Maldives, largely because there are fewer doctors and adequate facilities. Moreover, some islands' populations are not sufficiently large to build modern amenities to provide healthcare, such as medicines, health test equipment, laboratories, emergency evacuation facilities, and so on. Therefore, certified health practitioners in clinics are the only option for citizens living in the rural Maldives. Because healthcare facilities usually are the major focus of government spending, political parties' promises to implement such policies that they use to rule over citizens depends on their ability to provide such facilities. Factors that explain the health variables include: total funding allocated to islands, and health centres' current expenses to maintain the clinical facilities and provide

medicines. Further, each of the Maldives' islands is required to have quality water and sanitation systems, and high quality water desalination plants and environmentally friendly waste management systems require huge sums of financial backing. Therefore, such expenses are allocated to the islands' councils.

Total Infrastructure Expenditure (CBUG)

- Budget for councils
- Expenses to building harbours/ports
- Projects initiated

A country's infrastructure development is one of the simplest ways to measure its development overall. Because the Maldives is attempting to administer the country in a decentralized fashion, the power of, and budget allocations for, local councils illustrate the country's priority. Initiating government projects and finalizing the sites for their implementation is a highly politicized process that requires significant political support and debate. Similarly, as the Maldives islands are dispersed geographically, it is very important to consider the transportation facilities required to engage in trade and other arrangements. Most importantly, high levels of communication are required to manage the rural Maldives. The variables that were selected as infrastructure determinants are: expenditures to build harbors, government projects, provide transport facilities, and communication networks with the budget allocated to provinces/islands.

3.2.2 Independent Variables

The selection of explanatory variables is highly important in efforts to assess their expected relations to the dependent variables. The major variables used in this study were socioeconomic, political, and social capital factors. Similarly, variables for the macro and micro level analyses may yield two different results because of the nature of the local context and this dual level of analysis will strengthen the study's accuracy. The model suggested has a local contextual preference in some variables because it is necessary to examine the availability of data and the similarity of factors

that are compatible to analyze to conduct the island level analysis. However, following are the definition of the explanatory variables.

Table 3.2 operationalized definitions for the independent variables

Independent Variable	Measurements/indicators	Operational Definition
Socio-Economic Factors (SEF)	1. Gender ratio (GR)	Gender balance is very vital for healthy society. Therefore, equal contribution from male and female citizens are examine in this variable. Gender balanced workforce would be influencing public expenditure.
	2. Population (POP) 2.1 Minor; below 18 (MA) 2.2 Working; 18-65 (WA) 2.3 retired; above 65 (RA)	Political support is high in huge populations. This variable predicts to explain the mass number influence to acquire more resources compare among Districts. Moreover, age group has different influence on demanding for public provision and might explain more insight of the relationship. Such as, Minor age below 18 demands more facilities on education and health care; working age demand for wage and other subsidies; retired age gets more social security plus health.
	3. Numbers of students (NST) 3.1 Kinder Garden (KG) 3.2 Primary (PRI) 3.3 Lower Secondary (LSEC) 3.4 Higher Secondary (HSEC)	Number of available students itself explains the requirement for public provision. Hence different school setup is different and demands for these setup can influence the provision of goods such as; kindergarten needs more teacher and assistance, primary schools is more towards the foundation for the future education, also secondary schools demands for more quality teachers and modern facilities.
	4. No. of logged Court cases (NLCC)	Number court cases increasing meaning more social unrest and

		violence. And this also demands more government resources. Therefore, this variable is about the numbers of formal recorded cases in particular districts.
	5. No. Transport vessels (NTR)	Privately owned transport vessels are very common in tropical islands and these vessels are center of mobilization. However, more vessels need more monitoring and regulations similarly more space and harbor for services. This might be very directly influencing the physical structure of the districts.
	6. Average household income level (AHIL)	This variable indicates the condition of overall family. Sum of all family members represents the economic condition that influence to demand more recourses and support from state.
	7. Number of Civil servants (NCS)	As the economic condition like constant income would help the society to reduce social unrest and increase self-sufficiency. Therefore, this variable explains the numbers of working citizens in a district. This also includes public and private institution because their demands are deferent when it comes to foster public expenses.
Political Factors (PF)	8. No. of political representatives (PREP) 8.1. Parliament seats (PS) 8.2. Council seats (CS)	Many politically appointed officials employ each district. Number of political representatives would have high influence power to facilitate particular district. Eg. Ruling party representatives tries to fulfill their promise by facilitation more resources.

	9. Registered Party members (RPM)	Number of registered party members in districts has a high collective pressure for government to address more seriously. Eg. Opposition party pressure for equal resourcing.
	10. Political Party activities (PPA)	High level of party engagement would have a high level of public participation in the local level. Depending on the influence government has an enormous influence on expenditure. E.g. protest against basic rights
	11. Voter turnout (VT) 11.1. Parliament Elections (PE) 11.2. Council Elections (CE)	Voter participation in elections shows the public eagerness to make decision on their future rulers. As humans are driven by self-interest this variable estimate the public vote and its relation with public expenditure. E.g. parties' effort that leads before and after expenditure to win the election.
Social Capital Factors (SCF)	12. No. Social Groups/ organisations (NGO)	Democracy is working best with many diverse voices. This variable is about organized groups that formally act to influence government allocations. Such as; a disability care center that ensures the rightful treatment for handicaps in the society.
	13. Citizen initiated programs (CIP)	Public initiation shows the unity of the society in achieving its goals. This variable shows the public pressure and directions for government

		expenses. More unity among district can have more influence in public expenditure.
	14. Linkage among associations (LAA)	Link between associations is very important for majority representation. Linkage can influence the public expenditure by working together. E.g. coalition among agencies to win the public projects
	15. Sharing information (SINF)	Information is a key for many successful events. Society engage in information sharing can influence public expenditure. More organized events can be possible by common understanding on same issues. Information routs are many times used show public resistance E.g. local forums to gather public opinions.
	16. Trust in government (TGOV)	Public corporation and creating possibilities have a greater chance for state to act smoothly and address the needy more accurately. In contrast lack of trust harden the government actions and end up in waste of resources e.g. mass support that increase favors more projects.
	17. Cohesiveness of citizens (COH)	Amount of public unity is directly influencing the public expenditure by appointing the officials that have same set of unity and loyalty to develop the district. This many times

		reduce corruption and other ill behaviors in the public sector.

3.3 Model Specification

To study the provision of public expenditures for the rural Maldives, this study considered data between 2005 and 2015 from the Department of Statistics annual reports. The secondary data the department collects are considered to be among the data sources in the Maldives authenticated best. Further, primary data for certain variables also were collected through surveys to obtain the current and recent updates in the dataset.

3.3.1 Defining the variables for the multi-linear regression equations

This study conducted a more detailed evaluation of the relations by incorporating island level data to determine the reality of the nation as a whole and their influence on public funds. To do so, the paper also provided a cross-island analysis to estimate provincial differences. The following equations were developed to estimate and test the model formulated from the literature on a greater scale.

The multiple regression used the same set of data collected for the SEM model by distributing them at provincial level variables. Except for the dependent variable, the same set of variables was used in this model (Model II above). This variable is a summation of all of the sub-variables that were combined to determine the general expenditures for the islands (TEXP is the sum of health, education, and infrastructure expenditures). To test the model, the entire expenditures were sub-divided into three policy expenditures (i.e., health, education, and infrastructure). Following are the equations for the multiple regression;

TEXP=f(GR+POP+NST+NLCC+NTR+AHIL+NC+PS+CS+RPM+PPA+PE+CE+NGO+CIP+LAA+SINF+TGOV +COH +e)

Specifically, total education expenditures include: the educational budget for the islands, and their number of schools and teachers (ETOL). Total health expenditures include: health budget for atolls, number of health centers and hospital beds, availability of medicines and water facilities, and sanitation systems' quality (HTOL). Total infrastructure expenditures include: total council budgets, number of harbors, projects initiated, and transport and telecommunication facilities (CBUG). According to Wagner (1883) and Peacock and Wiseman (1961), health, education, and infrastructure policies are the most important factors that explain the major portion of state expenditures.

3.3.2 Defining the variables for the structural equation model equation

To analyze the provision of public funds (i.e., expenditures) for this study, the Maldives Statistical Department data were used primarily. Before the provincial level analysis was conducted, conceptual Model I was developed and OLS was used as a tool to understand the model's linearity and feasibility. If the model is significant, then the paper can support the argument of the theories that informed it.

Because SEM was the tool chosen, some conditions must be fulfilled to comprehend the model fully. For this analysis, the data collected were divided among the separate datasets for the Central, Northern, and Southern provinces to establish the model's structure. As shown in Model II, the dependent variables were treated as separate Total expenditures for the islands (TEXP), including the educational budget expenses, and current expenses for schools and facilities the state provides. Further, health budget expenses for provinces were considered, including current expenditures for clinics, medicines, and health facilities' maintenance, and finally, infrastructural expenses, including the total budget for local councils, the budget allocated to construct ports, and facilities the government provides for each.

Given the dependent variables, all of the independent variables must be incorporated to confirm the model. First, all of the socioeconomic factors, including gender ratio, provincial population, number of students, court-lodged cases, transport vessels, average households' income, and islands' employment level (GR, POP, NST, NLCC, NTR, AHIL and NE) should have significant justified relations to the

dependent variables (TEXP). This is because the fluctuations in the state population (i.e., gender ratio, population, number of student enrollments, court cases lodged, and transport vessels) demand certain facilities, such as free health, education, and public services, that increase governmental expenditures overall. In addition, changes in disposable income and the employment rate (i.e., average household income, tax revenue receipts, and employment) that pressure the government to increase and develop its facilities certainly can be achieved by increasing governmental expenditures and distribution. Keynes' Counter-cyclic theory also predicts and establishes this trend well.

Second, all of the political factors, including political representatives (PS and CS), registered political party members, political party activities, and voter turnout of parliamentary and local councils (PS, CS, RPM, PPA, PE, and CE) should have a significant justified effect on the dependent variables (TEXP). This is because political pressure and the number of representatives increases their popularity by providing more access to government facilities, such as encouraging people to join political parties and engage in their activities), which ultimately increases government expenditures. Notably, Wagner's law also predicts that the variables explained above increase state funding.

Third, all of the social capital factors, including the number of social groups, citizens' initiatives, linkage of association members, sharing information, trust in government, and citizens' cohesiveness (NGO, CIP, LAA, SINF, TGOV, and COH) should influence the dependent variables (TEXP). This is because society's combined efforts pressure government agencies to increase facilities and expenditures. This is also true in democratic countries. Notably, various scholars also predicted and explained that these factors are social capital factors that justify the provision of public goods (e.g., Putnam, Leonardi, & Nanetti, 1993; Coleman J. S., 1994; Knack & Keefer, 1997; Uslaner, 2002; Zmerli, 2003).

All of the variables above were incorporated in the SEM, as illustrated below:

TEXP=%GR+%POP+%NST+%NLCC+%NTR+%AHIL+%NC+%PS+%CS+%RPM +%PPA+%PE+%CE+%NGO+%CIP+%LAA+%SINF+%TGOV+%COH+e23

This equation integrates the total expenditures for the islands (TEXP) in the Maldives. All of the dependent variables denote an equation that represents each type of expenditure. Total expenditures were defined as educational, health, and infrastructural expenditures and facilities the state provides (ETOL, HTOL, and CBUG), which are the three most important variables found in the national budget framework.

3.4 Data Collection

Both primary and secondary data were collected for this study. The primary data were surveys distributed to all of the provinces with the help of island councils and the Maldives' Local Governance Authority (LGA: Table 3.3). The Maldives have 21 Administrative districts that consist of approximately 187 inhabited islands (in 20 atolls) that can be considered a local community (island). The secondary data were collected from various reports and budgets from annual reports (Table 3.4).

Table 3.3 specification of data collection

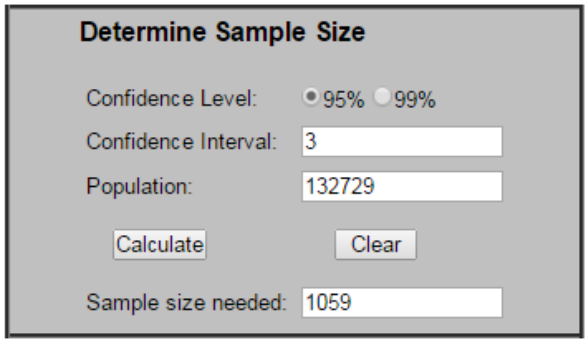
#	Atoll/Districts Name	Populations	Sample frame[3]	Sample size	Provincial groups for the study
1	Male' capital City	129,381	Not applicable	-	
2	North Thiladhunmathi (HA)	12,939	8684	70	Northern provinces (70+99+64+57+79+49+44) = 369
3	South Thiladhunmathi (HDh)	18,515	12376	99	
4	North Miladhunmadulu (Sh)	12,091	7913	64	
5	South Miladhunmadulu (N)	10,483	7070	57	
6	North Maalhosmadulu (R)	14,862	9805	79	
7	South Maalhosmadulu (B)	8,878	6091	49	
8	Faadhippolhu (Lh)	7,905	5481	44	
9	Male' Atoll (K)	12,166	8739	70	Central Provinces (70+31+45+10+27+22+29) = 327
10	North Ari Atoll (AA)	5,905	3859	31	
11	South Ari Atoll (ADh)	8,145	5557	45	
12	Felidhu Atoll (V)	1,601	1160	10	
13	Mulakatholhu (M)	4,705	3343	27	

[3] Sample frame is calculated considering the Age of the population. Therefore 15 and above citizens are included in the sample frame. More detailed sample specification is demonstrated at appendix A.

14	North Nilandhe Atoll (F)	4,119	2639	22	
15	South Nilandhe Atoll (Dh)	5,305	3583	29	
16	Kolhumadulu (Th)	8,901	6022	48	Southern provinces (48+65+46+63+42+109) = 373
17	Hadhdhunmathi (L)	11,795	8035	65	
18	North Huvadhu Atoll (GA)	8,334	5700	46	
19	South Huvadhu Atoll (GDh)	11,587	7860	63	
20	Gnaviyani (Gn)	7,984	5145	42	
21	Addu City (S)	19,319	13667	109	
22	Resorts	11,609	Not applicable	-	
23	Industrial Islands and Others	1,905	Not Applicable	-	
Total		**338,434**	**132,729**	**1069**	

Source: National Census community wise ("Maldives, Population and household census 2014," 2014)

The sample for this study was determined by the subsets (islands) of the total population and each subset sample was collected systematically from the district. Each district consists of approximately 10-20 islands that a central island in which the Atoll chief resides controls and manages. The sample frame was allocated from the total population, 132729[4] (Table 3.3 above), by excluding the capital city and non-administrative districts, such as resorts and commercial islands' populations, and applying a systematic sampling method. Next, the sample size was determined using the sampling calculator with a 95% confidence level and 3% confidence interval. This will provide 95 percent accuracy for the study for the entire population (see Figure 3.1). The sample calculator indicated 1,059, but the sample size selected was rounded up to 1,069 (see Table 3.3 above). Further, the sampling interval was calculated using the [k=N/n] formula(William, 2008), in which 'k' is the sample interval, 'N' is the total population, and 'n' is the sample size.



[4] Sampling size is determine ldives by excluding non-administrative districts. d from the selected population 15 above age is d household census 2014," 2014)

Figure 3.1 Sample calculation
(Source: http://www.surveysystem.com/sscalc.htm)

With respect to the primary data, actual samples were collected randomly by selecting individuals who volunteered to fill out the surveys as instructed. These forms were sent to the islands with the consent of the local governance authority with instructions for the focal point selected in each district. The authority was responsible for distributing the forms to the appropriate island population, who then filled out the surveys.

3.4.1 Data collecting and analyzing qualitatively

A case study approach was used for the qualitative analysis to discuss the way policies related to socioeconomic, political, and social capital contribute to the country's expenditures overall. At this point, it is important to highlight the major constitutional reform that took place during 2008 and led to many policy and structural changes in the country's administration. Similarly, the country's political condition is a major factor that influences policy directions. Therefore, it is very important to analyze the emerging trends qualitatively to achieve a holistic and detailed understanding of certain decisions the state made. The development of educational, health, and infrastructural changes are discussed both descriptively and explanatorily. The Maldives have made some of the policy decisions largely on the basis of the majority vote and public demands. This makes the qualitative analysis in this study more important to offer a true picture of the distribution of wealth. The conclusion of the study also is compared with its quantitative results to determine

whether the figures actually are representative and support the study's Emic[5] approach.

3.4.2 Data collecting and analyzing quantitatively

Primary data were gathered by conducting a survey. The questionnaires were generated and distributed among the districts (see Table 3.3 above) with the help of the local council authority, because the local councils are established as the functional administrators that manage all of the islands' affairs. The survey's goal was to collect information on social bond intensity and political activities from the citizens' perspective. Later, this information was analyzed to understand the determinants of the districts' public expenditures.

The secondary data for the variables were collected from various ministries, particularly the ministry of planning, which is responsible for maintaining national level data. Similarly, some web sources and reports, such as the World Governance Indicator, world value survey, and various articles and news reports, were used to check and reconfirm the collected data's authenticity. However, data from the Department of Statistics, and the Ministries of education, health, and housing and infrastructure were given priority as secondary data sources, because they keep the most recent and relevant information for the local and grassroots level samples. Data from these ministries also were used in various global level analyses, such as UN, ADB, and IMF reports, which helped support the reliability of the study's data.

The variables and indicators used in this study were related to the three main policies in the Maldives. These indicators also are used universally to draw conclusions or justify the distribution of public expenditures at large. These are indicators hand-picked carefully considering the availability of data and their relation to the phenomenon studied.

Considering the study's nature and the conceptual model, this study adopted SEM as the primary tool to confirm the model and multiple linear regression to compare the district level data. The main justification rests on the tools' basic

[5] Emic approach is the insider's perspective within the culture where the study is situated(Morris, Leung, Ames, & Lickel, 1999).

assumptions, including the fact that when there are numerous dependent and independent variables in the conceptual framework, they may contain multi-collinearity, a problem that SEM can address effectively. Moreover, SEM is a very effective tool, in that is able to explain each individual variable's strength individually, as well as each variable's individual contribution to the dependent variables, both of which are very important for this study. Similarly, this kind of study is a new phenomenon in the Maldives and it is important to see which of the variables chosen can be explained best. On the other hand, multiple linear regression was used to compare and contrast each variable's relation and direction in the island level data to see each island's effect on the budget expenditures overall.

