Three Essays on Myanmar's Public Budgetary Dynamics

BY

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The dissertation of Win Thiri Myaing is approved by the Examining Committee.

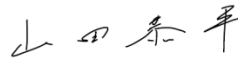Examiner   Professor Dayashankar Maur

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ABSTRACT OF THE DISSERTATION

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This dissertation aims to present the background circumstances of Myanmar budget reform, the effect of political and institutional changes on budget punctuation patterns, and how these punctuation patterns affect public service performance. This dissertation is composed of three essays that are arranged in the following sequence. The first essay focuses on "process", which examines "how" the budget reform was adopted; the second essay focuses on "output", which explores "what" happened due to the budget reform that coincided with political and institutional changes; and the third essay focuses on "outcomes", which investigates the "impacts" of the budget reform.

The first essay discusses the issues and development of policy solutions in the budgetary system before the 2011 budget reform. This essay employs Kingdon's multiple streams theory (MST) to explain how and when the problems, policy

solutions, and politics surrounding the Myanmar budget reform came together to open the policy window. Furthermore, this essay highlights the significance of issue linkage and partial coupling in the policy process (Kingdon, 1995; Dolan, 2021). All MST studies agree that policy cannot change without coupling the three streams. Furthermore, only a few studies, including ours, have discovered that multiple partial couplings occur before the complete coupling of the three streams. Therefore, policymakers or policy entrepreneurs need to be aware of partial coupling. As soon as partial coupling occurs, policymakers or policy entrepreneurs should try to find any constraints that make it impossible for the remaining stream to couple with the other two streams. By doing so, they will be able to find the policy factors or political strategies that quickly lead to complete coupling.

The second essay discusses how budget allocation patterns changed both before and after the budget reform. Since Myanmar's budget reform coincided with political and institutional changes, this essay tries to explain the effect of political and institutional changes on budget punctuation patterns by employing budget incrementalism and punctuated equilibrium theory (PET). This study expects budget punctuation to have occurred in different directions and frequencies. Therefore, the significant theoretical contribution of this study is to extend Flink and Robinson's (2020) corrective and trend models, which are rooted in the PET literature. The corrective and trend models are used to examine the directions of budget punctuation (positive or negative). By applying corrective and trend models, this study distinguishes nine budget punctuation patterns for Myanmar government spending on seven sectors from 2000 to 2019 (10 years before the budget reform and 9 years after

the budget reform). The study reveals that political and institutional changes have had different effects on different sectors. Additionally, different budget punctuation patterns have been observed with different frequencies across sectors due to sector-specific characteristics and evolving policy priorities.

The third essay assesses how the changes in allocation patterns after the budget reform have affected public service performance. This study differentiates public performance into the three competing dimensions of public service performance (3Es: efficiency, effectiveness, and equity). It is assumed that different magnitudes and directions of budget changes have different performance outcomes. To examine how budget allocation changes made after the reform have affected the 3Es, this study applies PET by incorporating other theories from the public administration literature. As the current study uses a two-level dataset—budget allocation data at the ministry level and performance data (3Es and other control variables) at the individual level—multilevel modeling, which provides the unique advantage of examining the associations between the variables measured at different hierarchical levels, is employed. To measure the changes in resource allocation, we define the four categories of budget changes (i.e., positive punctuation, negative punctuation, positive annual percentage changes, and negative annual percentage changes) by using the annual budget allocation of 18 ministries for the fourteen years (including both before and after the budget reform). Performance data are obtained by administering surveys to public officers from different ministries. Through multilevel analysis on a two-level dataset, the results of the current study reveal that budget

increases have not uniformly improved all 3Es. The different magnitudes and directions of budget changes have had different effects on 3Es.

DEDICATION

This work is dedicated to my mother, father, and family members. Your unwavering love and encouragement have made this achievement possible.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Public budgets are critically important for every country because they aim to support economic stability, good governance, and the general welfare of its citizens. Therefore, many countries have carried out budget reforms to address various challenges and improve the efficiency, transparency, and effectiveness of their public financial management. In the early 1950s, budget reform processes focused on defining the public sector and improving budget structures. Therefore, the focus of budget reform shifted to introducing performance budgeting techniques by emphasizing cost analysis, measuring results, and assigning organizational responsibilities for development planning (Premchand, 1973). Performance budgeting prioritized management with the goal of increasing the efficiency of public services (Schick, 1966). Later, budget reform processes were carried