3.5 Study Estimation Process

This study employed both qualitative and quantitative analyses using primary and secondary data to examine the parameters. Specifically, the qualitative analysis focused on developing a conceptual model to support the quantitative findings. Similarly, the quantitative aspect of the study was designed to determine that the relation between the multi-dimensional determinants and provision of public expenditures are significant per the model equations developed for this study. Two types of assessments were used to test and understand the provision of public funds for the Maldives. According to Creswell (2003) and Leech and Onwuegbuzie (2008), social scientists recognize and support this kind of mixed methodology well.

First, the relations among the variables were assessed using multiple linear regression. This analysis was conducted on the island level, in which the micro view of the variables was analyzed to determine the relations among the response and explanatory variables. In doing so, multi-collinearity and other requirements were assessed before the actual estimations. Three equations were developed from the study's framework. Finally, each equation was used separately, as well as together, to explain the results fully.

Second, a macro analysis was conducted at the provincial level using a path diagram to identify and confirm the model's fit. Provincial data were assessed to

determine provincial differences within the groups. Specifically, the Chi-squared test was the main tool used to differentiate the path differences among groups. As discussed in Chapter 6, a model with a good fit overall was achieved by modifying the proposed model SAPD. Further, combining the socioeconomic and political factors was a major change suggested by the SEM path analysis conducted with AMOS. When the dataset fits the conceptual model, it indicates that the theory developed based upon the literature actually supports the data. This also indicated that the socioeconomic, political, and social capital factors actually justify the government spending on education, health, and infrastructure in the provinces.

Descriptions and data collected sources

Table 3.4 Descriptions and data collected sources

Variables	Description	Data source
1.Total Education Expenditure (ETOL)	Total Government spending on District Education for 2015	Ministry of Finance and Treasury
2.No. of teachers (NTECH)	Total number of teacher allocated to particular district in 2015	National Bureau of Statistic
3.No. of Schools (NSC)	Total number of schools (i.e. public and community) available in particular district in 2015	National Bureau of Statistic
4.Total Health Expenditure (HTOL)	Total Government spending on District Health care for 2015	Ministry of Finance and Treasury
5.No. of Health centres (NHC)	Total number of health centers in a district up to 2015	Ministry of Health and National Bureau of Statistic
6.No of hospital beds (NBED)	Total number of hospital beds at per district in 2015	National Bureau of Statistic
7.Availability of medicines (AMED)	Common use medicines available in particular district	Questionnaire form (Primary sources)

	during 2015	
8.Availability of water (AWAT)	Accessibility and amount of water points in particular district in 2015	Questionnaire form (Primary sources)
9.Quality of Sanitation (QSAN)	Availability and maintenance of Sanitation service in particular district during 2015	Questionnaire form (Primary sources)
10. Budget for councils (CBUG)	Government Expense allocated for particular District councils year 2015	Ministry of Finance and Treasury
11. Numbers of harbours/ports (NHP)	Total number of commercial harbors in district up to 2015	Ministry of housing and Infrastructure
12. Initiated projects (PROJ)	Total initiated Projects between 2008 to 2015	Ministry of housing and Infrastructure
13. Availability of Transport facilities (ATRP)	Available options for transportation facilities in a district during 2015	Questionnaire form (Primary sources) and National Bureau of Statistic
14. Telecommunication facilities (TELE)	Total number of registered post/prepaid Sims operating with in a district during 2015	National Bureau of Statistic
15. Gender ratio (GR)	Total Male/female ratio registered in a particular district up to 2014 census	National Bureau of Statistic and Department of Registration
16. Population (POP)	Total number of people registered in a particular District in 2014 census	National Bureau of Statistic
17. No. Of Students (NST)	Total number of students in a district in 2015. Also age	National Bureau of Statistic

Include; - Minor (MA) age < 18 - Working (WA) 18-65 - Retired (RA) age > 65	classification for minor age less than 18, working age between 18-65 and Retired age greater than 65	
18. No. Logged court cases (NLCC)	Total number of formal recorded cases in district for 2015	National Bureau of Statistic
19. No. Transport vessels (TRV)	Total number of transport vessels registered and operates in a districts up to 2015	National Bureau of Statistic
20. Avg. income level/ per households (INCH)	Average income generated by each household. Family ranging up to 8 members during 2015	Questionnaire form (Primary sources)
21. No. of Employment (NEM) Includes; 22. Civil servants (CS)	Total Employment in a district during 2015, this also includes both civil servants and private employees.	National Bureau of Statistic
23. No. of political representatives (PREP) - Parliament seats (PS) - Council Seats (CS)	Number of appointed pubic seats (parliament member/council members) in a District during 2015	Elections commission, National Bureau of Statistic
- Total percentile of Registered Party members (RPM)	Total percentage of citizens registered at any political party in a district up to 2015	Elections commission and National Bureau of Statistic
24. P. Party activities (PPA)	Formally conducted political party Activities in a district during 2015	Local government Authority and Questionnaire form (Primary sources)

25. Voter turnout (VT) - Parliament elections (PE) 26. Council elections (CE)	Total percentile of voter turnout in a district in one full electoral cycle (2013-14)	Elections commission and National Bureau of Statistic
- No. Social Groups/ organisations (NGO)	Operating Groups in a district in year 2015	National Bureau of Statistic and Questionnaire form (Primary sources)
27. Citizen initiated programs (CIP)	Public initiated number of project in a particular district between 2008-2015	Questionnaire form (Primary sources)
28. Linkage among associations (LAA)	Relationship among NGO groups operating in a particular district	Questionnaire form (Primary sources)
29. Sharing information (SINF)	Number of options available to share information in a district	Questionnaire form (Primary sources)
30. Trust in government (TGOV)	Average Public opinion on government administration in a particular district	Questionnaire form (Primary sources)
31. Cohesiveness of citizens (COH)	Average public option on individual cohesiveness in a group at a particular district	Questionnaire form (Primary sources)

CHAPTER 4

THE ANALYSIS OF THE DEVELOPMENT OF EDUCTAION, HEALTH AND INFRASTUCTURE POLICIES IN MALDIVES

Before continuing with the experimental estimations, a qualitative evaluation and desk analysis of the development and political aspects will offer a significant and essential perspective on the education, health, and infrastructure arrangement in the Maldives. Specifically, it focuses on the way state-funded policy initiatives' arrangement is made in the Maldives, as well as the way the advancement of education, health, and infrastructure policies are governed centrally. The desk analysis in this section also offers a comprehensive explanation of the reason these policies are so important and discussed widely in the context of high expenditures and politics.

The Maldives is a small nation that has experienced rapid development in a short time. Therefore, analyzing its development and areas of development, and the progression of policies, will identify the determinants of public goods provision throughout the nation (i.e., atoll wide). In this chapter, a descriptive and exploratory approach is used to illustrate policy development and the provision of public funds in the past.

4.1 Education Sector of the Maldives

4.1.1 Administration and Management of the Education System

- ***law and regulations concern with education systems***

There was no specific and separate law for the Maldives' education system; hence, parliamentary Act no. 3/86 established the Ministry of Education (MOE) in November 1968. Under this Act, every matter related to education became the MOE's mandate. However, the major revision of the constitution in 2008 gave more attention to the country's education system. As a result, during 2009, the MOE initiated a draft that ultimately became the legal framework for the Maldives' primary and higher

education system. This bill mandates that the state provides equal education management in a decentralized manner across the country, including educational standards, provision of education facilities, and the requirement for teacher registration, as well as their duties and responsibilities(*Strategic Action Plan. National Framework for Development 2009 – 2013*, 2009).

- ***Development stages of education system of Maldives***

Historically, the traditional education system was allocated to three types of schools, edhuruge (or kiyavaage), makthab, and madhrasa, which the island citizens financed, owned, and operated. However, educational achievements were low in this system, although they helped meet numerous educational goals, including a moderately high literacy rate and the preservation of national traditions and culture. The kiyavaage or edhuruge (the neighborhood Qur'anic School) was private homes where children learned to read the Qur'an, read and write the local language (i.e., Dhivehi), and acquire a few fundamentals of arithmetic. The makthab was more formal, although it offered nearly similar education programs, yet in a different building. Finally, the educational programs were more extensive in the madhrasa(*World data on education: maldives report* 2011).

In 1960, English-medium schools were introduced to the capital island (i.e., Male') and marked the beginning of a state-funded educational system modeled on the English system in the organization of curricula. This change attracted foreign teachers and English textbooks, and a noteworthy improvement in education occurred in 1978. In addition, the decision was made to establish a unified education system for the nation and develop a more even distribution of facilities, with the principal focus on the primary (grades 1 to 5) and middle schools (grades 6 and 7); it also included the formation of a unified curriculum for these schools. Further, it provided teacher training programs and also built new schools on the islands(*Developments in education 1992-1994. Maldives country report*, 1994).

Finally, this permitted the formation of Atoll Education Centers (AEC) and Atoll Primary Schools (APS) in every atoll. AECs had difficulty meeting the high social demand for education. This progress also prompted the merger of the

traditional and English medium systems into a unified modern system that combines the positive attributes of both. The middle Development Policy period (1994-1996) followed, which moved from five-year essential education to the universal seven-year fundamental education program. The objective of widespread basic education was accomplished in 2000, which offers each child access to primary education centers. By 2004, primary education was established on 199 inhabited islands(*Education for All 2000 Assessment: country report of Maldives.*, 1999).

Further, until 1970, the education system's administration was restricted only to several government schools in Male'. With the goal to extend primary education, the MOE attempted more extensive elements of educational administration and organization that mirrored the requirements of national advancement. In the mid-1970s, the Ministry's vital responsibilities were the management of the three government schools in Male', and testing and certifying applicants for government employment. Schools situated on other islands were private ventures that were managed individually. Education's advancement and extension has required state-financed programs to build schools, develop educational modules, produce textbooks, train teachers, and provide non-formal and distance education. According to the MOE's 1994 and 1999 country reports, by 1995, it directed 50 schools in the atolls and nine schools in Male'.

In the 1980s, the Ministry established certain specific programs. The teacher training program was removed from the Educational Development Center and became the Institute for Teacher Education (now incorporated into the Maldivian National University). The reading material production unit became the Printing Section, and the non-formal education area became the Non-Formal Education Center, each of which became a different body in the MOE(*Technical assistance to the Republic of Maldives for strengthening the framework of education towards Vision 2020*, 2004).

In 2009, in the process of establishing elected island and atoll councils, all efforts were made to achieve the goal of regionalization and decentralization. This procedure delegates political, regulatory, and monetary duties to elected councils. The government has divided the atolls into seven provinces to accomplish more compelling and effective administration as a way to encourage and quicken local development. Further, in 2009, the MOE had seven divisions/segments that include

corporate services, human resources, finance and development, and planning and external relations. The Department of Higher Education was established in 2008 within the MOE. A supreme body, The Higher Education Council, which the vice president of the Maldives chairs, advises the government on higher education policies and approaches, provides oversight, and determines the general path to improvement.

In addition, The Educational Development Center (EDC) was established in 1979, and incorporates the Curriculum Division, Educational Technology Section, and the Educational Programs Section. In January 2009, it was charged to reinforce adjusted educational programs in schools and addresses special education, early childhood care and development, co-curricular activities, life skills, and school technical and vocational education and training (TVET).

The Center for Continuing Education (CCE) is a significant expert organization that largely addresses the obligation to enhance the quality of teaching and learning in the Maldives. It advances community training, improves lifelong learning, and delivers adult literacy programs throughout the islands. The CCE has been extended to incorporate numerous expert advancement training programs within the education sector. Vital changes were made within CCE because of adjustments in the government educational policy in 2009. Noteworthy changes have occurred in the organization, as the country has been decentralized, and it now has the duty to manage the schools appointed to the provinces. This motivated the CCE to decentralize its expert development programs and encourage the smooth operation of the Teacher Resource Centers built in all 20 of the nation's atolls with specialized and expert help from specific provinces(*World data on education: maldives report* 2011).

The Department of Public Examinations (DPE), under the MOE, has the responsibility to regulate and coordinate all of the international, national, and general examinations. The DPE liaises with global examination bodies, and facilitates, oversees, and directs every related examination; further, it also manages the documentation at all stages.

The Maldives Qualification Authority (MQA) guarantees the quality of post-secondary qualifications granted and manages the Maldives National Qualifications Framework (MNQF) established in 2001.The MNQF provides a complete and clear

national system that encourages quality change and confirmation, and private area support in postsecondary education(Shiuna & Sodiq, 2013).

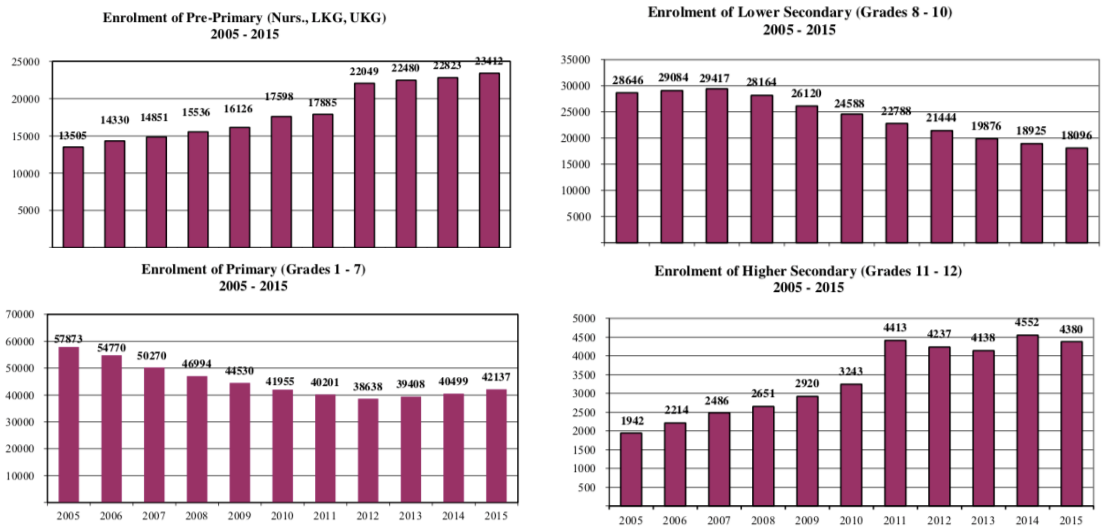


Figure 4.1 School enrollment trend for Maldives between year 2005-2015

- **Educational level in the Maldives**

First, children aged 4 to 5 years receive two years of preschool education. Recently, preschools have been established on the islands, as edhuruge is being changed to present day preschools, with teachers either trained fully or in part. Nursery school is for 3-year-olds. Preschool training is the establishment stage, lasts two years, and is partitioned into lower and upper kindergarten.

Second, primary education begins at the age of 6. Previously, the five-year essential program was followed by two years of upper primary education that led to secondary education. These two education levels have been combined into one broad program of basic education that lasts seven years (grades 1-7). Primary education covers six years, and is partitioned into key stages 1 (grades 1-3) and 2 (grades 4-6).

Third, secondary education includes two levels, lower secondary, which lasts three years (grades 8-10), and higher secondary, which lasts two (grades 11 and 12). Toward the end of grades 10 and 12, students are required to sit for the International General Certificate of Secondary Education (IGCSE), the General Certificate of Education Ordinary Level (GCE O-level), and Advanced Level (A-level) examinations the Cambridge International Examinations or the London Examinations,

Edexcel International, administer. There also are two national examinations, the Secondary School Certificate examinations for Islamic Studies and Dhivehi.

Finally, the Maldives National University and other privately-owned colleges offer tertiary and higher education. At the post-secondary level, programs that lead to a diploma (level 5 of the MNQF) take one year (for higher secondary graduates or MNQF level 4 qualification holders) or two years for lower secondary graduates or MNQF level 3 qualification holders. Programs that lead to the award of an advanced diploma, an associate, or a foundation degree (MNQF level 6 qualifications) normally last two years (one year for holders of a MNQF level 5 qualification in the relevant field). Programs that lead to a bachelor's degree (MNQF level 7) typically require three years of full-time study (or 360 credits); one-year programs lead to the award of a professional diploma. A bachelor's degree with honors (MNQF level 8) requires one additional year of study; one-year graduate/postgraduate diploma programs also are provided at the MNQF level 8. At MNQF level 9, a master's degree requires two years of full-time study (240 credits), and an advanced professional diploma one year. At MNQF level 10, a doctoral degree requires two to five years of study, and a higher professional diploma requires 120 credits, per the Maldives Accreditation Board, (2009) and World Bank (2012).

4.2 Health Sector of the Maldives

4.2.1 Administering the Health sector of the Maldives

The public sector has the largest share in the health system in the Maldives. There also are some private sector institutions that provide medical support to the public sector, and essentially provide healing and symptomatic treatment, and pharmaceuticals and therapeutic items within the nation. Another key division that includes some portion of the health sector framework is nonprofit organizations (NGOs). The public sector reaches all inhabited islands in the Maldives, while the private sectors are positioned in the capital city of Male'. Foreign partners assist the health sector as well to deliver healthcare in the public sector("Health systems in Maldives," 2016).

The healthcare system in the Maldives has a four-level framework with primary health centers on the islands, a greater number of health facilities for Atolls, special healthcare hospitals at the district level, and tertiary healthcare at the central level (located on the capital island). These health facilities are established either as hospitals or health centers on each populated island. The number of people and patients on an island and the distance from the health service facilities determine the services provided. Moreover, regional hospitals are categorized as level three hospitals, while health centers are designated as level four centers. The fundamental organizing bodies that provide primary and medicinal services are the regional or atoll hospitals, which cover a population of 5000 to 15000 individuals. Hence, to guarantee access to medical services, health centers are built regardless of the population size (*Maldives Health Master Plan 2016 - 2025*, 2014)

In addition, medical services such as medical checkups, vaccinations, drugs, and so on are provided free to all Maldivians. However, because of the islands' geographical separation, it is difficult to provide maximum resources for healthcare, which leads to poor management in the health sector. Furthermore, geographic circumstances restrict the professional workforce's accessibility to the smaller islands. Therefore, guaranteeing that citizens are provided quality service becomes an enormous challenge. Similarly, on smaller islands, there are no public pharmacies and the private sector also is not inclined to offer pharmacy facilities because of the economic disadvantages of their small scale. This makes it challenging for citizens to access medication. Regardless of the difficulties in providing health facilities, the healthcare sector in the Maldives has achieved the ability to work and increase its access to medical services considerably(*Maldives Health Profile 2010*, 2010).

Simultaneously, the administration of the arrangement for routine medical care and wellbeing has constructed a framework to respond to crises and disasters, and national resolutions have been established and drills arranged for the public to reduce risks and crises' adverse outcomes.

In 2010-2011, various modifications were made in the health service sector attributable to political affiliation and governmental transitions by incorporating people in the general medical service framework and eliminating the single framework into six different systems. Because of this change, the arrangement of

medical supplies, human resources, and health information systems failed, and also led to the loss of skilled healthcare professionals. Therefore, the system was revamped again in 2012 into a solitary framework; however, it has not yet recuperated from the damages attributable to the related changes.

Beginning in 2014, various changes were made in the health service framework. An approach to establish a general practice (GP) benefit is being positioned as the gatekeeper to enter the medical service framework and connect with secondary and tertiary healthcare services. The public healthcare facilities in the capital city of Male', IGMH, Vilimale' health center, and Hulhumale' hospital, have been assigned to be overseen by an independent corporate management board of the MOH. In addition, in 2014, the government entered a partnership with the State Trading Organization (STO) to outsource medical supplies and provide a public medical service delivery system. The STO is setting up pharmacies on the small islands, medical storage facilities within the atolls, and building up a biomedical service and supplies data system to control a viable supply of medicines and equipment to the public healthcare providers. Further, a National Diagnostic Center was proposed that health service providers can use. However, these strategic activities do not reflect a useful approach to reinforce human health resources (with the exception of improving GPs) and the health data system.

Private health service providers generally are found throughout the islands. The largest private tertiary health provider in the Maldives is ADK hospital, which is located in Male'. The others are small clinics, most of which also are located in Male', which patients visit at the same level as at IGMH. As indicated by the list of all clinics the MOH maintains, there are 65 private healthcare facilities, 73% of which are located in Male'. Despite the fact that the private sector provides allopathic services overwhelmingly, several provide Maldivian traditional medicines and other treatments such as acupuncture, and Ayurvedic and Chinese medicine. In one way or another, the nation has difficulty ensuring these medicines' quality, as it is powerless to monitor their administration(*Maldives Health Profile 2010*, 2010).

Moreover, the private sector oversees the supply and arrangements of drugs as well. In that capacity, all pharmacies in the nation are in the private sector, and incorporate those in the public sector, including IGMH. There are 224 pharmacies in

the private sector throughout all areas, the greatest number of which, approximately 80, is in Male'.

Regardless of the huge number of NGOs enrolled (more than 700), their limits are constrained in the nation for various reasons, including scarce assets and systematized volunteerism. Even so, NGOs in healthcare service are advancing, and various NGOs situated in Male' have the capability and asset mobilization systems for their projects. Those that have administered the provision of services in years past include the Society of Health Education, Diabetes Society of the Maldives, Care Society, the Maldives Thalasaemia Association, Aged Care of the Maldives, and Journey. Further, various NGOs have attempted to address disability, and child, youth, and human rights with results that have increased citizens' wellbeing(*WHO workshop with Ministry of Health on Intergrated Management for Emergency and Essential Surgical training* 2005).

Nevertheless, the government's main objective is to offer fair access to primary healthcare services and maintain continuous service at all levels. The public subsidies for healthcare largely are spent on curative care (66.8%), both for inpatient and outpatients services, nearly 11% of which is spent on administration, 5.5% on preventive care, and 17% on medication. Throughout the nation, the Maldives spent US$ 130 per capita on inpatient remedial administration and a similar sum on inpatient treatment abroad, while US$ 95 per capita was spent on medication in 2011. However, just US$ 11 per capita has been spent on general healthcare programs(*Maldives Health Master Plan 2016 - 2025*, 2014).

The government is obligated to guaranteeing access to high quality healthcare, and enhancing the quality of health services is accomplished primarily by authorizing healthcare service provider facilities, pharmacies, health service experts, and registering medications and vaccines. Moreover, to ensure patients' safety in arranging care and monitoring disease conditions, various national norms and conventions have been established and implemented. However, because of continuous changes in health professionals and high dependence on various experts from other nations, it is difficult to maintain standard rules and agreements. Further, because of the high cost related to physical examinations, healthcare services' quality reviews are not managed. Consequently, external organizations often address improvements in

healthcare services. Because the administration framework's quality is insufficient, health experts and specialists sometimes fail to adhere to various principles. Some of the concerns that have been raised are insufficient use of contamination control measures within facilities, proper administration of medical supplies, and healthcare waste management(*Country Cooperation strategy at a glance*, 2018).

4.3 Infrastructure administration in the Maldives

In 2015, the Maldivian economy's growth in Gross Domestic Product (GDP) fell almost 1.5% compare to year 2014. The tourism sector's poor performance led to this slowdown, although infrastructure projects in 2015 remained strong throughout the year. The positive developments in this area were maintained during that time largely because of the government's initiation of several Public Investment Programmed (PSIP) projects. Similarly, additional construction projects associated with the 50th Anniversary of independence celebration added to the positive development in 2015. Key PSIP projects included harbor and jetty construction, shore protection, land reclamation, and building roads(*Annual Report 2015*, 2015).

In 2015, the construction sector's output grew 39.8%. Further, the import of construction-related goods, including, wood, metal, and cement, increased considerably during the year, demonstrating that the number of construction projects increased. Moreover, the tourism sector's imports indicated increased construction of resorts.

From the mid-2000s until mid-2008, the development in the construction sector increased at an average annual rate of 25% because of both private and public sector activity. Key projects during this period included the development of Hulhumale', greater reconstruction efforts following the 2004 tsunami, residential construction in Male', and resort construction projects following the government's lease of new islands for resort development since 2004 (*Working paper 2014*, 2014)

Nevertheless, despite the huge reconstruction attributable to the tsunami, there were signs of slowdown in 2008. A total of 5,817 houses required repair and 2,980 were rebuilt, and the situation was exacerbated further by the increase in the global prices for construction raw materials from 2005 to 2008. Since 2009, this sector has

been somewhat unpredictable. For example, resort development, which depends largely on outside financing, was nearly brought to a halt because of the worldwide credit crunch, while numerous infrastructure projects were scaled back. As a result, construction declined by 37%(*Seventh National Development Plan 2006-2010*, 2008).

Between 2010-2011, the development in the sector bounced back emphatically and remained positive. However, because of the continued work on public infrastructures and strong demand for residential construction, it declined once more in 2012, which made it difficult for resort developers to secure financing for the new resort development projects.

The construction sector is one of the most important sectors, and contributes significantly to GDP. Further, it plays an important role in the fundamental framework required for socioeconomic development, as it covers the development of roads, harbors, and ports, and building industrial facilities, houses, schools, and offices. In addition, the sector also contributes indirectly to other sectors, from suppliers of construction materials to architectural and real estate services.

The construction sector in the Maldives has an association, the Maldives Association of Construction Industry (MACI), which was formed in 2001 with the mission to develop, promote, and strengthen the Maldives' construction industry. MACI has been involved actively in the sector in collaboration with the government.

Construction projects can be classified as residential and non-residential buildings, civil engineering, and resort construction. The resort construction and infrastructure projects constitute the majority of development in the Maldives, despite the fact that residential construction both the government and private sector funds has contributed essentially to the sector's growth.

1) Residential construction covers private individuals, developers, and the government's development of homes. Before the early 2000s, private housing projects financed by the domestic banking sector had managed it. The initiation of developing housing units in Hulhumale' also has contributed to the sector.

2) Non-residential buildings are funded both by public and private sector investment. The main non-residential projects are public sector projects to develop health and education facilities, and offices and mosques the PSIP funds. Nevertheless, activity in non-residential building development has declined since 2009, primarily

because of the completion of most of the tsunami-related projects and downsizing public infrastructure projects attributable to budget limitations.

3) Civil Engineering: This subsector incorporates public investment in transport infrastructure, for example, harbor, and dredging/reclamation, airport, ports, and utilities infrastructure. Because the islands in the Maldives are dispersed, harbors offer the best method to access islands for business or social purposes. As a result, development projects primarily are for harbor construction or dredging. The current operations of the Maldives' infrastructure sector have faced a number of difficulties and challenges.:

First, access to finance is a problem. Construction companies require large sums of money because of materials' expense and other operational costs. Further, they have heavy transaction costs, including the different installments related to the bidding process and the security that must be paid during the pre-proposition arrangements, both of which banks consider high risk because of the high level of uncertainty. Further, because of their moderately small size, contractors have limited capital. Thus, because of the restricted financing alternatives available, most firms need to depend on cash flow and trade credit to fund their activities.

Second, foreign workers have taken advantage of the labor shortages in the Maldives construction sector. From 2006 to 2010, the number of expatriate workers increased in the construction sector, while the number of locals declined. Despite the fact that the expatriate workforce is employed at a low salary, expatriate labor has led to a large economic drain. Each year, foreign workers send considerable amounts of money out of the country, which has added to the economy's trade deficits.

Third, when resources are scarce, material prices increase, because nearly all of the construction materials must be imported. As a result, the country's foreign exchange reserve is being depleted. For example, in 2004-2012, construction materials' imports represented 12% of the country's total imports. Further, if the price of materials increases because of local or outside events, it reduces the contractors' income significantly and slows construction work.

Fourth, competition from foreign firms also concerns the local construction industry. Its continuous development and the increase in projects has led to increases in the number of foreign companies. These usually engage in large civil engineering

projects, as local companies have less ability to do so. Further, because foreign companies have more resources and access to capital that gives them a competitive advantage, the residential and resort construction projects are being undertaken by these companies, either as joint ventures or foreign investments. In any case, foreign firms' expansion in these areas has affected the local construction industry by decreasing costs and assuming the local industry's work.

4.4 Recent trends of Maldives Education, health and infrastructure expenditure

Figure 4.2 below illustrates government spending for education, health, and infrastructure, including council budgets, during 2015. The fluctuation among atolls' funds is very high and is more puzzling when the population density (atoll population excluding capital city, and commercial islands) is added to the figure and we can see a clearly unequal distribution overall, as the population is nearly the same in all of the atolls, yet the public expenditures are distributed very unevenly. The logical question drawn from this figure is, what factors influence policymakers' decisions to provide public funds across the rural Maldives?

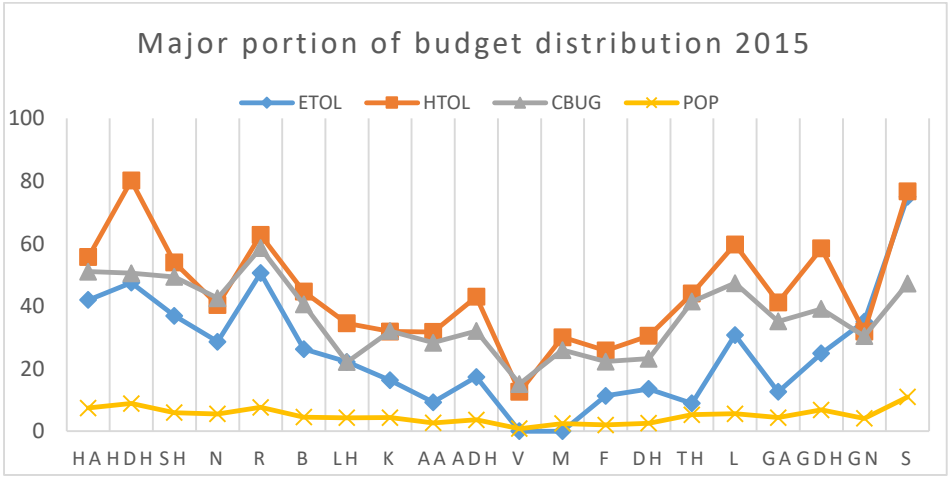


Figure 4.2 Major portion of budget distribution across atolls

Source: Ministry of Finance and Treasury (2015), National Bureau of Statistics, Ministry of Finance and Treasury (2016) and Ministry of Housing and Infrastructure (2016)

The Maldives' public expenditures show the heavy concentration on health, education, and infrastructure between 2007 and 2014 (Figure 4.4). The trend in public spending in these areas indicates the Maldives' priority policy direction(*BUDGET IN STATISTICS FINANCIAL YEAR 2015*, 2015). However, one of this paper's objectives is to explain the variables that lead to a particular form of public spending. Like any other country, the Maldives' budgetary process follows a similar pattern in formulating and implementing budgetary policy. The Ministry of Finance is responsible for administering the state budget, and with the parliament's approval, each year's budget is finalized and the president approves its implementation. Figure 4.3 below illustrates the four classifications of the Maldives' budgetary framework and its priorities.

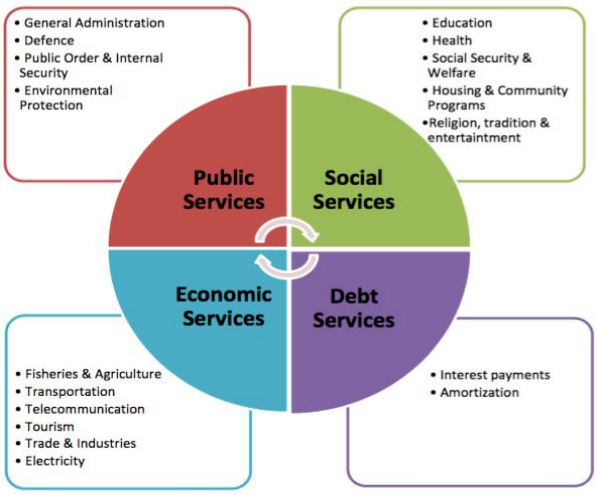
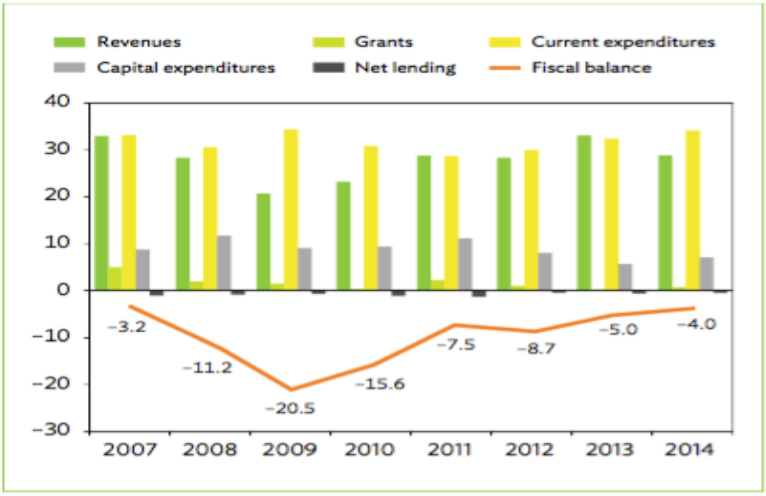


Figure 4.3 Maldives Budget Functional Classification

The Maldives' entire budget is divided into four main functional classifications that may include current and capital expenditures. In 2015, 40.4% of the budget was allocated to social services, 32.1% to public services, 16.3% to



economic services, and 11.2% to debt services. This demonstrates that the government's spending priority is social improvements(*BUDGET IN STATISTICS FINANCIAL YEAR 2015*, 2015).

Figure 4.4 Fiscal indicators as Percentage of GDP

Source: Asian Development Bank (2015: p. 9) in Maldives monetary Authority Quarterly report March 2015

Figure 4.4 shows that the Maldives' current expenses exceed the revenue generated, particularly during those years in which major elections (parliamentary and presidential) were held (i.e., 2008 and 2014). However, the country's expenses overall are very high, and result in a deficit budget.

The budget classification for 2015 shows that more than 25% of the entire budget was allocated for PSIP. This includes establishing waste management systems, water and sanitation projects, education improvement, health and sports, and constructing and maintaining harbors in the atolls. These expenses are allocated separately from the recurrent expenditures. This shows that a large portion of the budget is spent on social security services that include health and education and infrastructural development(*BUDGET IN STATISTICS FINANCIAL YEAR 2015*, 2015).

Therefore, the combination of education, health, and infrastructural expenditures can be justified as the Maldives' major expenses, and these major expenditures variables were used in Model I, while a combined expenditures variable, the Total Expenditures for Islands (TEXP), was incorporated in Model II.

CHAPTER 5

EMPIRICAL RESULTS AND DISSCUSSIONS PROVISION OF PUBLIC EXPENDITURE (island level Analysis)

In this chapter, the empirical results of Model I (multiple regression analysis at the island level), is presented using the variables confirmed above and OLS. By doing

so, the paper offers an additional contribution to the existing concept of Wagner's law. The results obtained served as a basis to justify the reasons for the wealth distribution in the Maldives during 2015, and were driven by interpretation, as well as discussions of the estimated results, particularly given that the results were inconsistent with the expectations. Table 5.1 below provides a summary of all of the variables used in Model I with their minimum, maximum, mean, standard deviation, skewness, and kurtosis.

Table 5.1 Descriptive Summary (Model I)

variables	Minimum	Maximum	Mean	S.D.	Skewness	Kurtosis
ETOL	0	74.93	25.4505	18.63515	0.95	1.14
HTOL	12.63	80.14	44.4874	17.26658	0.473	-0.09
CBUG	15.11	58.57	36.7095	11.86394	-0.007	-0.916
GR	41.5	62.8	47.865	5.87978	1.194	1.285
POP	591	32057	14594.95	7226.885	0.635	0.468
MA	908	11701	5327.05	2637.869	0.635	0.468
WA	1461	18817	8567.25	4242.157	0.635	0.468
RA	119	1539	700.55	346.91	0.635	0.471
NST	348	5438	2892.3	1366.812	0.349	-0.158
KG	85	1522	769.85	353.98	0.182	0.05
PRI	193	2634	1410.85	652.044	0.262	-0.37
LSEC	70	1196	621	304.167	0.29	-0.58
HSEC	0	427	87.75	93.795	2.738	9.134
NLCC	39	903	253.7	198.138	1.875	5.197
NTR	119	223	396.95	165.84	0.071	-0.977
AHIL	8833	18450	12364.75	3732.251	0.778	-1.119
NCS	206	1193	806.6	306.875	-0.037	-0.788
PREP	3	13	57.8	22.657	-0.168	-0.963
PS	0	1	3.6	1.429	0.798	0.133
CS	3	12	8.2	2.235	-0.317	-0.613
RPM	31.8	44.1	37.99	3.79458	-0.15	-1.124
VT	62.97	89.28	79.2285	6.58882	-1.062	1.236
PE	75.54	93.11	84.484	4.24026	-0.358	0.509

CE	46.21	86.36	73.969	10.34073	-1.626	2.65
NGO	14	45	29.6	9.344	-0.014	-1.014

Table 5.1

(Continued)

SINF	2.8	4.8	3.87	0.62078	-0.186	-1.039
TGOV	1.1	3.1	2.025	0.51797	0.328	0.111
COH	2.5	5	3.66	0.65486	0.217	-0.468
CIP	2.2	4.8	3.615	0.79358	-0.012	-1.015
LAA	2.7	4.5	3.55	0.54338	0.096	-1.101
PPA	2.2	5	3.625	0.76218	0.209	-0.616

Note:

Skewness std. error 0.512

Kurtosis std. error 0.992

All of the variables are summarized in the descriptive statistics above. Further, information concerning the distribution of the variables' scores are shown in the skewness (distribution's symmetry) and Kurtosis (peakedness). However, with the larger sample size adopted in this study, more than 187 cases, skewness and kurtosis does not make a substantive difference in the analysis(Tabachnick & Fidell, 2007).

Interestingly, the health (HTOL) expenditures were the highest among all of the variables investigated (i.e., education, health, and atoll council budgets' expenses), indicating that these expenses are relatively high in the Maldives. With respect to the GR, the male-to-female ratio averaged 47.86, indicating that the country's male population is higher than that of females. Further, the population (POP) among the atolls is not distributed evenly across the Maldives, which suggests that wealth might be distributed based on each atoll's population. Similarly, the average number of students on each island is 806, which is high for small community-based islands and will demand higher educational fund allocation. It also is true that more and more provision of public funds will be needed when the political party affiliation and voters' turnout are high on average at all of the atolls. These apparent observations are expected to be true after the estimation conducted in the following parts of this study.

5.1 Correlation and Multicollinearity

The results presented in this section relate primarily to education, health, and infrastructure expenditures. In every estimation, the analysis was intended to distinguish the issue of multicollinearity, which is a measure to detect whether two variables are similar in nature. This issue is considered extreme when the estimation of the Pearson correlation coefficient is higher than 0.80 or when the estimation of the VIF is lower than 10 and the tolerance value is greater than 0.10. Several variables must be removed when there is an abnormal state of relation. Basically, when multiple variables have similar characteristics, they exhibit multicollinearity. This investigation considered both by examining the correlations and VIF values.

Therefore, before continuing with the multiple regression analysis, the issue of multicollinearity had to be tested. In doing so, it was found that a number of independent variables had a significant correlation problem. After adjusting the original three equations according to their Pearson correlations and multicollinearity, the tolerance and the VIF for the variables MA, VA, and RA (representations of the POP); KG, PRI, LSEC, and HSEC (representations of NST); PS and CS (representations of RPM), and PE and CE (representations of VT) were removed.

Finally, the following independent variables of educational expenses, GR, POP, NST, NTR, AHIL, NCS, PREP, RPM, PPA, NGO, LAA, SINF, and TGOV, had no significant correlations with each other. For health expenses, POP, NST, NTR, AHIL, NCS, PREP, RPM, PPA, CIP, LAA, SINF, and COH had no significant correlations with the variables. Further, the independent variables for local council budget, POP, NST, NTR, AHIL, NCS, PREP, VT, CIP, SINF, TGOV, and COH had a tolerance level higher than 0.10 and a VIF value less than 10. Thus, these variables were included in the three equations for the multiple linear regression.

5.2 Multiple regression Analysis

This part of the paper estimated and interpreted the results generated from the three equations. Each equation and its variable set are provided with separate justifications, and the variables' statistical significance is expressed for the given dependent variable. The results are provided with recommendations and further justification by using combined investigations that are conducted in later parts of this study. The following are the final equations for Model I after the inconsistent variables were removed based on the correlation and multicollinearity tests above.

Three equations:

$$ETOL = \alpha 1 + \beta_1 GR + \beta_2 POP + \beta_3 NST + \beta_4 NTR + \beta_5 AHIL + \beta_6 NCS + \beta_7 PREP + \beta_8 RPM + \beta_9 PPA + \beta_{10} NGO + \beta_{11} LAA + \beta_{12} SINF + \beta_{13} TGOV + e \quad (1)$$

$$HTOL = \alpha 2 + \beta_1 POP + \beta_2 NST + \beta_3 NTR + \beta_4 AHIL + \beta_5 NCS + \beta_6 PREP + \beta_7 RPM + \beta_8 PPA + \beta_9 CIP + \beta_{10} LAA + \beta_{11} SINF + \beta_{12} COH + e \quad (2)$$

$$CBUG = \alpha 3 + \beta_1 POP + \beta_2 NST + \beta_3 NTR + \beta_4 AHIL + \beta_5 NCS + \beta_6 PREP + \beta_7 VT + \beta_8 CIP + \beta_9 SINF + \beta_{10} TGOV + + \beta_{11} COH + e \quad (3)$$

The three equations above have separate sets of dependent variables (education, health, and council budget expense) for the Maldives during 2015. The combination of these variables explained three major portions of the Maldives' entire budget expenses. The necessary statistics are provided with the goodness of fit in the estimation of the equations to ensure the results' robustness.

The following tables provide statistical explanations of the equations above with a sample size of 1069 from 187 islands in groups of 20 different atolls (administrative districts excluding the capital city, Male'). The results below show the

computation of the variables, including the R2, adjusted R2, F-value and Durbin-Watson statistics. * denotes p < .05 and ** denotes p < .01.

5.2.1 The estimation of Total Educational Expenditure Equation

This estimation was used to test equation 1 that was generated after the variables with high correlations and multicollinearity were removed. For a clearer estimation of the independent variables' effects on the dependent variable (i.e., total education expenditures), a multiple regression was performed and is presented below.

Table 5.2 OSL Estimation of ETOL

					Collinearity Statistics	
Variable	**Coefficient**	**Std. Error**	**T-stat**	**Sig.**	**Tolerance**	**VIF**
GR	-0.848	0.239	-3.542	0.012*	0.229	4.364
POP	-0.002	0.001	-2.16	0.074	0.009	112.957
NST	0.014	0.004	3.327	0.016*	0.014	72.418
NTR	0.018	0.012	1.469	0.192	0.112	8.938
AHIL	-0.001	0.001	-1.903	0.106	0.099	10.062
NCS	0.051	0.031	1.656	0.149	0.005	197.844
PREP	-0.775	0.206	-3.77	0.009**	0.021	47.83
RPM	0.821	0.279	2.937	0.026*	0.403	2.479
PPA	4.85	3.078	1.576	0.166	0.082	12.137
NGO	-0.092	0.158	-0.583	0.581	0.209	4.792
LAA	-31.177	4.706	-6.625	0.001**	0.069	14.417
SINF	22.475	4.195	5.357	0.002**	0.067	14.954
TGOV	-9.526	2.826	-3.371	0.015*	0.212	4.724
CONSTANT	63.805	20.67	3.087	0.021		
R2 = 0.996	**Adjusted-R2 = 0.975**		**F-stat = 58.439****		**Durbin-Watson = 1.936**	
Note:	**Significant at 1%					
	*Significant at 5%					

Equation 1 was estimated for the model as follows;

ETOL = *63.805 - 0.848GR* – 0.002POP + 0.014NST* + 0.018NTR + - 1.001AHIL + 0.051NCS – 0.775PREP** + 0.821RPM* + 4.85PPA – 0.092NGO – 31.177LAA** + 22.475SINF* – 9.526TGOV*

The equation above provides evidence that explains the government provision of education expenditures adequately, as the F-statistic is significant at $p < .01$. The R2 and adjusted R2 also support the claim that the provision of public education expenditures is 98.60 percent. The adjusted R2 of 0.98 offers 98 percent evidence to prove that the independent variables explain the dependent variable estimated in the equation. Further, the Durbin-Watson statistic in this equation is nearly 2, which indicates a negligible degree of auto-correlation among the variables. This is also visible in some of the variables, as the estimation of the VIF is less than 10 and the tolerance value is greater than.10. The degree of correlation is not very significant in the equation above and the values are accepted if the Durbin-Watson values fall between 1.5 to 2.5(Tabachnick & Fidell, 2007). Further explanations of the equations are as follows:

5.2.1.1 Effects of Socio-Economic Variables

The first six variables in the equation represent the economic environmental factors that affect the provision of education funds.

The gender ratio (GR) had a significant negative influence on the provision of education funds, indicating that when there is an imbalance in the population's gender, the provision of public funds for education decreases. Thus, it is evident that the gender balance plays a large role in justifying public funding. According to Putnam, Leonardi, and Nanetti (1993), and Beugelsdijk and Schaik, (2003), economic growth and prosperity increase when the economy has a balanced population growth or gender equality. However, the population of the districts (POP) had a negative, but insignificant effect, as shown in the table above. This is an interesting observation, as the Maldives are geographically scattered and it appears that an increase in a province's population might have little or no effect in determining public funding for education. This also may be an indication of the uneven distribution of education funding across the Maldives.

The number of students (NST) also had a positive and statistically significant influence on educational funds allocations.

The number of transport vessels (NTR), average household income level (AHIL), and the number of civil servants (NCS) in the Maldives had no significant

effects on the provision of public funds for the educational sectors, although both the NTR and NCS were related positively to the dependent variable, while the AHIL was related negatively, as the table shows

.

5.2.1.2 Effects of Political Variables

According to Downs (1959), cited in Holcombe, 1989), the political variables' effects represent Black's (1948) fundamental Median Voter theorem, which posits that the state majority representatives are the driving wheels of decisions in a democracy. This indicates that the link between political activities and political representation can lead to an increase in public spending.

The number of political representatives (PREP) had a negative and highly significant effect in determining the provision of public funds. This may be the case because when the number of representatives increases, their families move abroad or elsewhere to obtain an education, or perhaps the citizens' self-sufficiency is increasing. However, average political membership (RPM) had a positive and significant influence on public funding for the education sector, such that an increase in political party membership in the country led to an increase in public funds to the education sector. This also is highly consistent with Black's Median Voter theorem. In contrast, political party activities (PPA) had no significant influence on the dependent variable.

5.2.1.3 Effects of Social Capital Variables

Since Coleman (1988) introduced the concept of social capital into social science, it has become a recognized discipline to examine economic growth, and indicates that social bonds and public confidence lead to such growth and determine the provision of public funds.

The results showed that when the number of NGOs increases, it had negative and insignificant effects on education expenditures. However, the relations among the associations (LAA), information sharing (SINF), and the level of government (TGOV) trust were highly significant. Both the LAA and SINF had positive effects on the provision of public funding to the education sector, while TGOV had a negative

and significant effect. This may indicate that when institutions at large make inappropriate decisions, citizens' trust in government declines.

5.2.2 The estimation of Total Health Expenditure Equation

Multiple regression was performed to test equation 2, which was generated when the variables that had a high correlation and multicollinearity were removed to offer a clearer estimation of the independent variables' effects on the dependent variable, total health expenditures.

Table 5.3 OSL Estimation of HTOL

					Collinearity Statistics	
Variable	**Coefficient**	**Std. Error**	**T-stat**	**Sig.**	**Tolerance**	**VIF**
POP	-0.003	0.001	-2.786	0.027*	0.009	111.048
NST	0.029	0.005	5.623	0.001**	0.01	101.866
NTR	0.027	0.012	2.347	0.051	0.133	7.543
AHIL	-0.001	0.001	-2.52	0.04*	0.121	8.282
NCS	0.01	0.016	0.645	0.54	0.02	49.146
PREP	-0.344	0.144	-2.388	0.048*	0.047	21.241
RPM	-0.789	0.339	-2.325	0.053	0.302	3.312
PPA	8.941	3.944	2.267	0.058	0.051	19.581
CIP	-19.637	3.767	-5.213	0.001**	0.061	16.474
LAA	-5.452	6.689	-0.815	0.442	0.038	26.401
SINF	6.208	3.428	1.811	0.113	0.111	9.049
COH	9.32	2.264	4.116	0.004**	0.228	4.395
CONSTANT	49.074	15.514	3.163	0.016		
R2 = 0.988	**Adjusted-R2 = 0.968**		**F-stat = 49.071****		**Durbin-Watson = 1.698**	
Note:	**Significant at 1%					
	*Significant at 5%					

Equation 2 was estimated for the model as follows;

HTOL = *49.074 – 0.003POP* + 0.029NST** + 0.027NTR + - 1.001AHIL* + 0.01NCS – 0.344PREP* - 0.789RPM + 8.941PPA – 19.637CIP** – 5.452LAA + 6.208SINF + 9.32COH***

The equation estimated the government provision of health funding quite accurately, as expected, and the F-statistic was significant at $p < .05$. The R2 and adjusted R2 values also supported the claim that the independent variables explain public health expenditures at $p < .05$. Further, the Durbin-Watson statistic in this equation is slightly less than 2, which indicates a slight positive auto-correlation among the variables. This also is shown among some of the other variables, as the estimation of the VIF is less than 10 and the tolerance value is greater than.10. However, these are not significant issues, as the Durbin-Watson value was within the accepted range of 1.5 to 2.5(Tabachnick & Fidell, 2007). However, following are the explanations of the above estimations,

5.2.2.1 Effects of Socio-Economic Variables

The first five variables in the equation represent the economic environmental factors that influence the provision of health funds.

POP had a significant negative effect on the provision of funding for health, such that as the population increases, public expenditures for health decrease. In contrast, ideally, population growth should lead to a fundamental expansion in state funding(Malthus, 2007). Further, because the Maldives' provincial populations vary, the health funds distribution also is uneven or irregular. This is an interesting finding. Given that the MOH policy is to distribute healthcare facilities based on the population density, this finding contradicts the Ministry's policy clearly(*Maldives Health Profile 2010*, 2010).

However, NST had a highly positive significant effect on health funding, indicating that the more students in a community, the greater the provision of health funds, while the NTR had a positive, but insignificant effect on health fund allocation.

The AHIL was related negatively and significantly with the response variable, such that when the income level increases, public funding for health decreases. This phenomenon is demonstrated well in the "Iron law of wages," where the income level according to the population size influences the state resources provided (Ricardo, 1817). According to the author, to encourage people to demand fewer state funds,

wages should not be controlled, but must move freely according to the market demands. However, NCS had no significant influence on health funding. This may be because the rural Maldives do not depend on state jobs, but are becoming more self-sufficient instead. Alternatively, more people may be moving from public sector to private sector employment, such as fishing, agriculture, retail, and local tourism.

5.2.2.2 Effects of the Political Variables

The political factors included only three variables after the variables that exhibited multicollinearity were removed. Ideally, these variables support the Median Voter theorem, and the Public Choice and Voter Bias theories, in which citizens' political activities and representation in voting are likely to lead to an increase in government expenditures.

The number of political representors (PREP), demonstrated a negative and significant value in the regression for equation 2, such that the greater the number of representatives on an island, the fewer the health funds allocated. This indicates that these political representatives are ineffective in increasing public health expenditures as mandated by the health policies, but serve their own interests instead. Buchanan and Gordon's (1977) Voter Bias theory can explain this effect, as potential voters' decisions are influential only immediately before and after elections in favor of the candidates.

Similarly, average political party memberships (RPM) and political activities (PPA) had insignificant effects on the dependent variable, indicating further that the political environment plays a minor role in determining public health funding. According to the Voter Bias theory, there can be several reasons for this, such as corruption, voter buying, and favoritism, all of which can manipulate any state system.

5.2.2.3 Effects of Social Capital Variables

Social capital is intended to facilitate and achieve goals that either may require a higher cost or effort (Coleman J. S., 1994). Therefore, social efforts can influence public funding.

In the case of the statistics above, both citizen-initiated programs (CIP) and cohesiveness among social groups (COH) were highly significant. This indicates that these two explanatory variables had a greater influence on the dependent variable, i.e., CIP and COH determine public health funding. As Dasgupta and Seragilden (1999) explained, social capital shares knowledge, understanding, norms, rules, and expectations that align to form a pattern of interaction among individuals that leads to recurrent engagement and results. Similarly, providing appropriate tools and equipment will foster the process of development. Hence, CIP had a negative effect on the provision of public health funds, perhaps because foreign investments largely fund programs social groups initiate(*Maldives Health Profile 2010*, 2010).

However, both the relations among associations (LAA) and information sharing (SINF) had positive, but insignificant values. Thus, both variables had little influence on the dependent variable.

5.2.3 The estimation of Total Councils Budget Expenditure Equation

Equation 3 was generated by removing the variables that had high correlations and multicollinearity. A multiple regression was performed to obtain a clearer estimation of the independent variables' effects on the dependent variable, total island council expenditures, as presented below.

Table 5.4 OSL Estimation of CBUG

					Collinearity Statistics	
Variable	**Coefficient**	**Std. Error**	**T-stat**	**Sig.**	**Tolerance**	**VIF**
POP	-0.001	0.001	-0.884	0.403	0.011	89.36
NST	0.003	0.002	1.726	0.123	0.029	34.61
NTR	0.011	0.007	1.576	0.154	0.147	6.811
AHIL	-0.001	0.000	-3.462	0.009**	0.145	6.91
NCS	0.037	0.015	2.471	0.039*	0.009	107.387
PREP	-0.133	0.108	-1.236	0.252	0.032	31.068
VT	0.425	0.154	2.76	0.025*	0.186	5.37
CIP	-5.513	1.722	-3.203	0.013*	0.103	9.748
SINF	5.967	1.965	3.037	0.016*	0.129	7.769
TGOV	-3.306	1.515	-2.182	0.061	0.311	3.215
COH	2.607	1.059	2.462	0.039*	0.398	2.512
CONSTANT	-17.858	13.378	-1.335	0.219		
R2 = 0.989	**Adjusted-R2 = 0.974**		**F-stat = 66.105****		**Durbin-Watson = 2.155**	
Note:	**Significant at 1%					
	*Significant at 5%					

Equation 3 was estimated for the model as follows:

CBUG = *– 17.858 - 0.001POP + 0.003NST + 0.011NTR + - 1.001AHIL** +0.037NCS* – 0.133PREP + 0.425VT* – 5.513CIP* + 5.967SINF* – 3.306TGOV + 9.32COH**

Equation 3 estimated the government provision of local council budgets quite accurately based on the explanatory variables verified. As Table 5.4 shows, the F-statistic was significant at $p < .05$. This also was supported by the R2 and adjusted R2 values, and indicated that the socioeconomic, political, and social capital factors determine the local council budgets. Moreover, the Durbin-Watson statistic in this equation was only slightly greater than 2, which indicates a slight negative auto-correlation among the variables. Some of the variables also showed this, as the estimation of the VIF was less than 10 and the tolerance value greater than .10. However, this degree of correlation is not significant in the equation, as it falls within the accepted 1.5 to 2.5 range(Tabachnick & Fidell, 2007).

5.2.3.1 Effects of Socio-Economic Variables

The first five variables in the equation represent the economic environmental factors that influence the provision of local council budgets. These variables are interpreted as follows:

POP, NST, and NTR had insignificant effects on the dependent variable. This could be because the council budgets are determined by deducting public health and education factors. The total budget for local communities also is included in the various aspects of the total budgetary expenses for the Maldives and only the administration of the local community and maintenance budget is allocated to the local councils.

Hence, only AHIL and NCS were significant in the analysis. Specifically, AHIL had a highly significant negative effect on the dependent variable. On the other hand, NSC had a positive significant effect, such that when the number of civil servants in a province increases, the budget allocated to that particular district will increase as well.

5.2.3.2 Effects of Political Variables

Only two political factors remained after several variables were removed because of multicollinearity. Ideally, these variables should support the Median Voter theorem, and Public Choice and Voter Bias theories, such that political activities and citizen representation lead to increased public spending.

The number of political representatives (RREP) appointed to the islands had an insignificant influence on the dependent variable. However, voter turnout (VT) was related positively and significantly to the dependent variable. Thus, higher voter turnout and public engagement in the political process in determining representatives' appointment had positive effects on the allocation of public funds to local councils. This reflects a pattern similar to the Median Voter theorem, in which increased citizen participation in the political process has a positive effect on public spending.

5.2.3.3 Effects of Social Capital Variables

Overall, there are many areas of focus in the social capital concept. However, scholars largely have developed five dimensions of social capital: social networking; mutual benefits; trust and willingness; interactive behaviors, and collective efficacy

(Bourdieu, 1986; Coleman J. S., 1994; Dasgupta & Seragelden, 2001). This combination of community variables tends to have a strong influence in determining public policy.

Three among the four variables above had significant effects on the dependent variable. This is a strong indication that public funds allocation to the community derives primarily from social capital factors. These variables were: citizen-initiated programs (CIP); information sharing (SINF), and cohesiveness among community members (COH). Both SINF and COH had positive and significant relations with the dependent variable. Thus, citizens' increased cohesiveness and shared community norms influence the provision of public funds to local islands. On the other hand, CIP had a significant negative influence on the variable, which indicates that an increase in citizen-initiated programs leads to greater self-sufficiency and the ability to generate their own funding from international organizations so they do not have to depend on local budgetary funds.

Finally, trust in government (TGOV) had a negative, but insignificant relation to the provision of public funds to local communities.

5.3 comparison of the three equations

After looking at the estimations of each equation above at the island level of analysis, each determinant of public spending on education, health, and local council budgets is summarized here. These must be developed to estimate and understand the factors that influence the provision of public funds. Because of multiple regression analysis' nature, some variables were removed to fit the dataset to the equation. Accordingly, a different set of variables accompanies each dependent variable. However, each set shares some variables in common.

Table 5.5 summarizes the three equations for the set of variables that explain all of the Maldives' major public expenditures in 2015, as Model I, the MAPD, showed. As Model I concerned policy determinants, they are explained theoretically.

Thus, a practical explanation needs to be provided to understand the estimations better, and is presented in the table below.

Table 5.5 A summary of the determinant of Expenditure at island level

Expenditure	Determinants	signs
Total Educational Expenditure	Gender Ratio	-
	No. Students	+
	No. Political Reps	-
	Avg Party Members	+
	Association Linkage	-
	Information Sharing	+
	Trust in government	-
Total Health Expenditure	Population	-
	No. Students	+
	Avg Household Income	-
	No. Political Reps	-
	Initiated Programs	-
	Cohesiveness	+
Total Local council budget	Avg Household Income	-
	No. Civil Servants	+
	Voter Turnout	+

Initiated Programs	-
Information Sharing	+
Cohesiveness	+

Firstly, the NST was the most prominent and positively significant variable in all of the expenditure types. This indicates that this is the strongest predictor of public funds allocation overall, and implies that Maldivian policymakers base their decisions on public expenditures allocation on such general socioeconomic factors as population, number of students, and districts' income level. Not surprisingly, the number of students has increased with the increase in population. According to the 2014 census, the Maldives have experienced a high rate of population growth and school enrollment in recent years.

Secondly, political variables, such as the RPM, PREP, and VT, also play roles in determining public funds allocation. The introduction of a multi-party democratic system in 2008 altered the public's perspective as well as the country's public administration, and still continues to dominate the major decision making in the country. It is not surprising to see a negative correlation between the number of political representatives on each island and public funds allocation in recent years. On the other hand, voter turnout has an important influence on decision makers in local budget allocation. Therefore, as the Median Voter theorem predicts, it is highly likely to see greater citizen involvement in political processes to achieve mutual benefits or increase communities' financial support.

Finally, in the island level analysis, social capital variables, including CIP, COH, SNIF, TGOV, and social networking, had the greatest influences in determining the allocation of public funds. Notably, social cohesiveness and information sharing among members had strong positive associations with public funds allocation. Thus, it is very important for policymakers to focus the majority of their policies on encouraging public engagement in democratic decision making in which citizens become the heart of the decisions. Increasing societal unity is key for developmental prosperity. However, government trust and citizen-initiated programs seemed to have an inverse relation with funding, which may be attributable to recent

political instability in the country and the public's lack of confidence following public officials' poor decisions.

Remarkably, a similar number of variables was significant in all expenditure types, and among all of those, social capital variables had the greatest influences on public expenditures. This proves social capital factors' significant role in enhancing the state's general expenditures.

CHAPTER 6

FURTHER INVESTIGATION ON THE PROVISION OF PUBLIC EXPENDITRE (Province level Analysis)

Thus far, the paper has provided an island level analysis and found that the initial model constructed had some limitations in fitting the dataset at hand. Because it was a micro level, in-depth analysis of the relations, the analysis in this chapter uses a group comparison statistic (SEM) to identify differences among the provinces in the Maldives, and explain which of the variables in the previous chapter have the greatest effects on the provision of public funds to provinces.

Firstly, the variables were modified somewhat for the province level comparisons. For example, the educational, health, and infrastructure expenditures (GMEI) dependent variables were combined and are referred to as the total expenditures dependent variable. This focuses more on the research objectives and helps understand the main factors that influence public expenditures in the provinces in greater detail.

As the initial step before the major influencing factors from the provinces were compared, Model II (see Chapter 2, Figure 2.7) was tested using SEM to fit the model for the investigation. This helped identify the best model that can compare and contrast the province level data accurately and detect the major influences on provision of public funds.

The dataset used in this model was the same as that used for Model I in the OLS analysis. However, the provinces were grouped by allocating an equal number of islands/atolls to each carefully. This is because many factors that influence public expenditures are distributed by atoll, rather than population size in the rural Maldives (as in Table 3.3, Chapter 3). These are the Central (consisting of Alif, Alif Dhaal, Kaafu, Dhaalu, Faafu, Meemu, and Vaavu Atolls); Northern (consisting of Baa, Lhaviyani, Noonu, Raa, Haa Alif, Haa Dhaalu, and Shaviyani Atolls), and the

Southern provinces (consisting of Gaafu Alif and Gaafu Dhaalu, Thaa, Laamu, Gnaviyani Atoll, and Addu City).

Therefore, this chapter reports the model confirmatory analysis with SEM using the provincial level datasets. After the model was confirmed, the adjusted model group comparisons were carried out in the provincial level analysis to determine whether there are any differences between and among the provinces that have significant effects on the provision of public funds.

Table 6.1 Descriptive Summary (Model II)

variables	Obs	Minimum	Maximum	Mean	S.D.	Skewness	Kurtosis
POP	187	591	32057	17678.02	7209.992	0.45	-0.458
GR	187	41.53	62.84	46.7248	5.43743	1.667	2.658
NST	187	348	5551	3479.81	1308.105	0.148	-0.887
AHIL	187	8833	18450	11534.85	3275.903	1.304	0.136
PREP	187	3	13	8.28	24.307	-0.601	-0.73
RPM	187	31.8	44.1	38.565	3.55425	-0.415	-0.968
VT	187	62.97	89.28	77.2393	6.82212	-0.871	-0.171
LAA	187	1	5	2.43	1.03	0.404	-0.389
SINF	187	1	5	2.38	1.008	0.499	-0.217
TGOV	187	1	5	2.71	1.144	0.274	-0.687
CIP	187	1	5	2.33	1.014	0.599	-0.178
COH	187	1	5	2.5	0.965	0.256	-0.367
ETOL	187	5000000	74930000	33010664	19222924	0.76	-0.15
HTOL	187	12630000	80140000	51526226	17096928	0.234	-0.993
CBUG	187	15110000	58570000	41054967	10500674	-0.348	-0.771
Valid (listwise)	N	187					

Note:

Skewness std. error 0.075

Kurtosis std. error 0.145

Table 6.1 presents the descriptive statistics of the variables for Model II. These variables are the same as those chosen after the various assumptions and multicollinearity tests were conducted with the above statistics. In this chapter, the variables were modified and adjusted for Model II and the tools' requirements.

6.1 Confirming the Model II for District Level Estimation

As the variables are cascaded from the previous estimation, variables are exposed to various statistical test. Such as; normality, outliers, multicollinearity etc. the variables are seeming to be in good shape. Although, most of the assumptions for SEM are same as OLS criteria the new model II has to tested for a good fit.

6.1.1 meeting the requirements for SEM

The Mahalanobis distance in SPSS was used to detect outliers and the distances were 2.94 and 33.88 with a mean of 11.99. These are tolerable and indicate that the data are good(Yuan & Zhong, 2013). Further, a multicollinearity test was performed previously and indicated that these variables had a tolerance level higher than .10 and a VIF value less than 10. Moreover, the sample size for this estimation was 187 cases, while SEM requires only 109 samples; thus, the sample size was more than enough to compare the variables in the framework constructed in Model II(Hoyle, 2014).

For specification, factor analysis (CFA) was performed on the model and it had a KMO and Bartlett's test of .67, indicating that the sample size was adequate; Bartlett's Test of Sphericity also was significant, indicating that at least two variables were correlated strongly and it is possible to conduct a factor analysis for the model specification.

6.1.2 Identification of Model II by using SEM

Because Model II met all of the requirements for SEM, the model was identified using AMOS software. This is a very important aspect in SEM, as it indicates whether the model is suitable to perform calculations. If the model is unidentifiable, then no computations can be conducted.

Therefore, the following steps were taken to confirm Model II. First, the model was sketched as it is in AMOS. However, the variables and the relations predicted in the model (as shown in Chapter 2, Figure 2.7) could not be identified. Therefore, the model was modified by combining the socioeconomic and political variables as the software suggested. This adjustment appeared to be theoretically reliable, as the socioeconomic factors also fall within the political arena. Moreover, the ETOL, HTOL, and CBUG expenses were combined as a latent variable, total expenses. Similarly, the error terms and relations were drawn further to identify the model and the exogenous and endogenous variables were linked carefully with the covariance as AMOS suggested. The results are shown in Figure 6.1 as outcomes AMOS generated to identify the model after the initial adjustments.

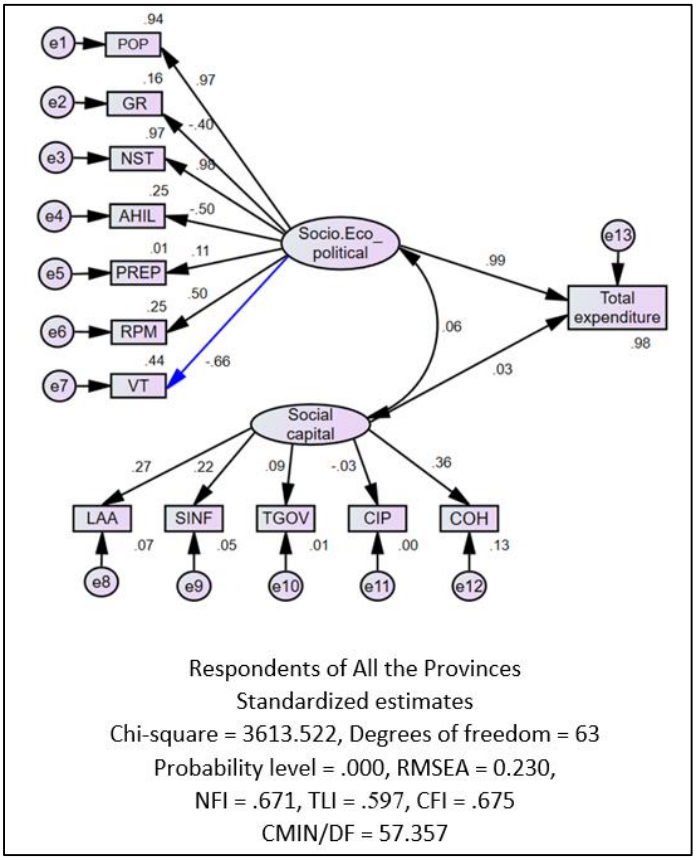


Figure 6.1 Identified model for district level estimation

6.2 Structural Equation Modelling

As shown above, Model II achieved minimization. Therefore, to determine the model fit, the following three steps were performed. First, the Model identified had 63 degrees of freedom and a Chi-squared value of 3613.52, which is high, but appropriate because of the number of degrees of freedom. Further, with a probability level of .000, it appeared that there was a reasonable justification to use the model.

Moreover, the degrees of freedom were positive (+) figure, which indicates that the model is over identified and it is appropriate to use it to carry out the estimations. To confirm the model further, the root mean squared error of approximation (RMSEA) was computed to determine the absolute fit for the model suggested. The results showed that the suggested model had a value less than .08, i.e., a RMSEA of .230, which indicates that the model is not an absolute fit(Barrett, 2007).

Because the model is not an absolute fit, and is designed to estimate provincial level data, it must be tested for incremental model fit, which includes the Comparative Fit Index (CFI), Normed Fit Index (NFI), and Tucker Lewis Index (TLI). The tests yielded a CFI of .68, NFI of .67 and TLI of .60. All of these values must be above the .90 recommended. Although none of the measures met this recommendation, Model II was considered to have a reasonable fit nonetheless(Marsh, Hau, & Grayson, 2005). However, they indicated that the model could be improved further to achieve a very competitive model.

Finally, the model needed to undergo a test of parsimonious fit, the minimum discrepancy for which is less than 5.00, and is calculated as Chi-squared divided by the degrees of freedom. Model II had a minimum parsimonious level of 57.36 (3613.52/63), which is very high, as is predicted when the model has a high Chi-squared. Therefore, the model must be modified to meet the parsimonious fit test. Further, two more tests can indicate a parsimonious fit, the Parsimony Goodness-of-Fit Index (PGFI) and the Parsimonious Normed Fit Index (PNFI). Because the CMIN/DF had a high value, the model was not a reasonable fit, and thus there was no need to perform more parsimonious fit tests. The model simply required more modification to achieve an acceptable fit.

Overall, Model II did not have a fit sufficiently good for the provincial level estimation. Therefore, it had to be made more competitively viable with modifications, as shown in the following sections. The modifications also had to be supported by statistics and justified operationally.

6.2.1 Analysis of Model II to estimate the differences among Provinces

Thus far, the paper has demonstrated the modifications for the initial model in two different stages. First, the variables that demonstrated multicollinearity were removed using linear regression, and subsequently, those that were insignificant also were eliminated from further investigations. Second, to confirm the model for the province level analysis, many different changes were made to the original model as well as the variables used. Finally, Model II was suitable for the province level analysis.

Similarly, in Model II's identification and initial investigation, the groups (provinces) dataset described in the previous section was entered and Model II was modified. In doing so, a reasonable modification that is backed by statistical and operational significance must be considered. Therefore, modification indices from AMOS SEM were used as the main tools to identify the modifications for the model. This largely helps the researcher identify the variables that demonstrate a statistical correlation so that the Chi-squared value overall drops and leads to a model fit.

To compare the province level analysis, the following equation and hypothesis were proposed to determine whether there are any significant differences among the provinces and which set of variables influences these differences.

Hypothesis for provincial level analysis

$$TEXP = \alpha 1 + \beta 1POP + \beta 2GR + \beta 3NST + \beta 4AHIL + \beta 5PREP + \beta 6RPM + \beta 7VT + \beta 8LAA + \beta 9SINF + \beta 10TGOV + \beta 11CIP + \beta 12COH + e \quad (4)$$

H0 = The different provinces do not moderate the socioeconomic and political factors' influences on the total expenditures

H1 = The different provinces do moderate the socioeconomic and political factors' influences on the total expenditures

6.2.1.1 Empirical evidence of unconstrained (Base line) Model for Provinces

Following are the unconstrained models for the Central provinces (Figure 6.2), Northern provinces (Figure 6.3) and South provinces (Figure 6.4).

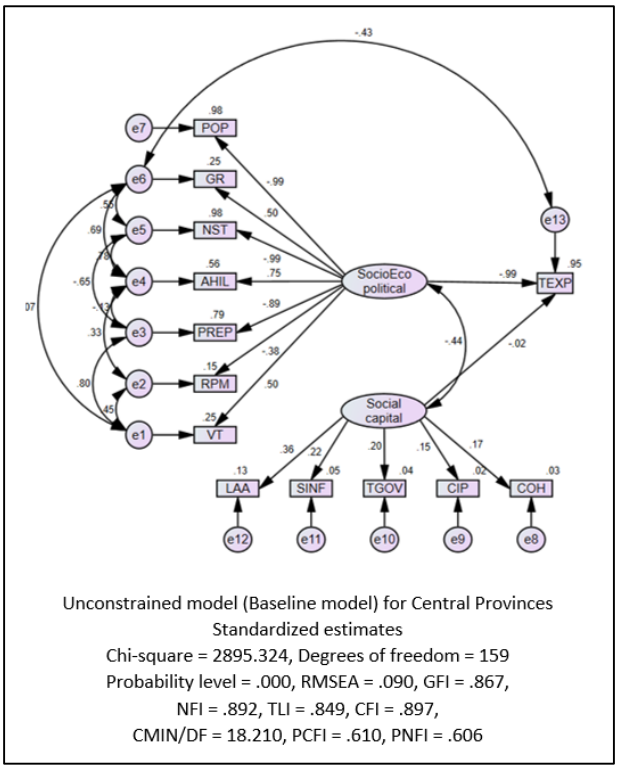
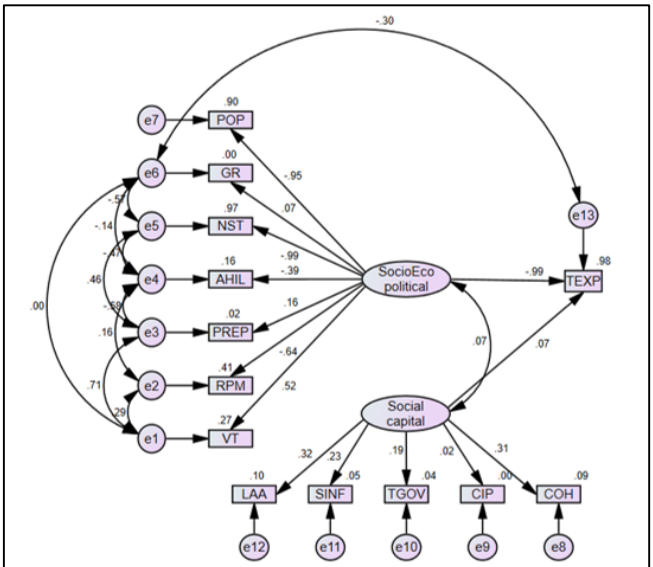
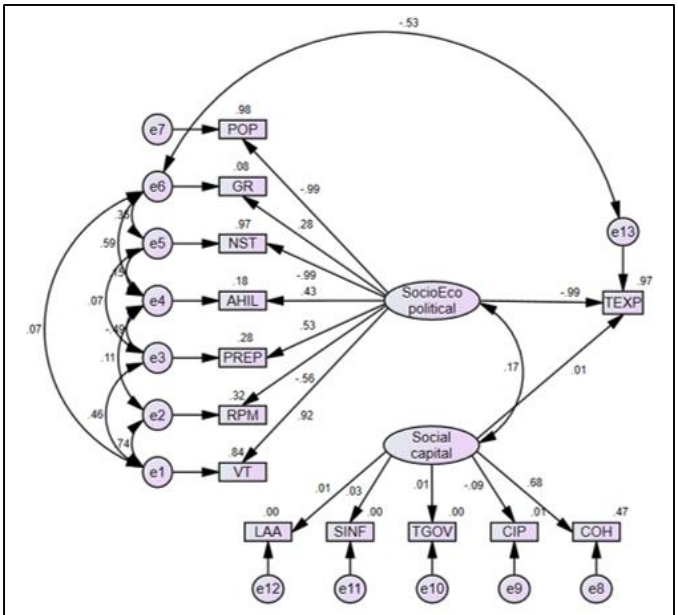


Figure 6.2 Baseline model for Central province estimation



Unconstrained model (Baseline model) for Northern Provinces
Standardized estimates
Chi-square = 2895.324, Degrees of freedom = 159
Probability level = .000, RMSEA = .090, GFI = .867,
NFI = .892, TLI = .849, CFI = .897,
CMIN/DF = 18.210, PCFI = .610, PNFI = .606

Figure 6.3 Baseline model for Northern province estimation



Unconstrained model (Baseline model) for Southern Provinces
Standardized estimates
Chi-square = 2895.324, Degrees of freedom = 159
Probability level = .000, RMSEA = .090, GFI = .867,
NFI = .892, TLI = .849, CFI = .897,
CMIN/DF = 18.210, PCFI = .610, PNFI = .606

Figure 6.4 Baseline model for Southern province estimation

Finally, Model II for the provinces' estimations achieved minimization. Similarly, as in the previous estimations, to determine the model fit for the Central, Northern, and Southern provinces' estimations, the following three steps were performed.

First, the model had 159 degrees of freedom and a Chi-squared value of 2895.32, which is appropriate with the degrees of freedom given. Further, because p = .000, the model was acceptable(Barrett, 2007).

Moreover, RMSEA for this modification of Model II was .09, which is slightly higher than the .08 recommended. However, many scholars have argued that a range of RMSEA values is acceptable for a model to have a good fit. Most often, a range between .05 to .10 is considered an adequate fit, while a value above .10 indicates a poor fit(MacCallum, Browne, & Sugawara, 2006). Similarly, the GFI of .87 also indicated that the model had a reasonable fit for the multi-group estimations(Barrett, 2007).

Second, for the incremental model fit, the baseline model (unconstrained model) for the province level estimation had a CFI of .90, NFI of .89, and TLI of .85. All of these values are very close to the .90 recommended. As the CFI, NFI, and TLI were close to the perfect fit range and the values were above the .08 range, the model was considered to have a good incremental fit(Marsh et al., 2005).

Finally, the model was tested for parsimonious fit, which is an old method to detect parsimonious fit. Today, the PGFI and PNFI are used more often to indicate a parsimonious fit, and these tests also are included in the AMOS SEM software to demonstrate a parsimonious fit. Therefore, the values for the parsimonious tests in Model II were PCFI = .61 and PNFI = .61, both of which are above the acceptable range of greater than .50. Therefore, Model II was considered to have a good fit (Mulaik et al., 1989).

Now that the modified model had a good fit overall, it also apparently had many relations to the error terms. This may be because there are other variables that could be added to this model that have not been identified thus far with the theories used in this study. Unlike in physics and mathematics, in social science, variables cannot be defined as easily as expected, and many environmental factors affect the

dataset strongly. Therefore, Model II can be considered a very good model to estimate province level relations, particularly in the provision of public funds from the perspective of social capital influences. The following section demonstrates the estimations of the confirmed model for the provincial level dataset.

Figures 6.2, 6.3, and 6.4 illustrate the unconstrained estimations of the Central, Northern, and Southern provinces that affected total expenditures. The figures show that there are seven variables among the socioeconomic and political variables (latent), most of which have an estimation above .50, except for PREP in the Northern provinces and GR in the Southern and Northern provinces. This indicates that these two variables had little ability to explain the total expenditures at large. In contrast, POP and the NST had the greatest power (i.e., > 90%) to explain the provision of public funds for all of the provinces. This may be because decision makers or policymakers focus more on population in each category to distribute the national wealth.

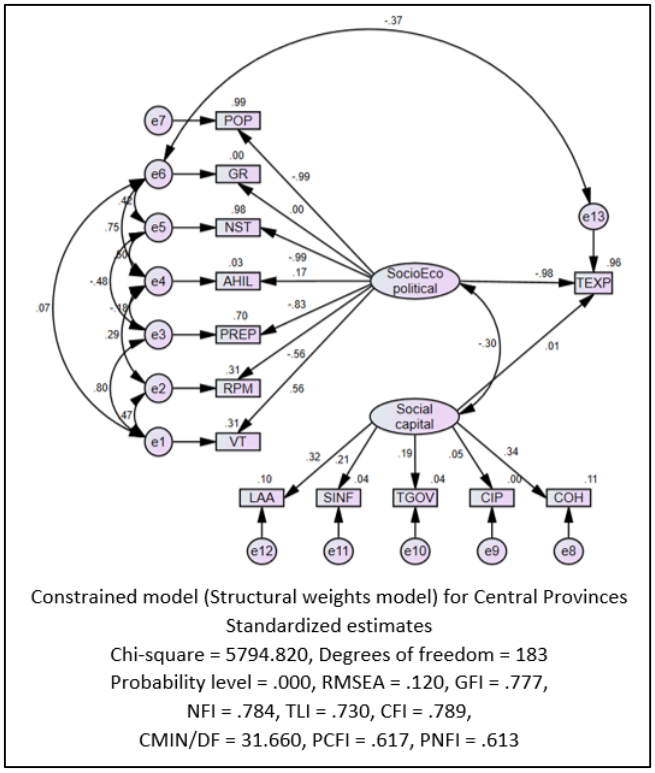
Similarly, five different variables explained the social capital variables, the estimation of which indicated that they have less explanatory power than the socioeconomic factors, except for COH and LAA, which had reasonable power to explain the provision of government funds. The remaining variables had significant, but comparably slight influences.

Finally, the given latent variable explained 95% of the total expenditures (dependent variable) in the Central province, 98% in the Northern province, and 97% in the Southern province, which is the same as the normal R2 value used in the linear regressions. This indicated largely that public funds in the Maldives are distributed by considering socioeconomic and political factors to a greater extent than social capital factors.

6.2.1.2 Empirical evidence of constrained (structural weights) Model for Provinces

As the paper has demonstrated, the baseline model (unconstrained model) demonstrated differences among the provinces' parameters; however, it also is important to determine these differences' significance in the estimations. Therefore,

this part of the assessment was intended to determine whether these differences among the provinces actually are significant. The constrained models for the Central (Figure 6.5), Northern (Figure 6.6), and Southern provinces (Figure 6.7) are shown below.



Constrained model (Structural weights model) for Central Provinces
Standardized estimates
Chi-square = 5794.820, Degrees of freedom = 183
Probability level = .000, RMSEA = .120, GFI = .777,
NFI = .784, TLI = .730, CFI = .789,
CMIN/DF = 31.660, PCFI = .617, PNFI = .613

Figure 6.5 Structural weights model for Central province estimation

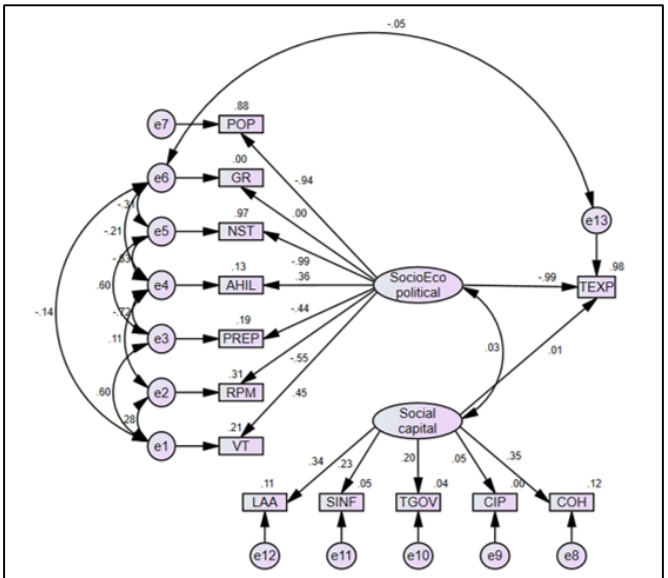


Figure 6.6 Structural weights model for Northern province estimation

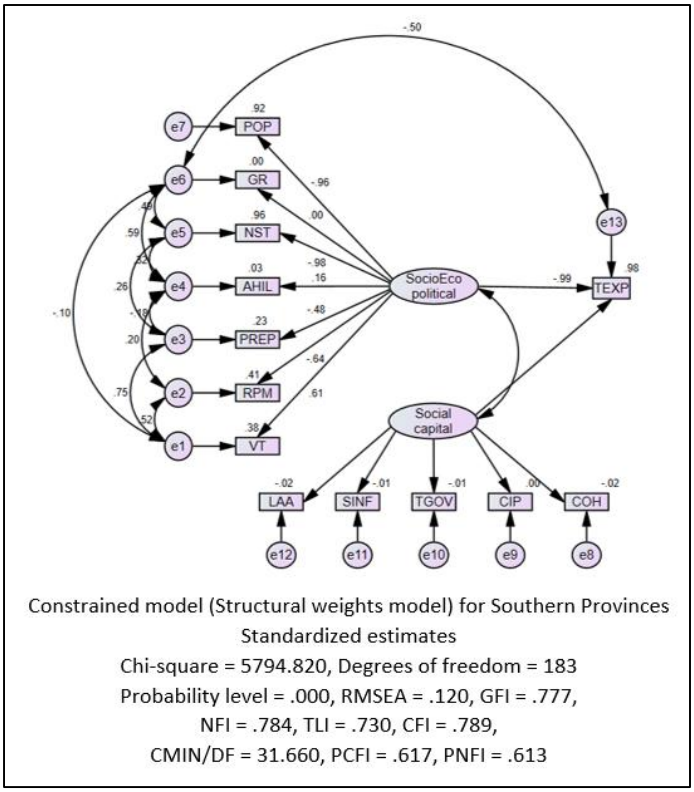


Figure 6.7 Structural weights model for Southern province estimation

The structural weights estimation model achieved minimization. Similarly, as in the previous estimations, the following three steps were performed to compare the Central, Northern, and Southern provinces' estimations. First, the model had 183 degrees of freedom and a Chi-squared value of 5794.82, which is appropriate with the degrees of freedom given. Further, p = .000 indicates that the model is acceptable(Barrett, 2007). Moreover, the goodness of fit for the structural weights model had an RMSEA = .12, GFI = .78, NFI = .78, TLI = .73, and CFI = .79, which indicated that the model had a reasonable fit for the multi-group estimations(Barrett, 2007). Further, the CFI, NFI, and TLI values were very close to .08, which is considered a good incremental fit(Marsh et al., 2005). Moreover, PCFI = .62 and PNFI = .61, which indicated a parsimonious model fit(Mulaik et al., 1989).

6.2.1.3 Comparisons between Baseline and structural weights Model for Provinces

With respect to the Central, Northern, and Southern provinces, the regression weights' distribution explained the amount of influence on the latent variables. Table 6.2 presents the unconstrained model's regression weights and Table 6.3 those for the constrained model.

Table 6.2 Regression weights of unconstrained model for provinces

variables			Estimate	S.E.	C.R.	P
PREP	<---	SocioEco_political	-0.435	0.058	-7.44	***
RPM	<---	SocioEco_political	-5.990	0.49	-12.232	***
AHIL	<---	SocioEco_political	940.564	68.969	13.638	***
NST	<---	SocioEco_political	-458.102	29.937	-15.302	***
GR	<---	SocioEco_political	1.092	0.097	11.218	***
POP	<---	SocioEco_political	-2145.458	140.291	-15.293	***
VT	<---	SocioEco_political	1.000			***
COH	<---	Social_capital	1.000			***
CIP	<---	Social_capital	0.914	0.533	1.714	0.087
TGOV	<---	Social_capital	1.476	0.736	2.004	0.045*

SINF	<---	Social_capital	1.407	0.686	2.049	0.04*
LAA	<---	Social_capital	2.364	1.037	2.279	0.023*
TEXP	<---	SocioEco_political	-14.234	0.94	-15.14	***
TEXP	<---	Social_capital	-5.790	4.536	-1.276	0.202

note:

**** significant at 0.01*

** significant at 0.05*

Table 6.3 Regression weights of constrained model for provinces

variables			Estimate	S.E.	C.R.	P
PREP	<---	SocioEco_political	-0.625	0.032	-19.748	***
RPM	<---	SocioEco_political	-4.332	0.175	-24.784	***
AHIL	<---	SocioEco_political	152.505	6.923	22.03	***
NST	<---	SocioEco_political	-400.078	10.52	-38.032	***
GR	<---	SocioEco_political	-0.004	0.021	-0.191	0.848
POP	<---	SocioEco_political	-1857.669	50.98	-36.439	***
VT	<---	SocioEco_political	1			***
COH	<---	Social_capital	1			***
CIP	<---	Social_capital	0.156	0.145	1.074	0.283
TGOV	<---	Social_capital	0.677	0.213	3.174	***
SINF	<---	Social_capital	0.662	0.199	3.33	***
LAA	<---	Social_capital	1.006	0.279	3.601	***
TEXP	<---	SocioEco_political	-12.165	0.326	-37.279	***
TEXP	<---	Social_capital	1.163	0.982	1.185	0.236

note:

**** significant at 0.01*

** significant at 0.05*

Tables 6.2 and 6.3 above show the regression weights estimation of the variables used in Model II, nearly all of which had significant effects in the estimated

model. Specifically, all of the socioeconomic and political variables, POP, GR, AHIL, PREP, RPM, and VT, were highly significant at $p < .01$. Similarly, the total expenditures variable also was highly significant both in the unconstrained and constrained models for these socioeconomic and political variables. On the other hand, most of the social capital variables, including COH, TGOV, SINF, and LAA were significant either at $p < .01$ or .05, and only citizen-initiated programs (CIP) had no significant ability to explain the dependent variable. Moreover, total expenditures for social capital variables was insignificant. This estimation also was predicted on a smaller scale in the previous OLS estimations, and may indicate that the citizens of the Maldives are not organized and sufficiently demanding to influence the provision of public funds.

Moreover, there are two more indications presented in the table above, the standard error (SE) and critical ratio (C.R.). The C.R. is calculated by multiplying the SE by the estimate. This C.R. also indicates variables' significance, in which any value not between +1.96 and -1.96 can be accepted as significant. Therefore, the variables that had insignificant p-values, such as TGOV, CIP, and TEXP for social capital, also had insignificant C.R.s. However, these variables included in Model II had p-values that were very nearly significant, and accordingly, were considered valid variables for this study. Moreover, they are theoretically accepted and more tests are performed later in this paper that might prove or accept these insignificant variables.

Although the SEM reports the same path diagram with different parameter estimates in the baseline model in the diagrams above, further investigations were necessary to identify more accurate and significant differences among the estimates.

To illustrate the differences among the Central, Northern, and Southern provinces, the difference between the unconstrained and constrained models' Chi-squared values were compared, and the results are shown in Table 6.4 below.

Table 6.4 Chi-square differences test for moderation experience

Overall Model	**Chi-square**	**df**	***p*-value**	**reject/accept Null hypotheses**
Unconstrained	2895.324	159		
Fully constrained	5794.820	183		

Difference	2899.496	24	0.000	Rejected

The results shown in Table 6.4 indicate that although all of the provinces have the same path diagram, they differ significantly, as was suspected in the previous estimations. Further, this test provided prominent evidence that at least one or more province(s) differ directly. This also serves as proof to reject the null hypotheses proposed in this chapter. However, it was important to investigate the path differences among the provinces further to achieve this study's objectives. Therefore, a path-to-path analysis was performed in the following section. This type of assessment is very common in path analysis and is used to compare group differences in the path diagrams(Holmes-Smith, Coote, & Cunningham, 2006).

6.2.2 Analysis of paths differences in the Provinces of model II

As the study identified that the model demonstrated significant differences among provinces, it also takes a step further to identify those path differences. Because there were two direct paths in the model (i.e., path A, socioeconomic and political path associated directly with total expenditures, and path B, the social capital path associated directly with total expenditures) 2 rounds of analysis were undertaken, as shown below.

6.2.2.1 Constraining the path, A: Socio-Economic and Political factors → Total Expenditure

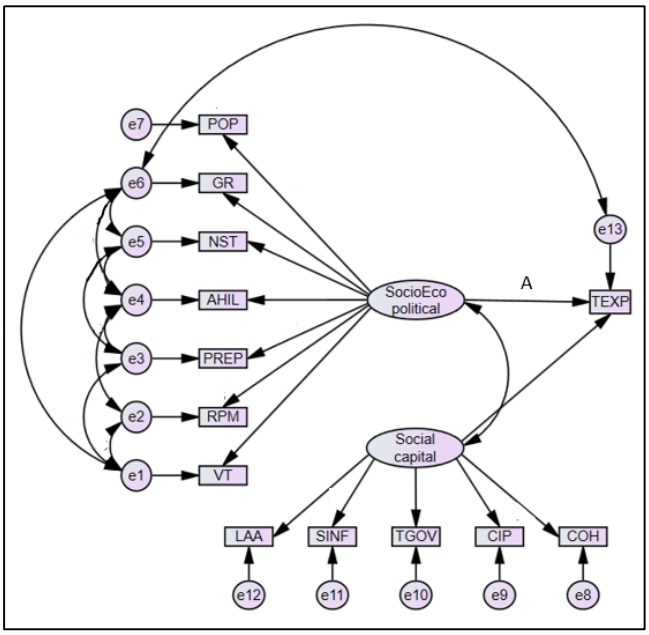


Figure 6.8 Path A model for Central, North and South provinces: Socio-Economic and Political → Total Expenditure

Table 6.5 Path A, constrained and unconstrained model comparisons

Model tests	Unconstrained values	Constrained values	Differences
Chi-square	2895.324	2934.782	39.458
Degrees of freedom	159	161	2
Probability level (P value)	.000	.000	.000
RMSEA	.090	.090	
GFI	.867	.866	
NFI	.892	.891	
TLI	.849	.848	
CFI	.897	.896	
CMIN/DF	18.210	18.228	
PCFI	.610	.616	
PNFI	.606	.613	

Figure 6.8 above and Table 6.5 describe the comparison of path A between the unconstrained and constrained models. The main focus in Table 6.8 was to compare

the Chi-squared difference and determine whether it is significant. Moreover, the remainder of the model fit test showed a good fit for both models for the path A diagram. As the Chi-squared differences were high and positive, and the difference had a p-value = .00, it is a strong indication of a highly significant difference among the groups(Holmes-Smith et al., 2006). Similarly, the Chi-squared of the constrained path A model was 2934.78, which is greater than the Chi-squared thresholds, as shown in Table 6.6 below, so we can conclude that there is a significant difference at $p < .01$ among the Central, Northern, and Southern provinces for the direct path A: Socioeconomic and Political → Total Expenditures.

Table 6.6 Chi-square thresholds for experience as a moderator

Chi-square thresholds	
90% Confidence	2899.93
95% Confidence	2901.32
99% Confidence	2904.53

6.2.2.2 Constraining the path, B: Social capital factors → Total Expenditure

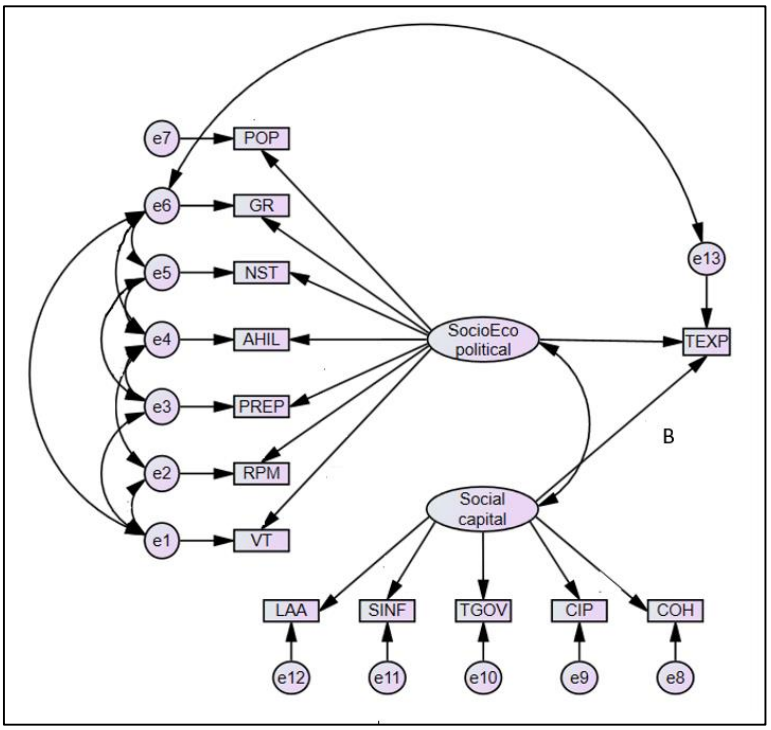


Figure 6.9 Path B model for Central, North and South provinces: Social capital factors → Total Expenditure

Table 6.7 Path B, constrained and unconstrained model comparisons

Model tests	Unconstrained values	Constrained values	Differences
Chi-square	2895.324	2963.193	67.869
Degrees of freedom	159	161	2
Probability level (P value)	.000	.000	.000
RMSEA	.090	.090	
GFI	.867	.861	
NFI	.892	.890	
TLI	.849	.847	
CFI	.897	.895	
CMIN/DF	18.210	18.405	
PCFI	.610	.616	
PNFI	.606	.612	

Figure 6.9 above and Table 6.6 show the comparison between the unconstrained and constrained models for path B. Table 6.8's main focus is to compare the Chi-squared difference and determine whether it is significant. Moreover, the remainder of the model fit test showed a good fit for both models for the path A diagram. As the Chi-squared differences were high and positive ($\chi 2$= 67.87) and the difference had a p-value = .00, it is a strong indication of a highly significant difference among the groups(Holmes-Smith et al., 2006). Similarly, as the Chi-squared of the constrained path A model was 2963.19, which is greater than the Chi-squared thresholds shown in Table 6.6, we can conclude with 99% confidence that there is a significant difference among the Central, Northern, and Southern provinces in the direct path B: Social capital factors → Total Expenditures.

Finally, the combination of paths A and B were significant in the test above. Therefore, the final conclusion is that the alternative hypothesis generated for this chapter was accepted, in that both paths showed a significant difference among the Central, Northern, and Southern provinces. This also indicated that each group of people in each province has a set of unique factor combinations that increase the nation's total expenditures

6.3 Comparison between island and province level estimations

Thus far, an island level analysis was conducted in Chapter 5 and a provincial level analysis in this chapter. Combining both of these levels can offer a holistic and insightful understanding of the phenomenon of the estimations. Therefore, this section illustrates the effects of both of the analyses. This comparison also provides meaningful information to help policymakers make clearer decisions when allocating public funds.

Table 6.5 below provides a complete view of the estimations conducted in the island and provincial level analyses. Notably, for both levels of analysis, SNIF, COH, and VT, which are social capital variables, were related positively and significantly to

total expenditures. This finding is very interesting, because rural communities in the Maldives largely are based upon community cohesion, and the people in these communities vote similarly to achieve common goals.

In contrast, POP, PREP, and NST, which are socioeconomic and political factors, had significant negative associations with total expenditures. Thus, more funds are allocated to areas with lower populations, numbers of students, and political representatives. This also indicates that public resources are allocated inefficiently.

Moreover, most of the positive correlations in the island level analysis were found in socioeconomic factors, with slight contributions from political and social capital factors, while in the provincial level analysis, nearly all of the positive correlations derived from social capital factors. This illustrates the fact that demographic and economic factors dictate the provision of public funds at the island (micro) level. In contrast, social capital factors dictate the provision of public funds when provincial (macro) level allocations are concerned. However, a number of variables are vague, such as those that were significantly positive on the island level and significantly negative at the provincial level and the converse.

Table 6.8 Comparisons between the variables from Island and Provincial level

	Variables	
Expenditure	**Island level**	**Province level**
Total Educational Expenditure	Gender Ratio (-) No. Students (+) No. Political Reps (-) Avg Party Members (+) Association Linkage (-) Information Sharing (+) Trust in government (-)	-
Total Health Expenditure	Population (-) No. Students (+) Avg household Income (-) No. Political Reps (-) Initiated Programs (-)	-

	Cohesiveness (+)	
Total Local council budget	Avg household Income (-) No. Civil Servants (+) Voter Turnout (+) Initiated Programs (-) Information Sharing (+) Cohesiveness (+)	-
Total Expenditure	-	Population (-) Gender ratio (+) No. students (-) Avg house hold income (+) Avg party members (-) No. political reps (-) Voter turnout (+) Association linkage (+) Information sharing (+) Trust in government (+) Initiated programs (+) Cohesiveness (+)

Finally, in the comparisons above, it is important to highlight that there was a number of variables that were not incorporated in the existing dataset used in this study. The variables were selected clearly based on proven theories and many studies in the literature on public expenditures over the years. One reason for such a discrepancy could be the economic and political context of the Maldives or the insufficient choice of factors that were used to determine the allocation of public funds. However, this puzzling issue has to be brought to the attention of academics and policymakers so they can sit together and develop a more sensible mechanism to allocate public funds. It also is clear that a tremendous amount of effort and knowledge is needed to resolve policy level decisions and structural divergence in any country. Finally, more of these kinds of studies need to be conducted to address the important issues necessary to improve state policies.

CHAPTER 7

CONCLUSION AND RECOMMONDATIONS

This study was developed to understand two primary phenomena related to the emergence of fundamental constitutional change related to public funds allocation in the Maldives. Firstly, it is very obvious that public expenditures increased sharply immediately before and after the 2008 government reform(*Asian Development Outlook 2014: Fiscal Policy for Inclusive Growth*, 2014). Moreover, this trend has reached its height in the past three years. Therefore, it is important to be able to explain the main determinants of this increase in public expenditures. Secondly, the Maldives as a nation clearly has a significant degree of unequal wealth distribution across the country. In particular, education, health, and infrastructure development are distributed unequally in the rural Maldives(*Bridging The Divide : Addressing Vulnerability, Reducing Inequality*, 2015). Accordingly, there must be a reliable explanation of the principal driving forces in the provision of public funds at the island and provincial levels.

Numerous attempts were made in this study to identify and gain insight into the current expenditures policies, with a focus on their determinants, formulation, and distribution in recent trends of public funds allocations. In reality, it is truly rare to find policy studies that compare and contrast the differences in the rural Maldives. 1,069 cases from 187 islands in 20 atolls throughout the Maldives were collected for this study to analyze the expenditures' determinants.

This study used a mixed methods approach, in that it was both a exploratory and confirmatory investigation. For example, the expenditures' determinants were estimated and the established theories were confirmed to find the right mixture to explain the current expenditures' trend in this paper. The major portion of the Maldives' expenditures served as the dependent variable and multi-dimensional independent variables were used that ranged from socioeconomic to political and

social capital factors. Given the study's objectives, the following were the main focuses of this study.

First, what are the island and province level factors (variables) that determine the major portion of public expenditures (i.e., education, health, and infrastructure expenditures)? Second, to what extent do the socioeconomic, political, and social capital factors known in democracies today support the model of Wagner's Law, "the process of economic development and the share of public expenditures that leads to expend the national income level?" Third, what model/s can be constructed and confirmed that are suitable to assess the provincial differences, and how can the confirmed model be used to assess the differences in the rural Maldives? Finally, what policy recommendations can be provided to improve the allocation of public funds?

To address the main questions in this study, a unique combination of customized statistical tools and procedure was used to achieve the objectives. Because there is no one right way to assess the variables, this study developed a framework that concentrated on MAPD to estimate the island level predictors. Similarly, a second model was developed to assess the provincial level data using a framework for SAPD, which was constructed and assessed using SEM. There are two main points to highlight with respect to the framework developed in his study.

The study used an exploratory strategy initially, as very few studies have combined multi-dimensional variables, such as social, economic, political, and social capital variables. Particularly in the case of the Maldives, it is rare to find a multi-dimensional analysis conducted at this level. Therefore, various literatures and theories were analyzed and used to construct a rational framework that would be applicable to estimate the expenditures' determinants.

Secondly, a careful and comprehensive evaluation was undertaken to ensure that the variables were consistent with the dataset used to assess the MAPD model. Similarly, the variables that were significant and supportive were combined to construct the SAPD model for the confirmatory aspect of this study, which was rooted in an assessment of the paths of the proposed model to determine the provincial differences. This allowed the macro and micro level policy analyses to be understood clearly Finally, three equations were developed and used to estimate the island level influences (micro analysis). Each equation included multiple variables that influence

the three expenditures types as response variables. The explanatory socioeconomic variables in the study were categorized in main groups for each equation, while there were four political variables, and six social capital variables. gender ratio (GR), general population (POP), number of students (NST), number of transport vessels used for transportation throughout the Maldives (NTR), household income level (AHIL), number of civil servants (NCS). Further, democratically appointed public representatives (PREP), average political party memberships (RPM), voter turnout (VT), and political party activities (PPA) served as political factors, while the number of non-governmental associations (NGO), linkage among these associations (LAA), information sharing among the associations (SINF), citizen-initiated programs (CIP), citizens' trust in the government (TGOV), and community cohesiveness (COH) served as social capital factors that were used in different combinations in the three equations for the micro level analysis.

At the provincial level (macro level analysis), Chi-squared group differences tests were used to test a hypothesis that focused on total expenditures as the response variable. Further, the explanatory variables were combined in two categories for the province level analysis, socioeconomic/political factors, and social capital factors. First, GR, POP, NST, NTR, AHIL, PREP, RPM, and VT were used as, and second, LAA, SINF, CIP, TGOV, and COH were used as.

Both the island and provincial level analyses were carried out after a proper evaluation of their statistical assumptions. Specifically, multicollinearity tests, robustness, and the power of the statistical assumptions were met. The micro level analysis results are summarized as follows;

Socioeconomic variables in general had a significant effect on the educational, health, and infrastructural expenses. GR, POP, NST, and AHIL were associated highly significantly with the response variable. These variables showed that the number of citizens and their economic activities overall influence policymakers' decisions in the provision of public funds greatly. This indicated that the case of the Maldives supports Wagner's Law, that as the basis of economic activities, expenditures are valued as a tool to increase the nation's income.

Most of the political factors had highly significant power to explain public expenditures overall. For example, PREP, RPM, and VT were associated strongly

with increased public expenditures, which is consistent with the Median Voter theorem. However, interestingly, PPA had no significant influence in increasing total expenditures. This may largely be attributable to the political volatility in the Maldives in recent years, which similarly has led to a simultaneous economic crisis.

Finally, more social capital factors were used to explain the provision of public funding overall than in any other variable set, such as SINF, TGOV, and COH, all of which had significant effects. Similarly, as Bourdieu (1986), Coleman J. S. (1994), and Dasgupta and Seragelden (2001) suggested, socially networked communities tend to have strong influences on public policy. Thus, social capital factors were proven to play major roles in determining the provision of public funds.

A macro analysis at the provincial level also was conducted to assess the provincial differences within the groups. The results are summarized as follows:

A good model fit was achieved after various modifications to the proposed SAPD model, in which the socioeconomic and political factors were combined.

The ability to explain the total expenditures (dependent variable) from the given latent variable was high in all three provinces. Socioeconomic and political factors were the most significant contributors in all provinces, but had negative effects, indicating that public funds are allocated inequitably throughout the Maldives.

All of the social capital factors except CIP had positive and significant effects on total expenditures across the Maldives. Further, these factors were similar in all of the provinces.

At the provincial level, a path analysis showed province level differences in both the Socioeconomic and Political → Total Expenditures and Social capital factors →Total Expenditures paths, indicating that each province has its own ways to influence public expenditures using these same explanatory variables.

Finally, the island and province level variables were compared and showed that all of the social capital variables had positive and significant effects on public fund provision, while most of the socioeconomic and political factors were significantly positive only in the island level analysis and were significantly negative in the provincial analysis. This explains social capital factors' importance compared to the socioeconomic and political factors at the province level, while island decisions are related more to economic and political factors.

7.1 Theoretical and academic contributions

This study was policy oriented, and makes four major theoretical contributions to the literature. First, a comprehensive literature review was an important part of this study. As many of the research papers are available freely online and in other sources, few of them actually give explicit guidelines to develop a conceptual framework. Most of the research guidelines found focused on a pure positivist case study approach, which may be less applicable to social science research. Therefore, a combination of qualitative and quantitative methods was employed in this study in a methodical way that would be sufficient for junior researchers. Social scientists recognize these kinds of mixed methods well and support them (Creswell J., 2003, Leech & Onwuegbuzie, 2008).

Second, this paper demonstrated the evolutionary stages in education, health, and infrastructure expenditures policies and their trends in the Maldives, specifically by incorporating the 2008 constitutional reformation as the major change in the Maldives' recent history that introduced the modern multi-democratic party system as the country's administrative setting. However, this reformation has had both positive and negative effects on the Maldives, as factual evidence supports. Thus, this study serves as a contribution for policymakers and academics to see the developmental stages and the lessons for improvement in policy development and implementation.

Third, the study employed a multi-dimensional analysis, in which a mixture of variables from different disciplines was combined to construct a MAPD model believed to be appropriate for application to other countries' contexts. Although every study differs in nature, the successful use of theories and concepts can provide conceptual assistance to study similar situations elsewhere, particularly for small communal economies such as the Maldives. Moreover, multi-level assessments in a single study can be complicated and difficult to integrate with the statistical tools without proper modifications, and thus, this study used two different models to assess the island and provincial level datasets for the Maldives successfully.

Fourth, this study broadened the existing models of public expenditures by adding more variables and demonstrated a different perspective on public expenditures trends, at least in the case of the Maldives. The study proved and modified theories in the Maldives' context and supported various existing theories, such as Wagner's law, the Median Voter model, Social Bond theory, etc. The empirical evidence showed that an increase in government expenditures potentially has increased the society's economic growth. Understanding the precise theoretical mechanisms behind this relation is important to design effective growth-enhancing policies. This paper provides a new model and empirical evidence that social capital promotes economic development by inducing productive public investments in social capital factors. On the other hand, under-provision of government funds for education, health, and infrastructure arises because the returns on such investments are delayed, while households experience the immediate benefits from other types of public services, such as pension schemes, single parent benefits, and so on. Politically favored politicians compete for poorly informed voters' support, and then shift their budgetary choices in favor of more short-term expenditures. This could be one reason why variables proven theoretically elsewhere were insignificant and unhelpful in the estimations in this study.

Finally, the model showed that focusing on social capital and other political initiatives supports deep rooted, long-term development. Developing human capital not only is significant in the private sector; it also requires crucial government attention in state-funded policies. Further, it is necessary for government officials with diverse abilities to distribute spending among state-funded programs and private sector efforts.

7.2 Policy implications from the study

The study obtained factual support for the two main policy determinants for the Maldives—factors that influence the provision of state funding, and the extent to which these funds are distributed equally in the rural Maldives. This study has no authority to make substantial changes to public policies. However, it can encourage

the Maldives' policymakers and institutions to begin to address and recognize proposals that will have important policy implications, such as the following.

7.2.1 Simplifying the public policies and spread the awareness among citizens on their rights and responsibilities.

This study's findings can clarify why political dishonesty and clientelism appear to be significantly more predominant in nations and locales with low social capital. In the event that voters fail to reject political misconduct, their appointed public officials have fewer motivations to enhance social welfare. In addition, political representatives are less motivated to be elected on criteria of genuineness and general skill. As the empirical findings supported, increases in the number of political representatives has a significant negative effect on the provision of public funds, such that having more political representatives does not increase public expenditures that benefit local communities. Therefore, the public must be more responsible in electing their public officials. This can be achieved either by increasing civic awareness programs or changing public officials' selection criteria.

7.2.2 Implement the Maldives 2010 Decentralization Act fully.

Parliament passed the Decentralization Act in April 2010, which formalized the jobs and obligations of Atoll and Island Councils and required their democratic election. The Decentralization Act accommodated the foundation of a Local Government Authority for which Island and Atoll committees are responsible. The Decentralization Act mandates to a certain extent that Island Councils ensure that public goods are provided, which was the primary motive to decentralize the Island Councils[6].

In February 2012, the President surrendered and the Deputy President assumed the office of the President the following day. Another alliance government was formed and began to implement a flood of changes. Resources have been taken back from the provinces to central administration and the provincial distribution has

[6] Overall summary of decentralized Act number 7/2010 of the Maldives.

been taken out of the hands of Island Councils, and presently is under the respective ministry in the location where it was centralized previously.

The Maldives should ensure the fair provision of public funds throughout the country rather than concentrating on its central cities. As the study showed clearly, the cross-country evidence is consistent with the causal component the model exhibited. The study demonstrated that a nation's social capital corresponds unquestionably with the distribution of government funding for the mutual benefit of education, health, and infrastructure. The results supported, both theoretically and empirically, that not only equal island level distribution is important, but equal distribution among provinces is similarly important for economic development.

7.2.3 Re-evaluate policy implementation's effectiveness and take necessary steps to align the policy objectives.

Such a re-evaluation process may include: 1) Separate agencies to monitor policy standards. This would be important to highlight the education, health, and infrastructure disparities among provinces in a fair, transparent, and unbiased manner. In addition to accreditation of certificates and forming criteria for the standards, it is equally important to have a body with authority to standardize the system. This also would help check and balance the country's most significant policy; 2) Central control yet decentralized departments. It also is very important for the Maldives to have a central ministry to administer education, health, and infrastructure policies. This would make the ministries more accountable and responsible for managing policies effectively. However, because of the county's dispersed geographic nature, many departments at the provincial and district levels will be required to oversee and manage the policies. Further, the central ministry should serve as a problem-solving agency when conflicts arise among departments; 3) Stakeholder involvement. The process in any government policy affects many groups/individuals directly. These people need to be involved in every aspect of the policy, from formulation to planning, implementation, and evaluation. Such stakeholders include parents, teachers, interest groups, political parties, students, etc., because ultimately, the policy is implemented for the community at large, and if they are not satisfied with it, then the policy will tend to fail at the very beginning. One example of such involvement is

consulting and informing parents about their child's educational progress, so they can facilitate the child's development accordingly. This also is a form of bottom-up approach. Largely, public policy attempts to accommodate interest groups to maintain the policy, and this policy is no exception to this rule.

7.3 Suggestions for Further studies

The following are some points to consider for further research that will be beneficial to policymakers and academics alike.

First, the study demonstrated a statistically significant decline in citizen-initiated programs at the communal level throughout the Maldives, although most previous qualitative studies have shown the converse. In general, these programs are important because they can promote unity in society. This is a very important area that can affect the social structure of the Maldives. Therefore, further investigation is needed to determine if this is an actual trend, and if so, what has caused it.

Second, the variables selected for this study were chosen by giving careful consideration to existing theories and concepts proven in various previous studies. However, there are some variables that are operationally significant that were not available in the existing dataset. One of the possible explanations for this could be the Maldives' economic and political context or the insufficient choice of factors that was used to decide the allocation of public funds. This puzzling issue must be brought to academics and policymakers' attention and investigated further to obtain a clear explanation.

Finally, most of the socioeconomic and political factors were positive and significant only in the island level analysis, while they were negatively significant in the provincial analysis. Similar kinds of studies may find different explanations for this. This trend must be brought to light and explored in more detail to identify the provision of public funding to achieve a better understanding of public policy determinants.

BIBLIOGRAPHY

Agenor, P., & Dodson, B. (2006). Public Infrastructure and Growth: New Channelsand Policy Implications. *World Bank Policy Research Working*.

Alesina, A., & Drazen, A. (1991). Why are Stabilizations Delayed? *American Economic Review, 81*(5), 1170-1188.

Alesina, A., & Rodrik, D. (1994). Distributive Politics and Economic Growth. *The Quarterly Journal of Economics, 109*(2), 465-590.

Arneil, B. (2006). *Diverse communities: The problem with social capital.* Cambridge: Cambridge University Press.

Arrow, K. (1972). Gifts and Exchanges. *Philosophy & Public Affairs, 1*(4), 343-362.

Asian Development Bank. (2004). *Technical assistance to the Republic of Maldives for strengthening the framework of education towards Vision 2020.* Metro Manila, Philippines: Asian Development Bank.

Asian Development Bank. (2014). *Asian Development Outlook 2014: Fiscal Policy for Inclusive Growth.* Metro Manila, Philippines: ADB publications.

Baca Campodónico, J., Cassinelli, J. P., & Mesones, J. (2014). *The impact of public expenditures in education, health, and infrastructure on economic growth and.* USA: Inter-American Development Bank.

Banerjee, A., & Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* New York: NY: Public Affairs.

Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences* , 815–824.

Beugelsdijk, S., & Schaik, T. v. (2003). Social Capital and Regional Economic Growth. *European Journal of Political Economy, 21*(2), 301-324.

Black, D. (1948). On the Rationale of Group Decision-making. *Journal of Political Economy, 56*(1), 23-34. Retrieved from https://www.jstor.org/stable/1825026

Boix, C., & Posner, D. (1998). Social Capital: Explaining Its Origins and Effects on Government Performance. *British Journal of Political Science*(4), 686-693.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.) Handbook of Theory and Research for the Sociology of Education. 241-258. Retrieved from https://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm

Buchanan, J., & Gordon, T. (1977). The Expanding Public Sector: Wagner Squared. *JSTOR: Springer, 31*, 147-150.

Callahan, W. (2005). Social Capital and Corruption: Vote Buying and the Politics of Reform in Thailand. *Perspectives on Politics, 3*(3), 495-508.

Coleman, J. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology, 94*, 95-120.

Coleman, J. S. (1994). *Foundations of Social Theory*. Cambridge: Harvard University Press.

Commonwealth Health online. (2016, December). *Health systems in Maldives*. Retrieved from www.commonwealthhealth.org: http://www.commonwealthhealth.org/asia/maldives/health_systems_in_maldives/

Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches (2nd ed)*. California: Thousand Oaks, CA: Sage.

Creswell, J., & Clark, V. L. (2010). *Designing and Conducting Mixed Methods Research.* New York: SAGE Publications, Inc; Second edition.

Dasgupta, P., & Serageldin, I. (2001). *Social Capital: A Multifaceted Perspective.* Washington, D.C.: World Bank Publications.

Department of Essential Health Techonologies. (2005). *WHO workshop with Ministry of Health on Intergrated Management for Emergency and Essential Surgical training* . Geneva, Switzerland: World Health Organisation.

Domar, E. (1957). *Essays in the Theory of Economic Growth.* New York: Oxford University Press.

Etzioni, A. (1967). Mixed-Scanning: A "Third" Approach to Decision-Making. *JSTOR: Public Administration Review, 27*(5), 385-392.

Farris, C. D. (1953). Reviewed Work: The Political System: An Inquiry into the State of Political Science. by David Easton. *The Journal of Politics, 15*(4), 544-547. Retrieved from https://www.jstor.org/stable/2126540

Government of Maldives. (2009). *Strategic Action Plan. National Framework for Development 2009 – 2013.* Male': Ministry of Education.

Grootaert, C., & Bastelaer, T. (2001). *Understanding and Measuring Social Capital : A synthesis of findings and recommendations from the social captial initiatives* . Washington: The World Bank; Social Development Department.

Guiso, L., Sapienza, P., & Zingales, L. (2004). The Role of Social Capital in Financial Development. *AMERICAN ECONOMIC REVIEW, 94*(3), 526-556.

Hirschi, T. (2002). *Causes of Delinquency.* New Jersey: Transaction Publishers.

Holcombe, R. (1989). The Median Voter Model in Public Choice Theory. *JSTOR: Springer , 16*(2), 115-125.

Holmes-Smith, H., Coote, L., & Cunningham, E. (2006). *Structural equation modeling: from the fundamentals to advanced topics. .* Melbourne: Melbourne: School Research, Evaluation and Measurement Services. .

Holtz-Eakin, D. (1994). Public Sector Capital and the Productivity Puzzle. *The Review of Economics and Statistics*, 76:12-21.

Hoyle, R. (2014). *Handbook of Structural Equation Modeling.* New York: Guilford Press.

Hulten, C., & Schwah, R. (1991). Public Capital Formation and the Growth of Regional Manufacturing Industries. *National Tax Journal*, 44:121-134.

International Bureau of Education. (2011). *World data on education: maldives report* . Geneva, Switzerland: International Bureau of Education-UNESCO.

Klein, R. (1976). The Politics of Public Expenditure: American Theory and British Practice. *British Journal of Political Science, 6*(4), 401-432.

Knack, S., & Keefer, P. (1997). Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. *The Quarterly Journal of Economics, 112*, 1251-1288.

Leech , N., & Onwuegbuzie, A. (2008). A typology of mixed methods research designs, Quality and Quantity. *Springer Netherlands*, 265-275.

Lindblom, C. (1959). The Science of "Muddling Through". *JSTOR: Public Administration Review, 19*(2), 79-88.

MacCallum, R., Browne, M., & Sugawara, H. (2006). Power Analysis and Determination of Sample Size for Covariance Structure Modeling. *Psychological Methods*, 49-130.

Maldives Accreditation Board. (2009). *The Maldives National Qualifications Framework.* Male'; Maldives: MAB.

Maldives Human Development Report 2014; UNDP. (2015). *Bridging The Divide : Addressing Vulnerability, Reducing Inequality*. Male' Maldives: The Ministry of Finance and Treasury and the United Nations Development Programme.

Maldives Monetary Authority . (2015). *Annual Report 2015.* Male',Maldives: Maldives Monetary Authority .

Maldives Monetary Authority. (2014). *Working paper 2014.* Male',Maldives: Maldives Monetary Authority.

Malthus, T. (2007). *An Essay on the Principle of Population.* USA: Dover Publications.

Marsh, H., Hau, K.-T., & Grayson, D. (2005). *Goodness of Fit in Structural Equation Models* (Vol. Multivariate applications book series. Contemporary psychometrics: A festschrift

for Roderick P. McDonald). (Maydeu-Olivares, & J. McArdle, Eds.) New Jersey, USA: Lawrence Erlbaum Associates Publishers.

Mauro, P. (1995). Corruption and Growth. *The Quarterly Journal of Economics, 110*(3), 681-712.

Ministry of Education. (1994). *Developments in education 1992-1994. Maldives country report.* Male; Maldives : Ministry of Education.

Ministry of Education. (1999). *Education for All 2000 Assessment: country report of Maldives.* Male'; Maldives : Ministry of Education .

Ministry of Finance and Treasury. (2015). *BUDGET IN STATISTICS FINANCIAL YEAR 2015.* Male': Mnistry of Finance and Treasury press.

Ministry of Health . (2014). *Maldives Health Master Plan 2016 - 2025.* Male', Maldives : Ministry of Health.

Ministry of Health and Family. (2010). *Maldives Health Profile 2010.* Male'; Maldives: Ministry of Health and Family.

Ministry of Housing and Infrastructure. (2016). *Yearly Reort 2016.* Male' : Ministry of Housing and Infrastructure, Male' Maldives.

Ministry of Planning and National Development. (2008). *Seventh National Development Plan 2006-2010.* Male' Maldives: Ministry of Planning and National Development.

Morris, M. W., Leung, K., Ames, D., & Lickel, B. (1999). Views from Inside and Outside: Integrating Emic and Etic Insights about Culture and Justice Judgment. *Academy of Management Review, 24*(4), 781-796. Retrieved from https://journals.aom.org/doi/abs/10.5465/amr.1999.2553253

Mulaik, S., James, L., Van Alstine, J., Bennet, N., Lind, S., & Stilwell, C. (1989). Evaluation of Goodness-of-Fit Indices for Structural Equation Models. *Psychological Bulletin*, 45 - 430.

Mullard, M. (1993). *The Politics of Public Expenditure 2ed.* Abingdon: Routledge.

Musgrave, R. (1960, january). The Theory of Public Finance: A Study in Public Economy. *JSTOR, 26*(3), p. 234-238.

Nannicini, T., Stella, A., Tabellini, G., & Troiano, U. (2013). Social Capital and Political Accountability. *American Economic Journal: Economic policy, 5*(2), 222-250.

Narayan, D., & Pritchett, L. (1999). Cents and Sociability: Household Income and Social Capital in Rural Tanzania. *Economic Development and Cultural Change, 47*, 871-897.

National Bureau of Statistics. (2014). *Maldives, Population and household census 2014.* Retrieved April 2, 2016, from Maldives statistics: http://www.planning.gov.mv/

National Bureau of Statistics, Ministry of Finance and Treasury. (2016). *Statistical Yearbook of Maldives.* Male': National Bureau of Statistics, Male; Maldives.

North, D. C. (1991). Institutions. *Journal of Economic Perspectives, 5*(1), 97-112.

Peacock, A., & Wiseman, J. (1961). *The growth of public expenditure in the United Kingdom.* London: Princeton University Press.

Peltzman, S. (1980). The Growth of Government. *JSTOR; The Journal of Law & Economics, 23*(2), 209-287.

Pereira, A. (2000). Is all Public Capital Created Equal? *The Review of Economic and Statistics*, 82 (3):513-518.

Peters, J., & Welch, S. (1980). The Effects of Charges of Corruption on Voting Behavior in Congressional Elections. *The American Political Science Review, 74*(3), 697-708.

Phillips, L. (1972). Reviewed Work: Causes of Delinquency by Travis Hirschi. *The Journal of Human Resources, 7*(1), 119-121.

Putnam, R. D. (2000). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, 65-78.

Putnam, R., Leonardi, R., & Nanetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy.* New Jersey: Princeton University Press.

Ricardo, D. (1817). *On the Principles of Political Economy, and Taxation.* J. Murray, 1817.

Rothbard, M. (1970). *Power & Market: government and the economy.* USA: nstitute for Humane Studies, 1970.

Shiuna, M., & Sodiq, A. (2013). Improving Education in the Maldives : Stakeholder perspective on he Maldives Education. *International Journal of Small Economies*, 23-38.

Tabachnick, B., & Fidell, L. (2007). *Using Multivariate Statistics* (5th ed.). New York, USA: New York: Allyn and Bacon.

Tanzi, V., & Schuknecht, L. (2000). *Public Spending in the 20th Century: A Global Perspective.* London: Cambridge University Press.

The Royal Economic Society. (2013). *The collected writings of John Maynard Keynes—volume VII: the general theory of employment, interest and money.* London: Cambridge University Press.

Trujillo, L., Gonzalez, M., & Estache, A. (2007). *Government expenditures on education, health, and infrastructure : a naive look at levels, outcomes, and efficiency.* World Bank Publications.

Tsai, J. (2007). Ideal Affect: Cultural Causes and Behavioral Consequences. *Sage Journals*.

Uslaner, E. (2002). *The Moral Foundations of Trust.* Cambridge: Cambridge University Press.

Wagner, A. (1883). Three Extracts on Public Finance. In A. Peacock, R. A. Musgrave, R. Musgrave, & A. Peacock (Eds.), *Classics in the Theory of Public Finance in 1958* (pp. 1-15). UK: Palgrave Macmillan.

Welch, S., & Hibbing, J. R. (1997). The Effects of Charges of Corruption on Voting Behavior in Congressional Elections, 1982-1990. *The Journal of Politics, 59*(1), 226-239. Retrieved from https://www.jstor.org/stable/2998224

William, M. (2008). *Probability Sampling*. Retrieved April 2, 2016, from Research Methods Knowledge Base: http://www.socialresearchmethods.net/kb/sampprob.php

World Bank - ADB - UN. (2005). *Tsunami: impact and recovery* . Washington, D.C., United States: World Bank .

World Bank. (2012). *Enhancing the Quality of Education in the Maldives : Challenges and Prospects. South Asia Human Development Sector report.* Washington, DC: World Bank.

World Health Organisation. (2018). *Country Cooperation strategy at a glance.* Geneva, Switzerland: World Health Organisation. Retrieved March 20, 2017, from https://apps.who.int/iris/bitstream/handle/10665/136937/ccsbrief_mdv_en.pdf;jsessionid=FDACCC4EF12197E053723BEBC32E64FB?sequence=1

Yuan, K.-H., & Zhong, X. (2013). Robustness of fit indices to outliers and leverage observations in structural equation modeling. (18(2), Ed.) *Psychological Methods*, 121-136.

Zak, P., & Knack, S. (2001). Trust and Growth. *The Economic Journal, 111*(470), 295-321.

Zmerli, S. (2010). Social Capital and Norms of Citizenship: An Ambiguous Relationship? *Sage Journals, 53*(5), 657-676.

BIOGRAPHY

NAME	Mohamed Zahir
ACADEMIC BACKGROUND	2015 - PhD in Public Administration Scholarship Award for 2014 GSPA, NIDA, Bangkok 2013 - Masters of Business Administration, Malaysia 2011 - BA (Hons.) Business and Humans Recourse Management, Coventry University, UK 2010 - Advance Diploma in Human Resource Management, UK 2009 - Diploma in Human Resource Management, UK 2007 - Certificate in Human Resource Management, UK
EXPERIENCES	2017 - 2019 Lecturer, at Maldives National University 2011 - 2014 Director, at Elections Commission, Voter education Section 2000 - 2014 Instructor and Research & Curriculum Developer at Maldives National Defence Force (MNDF)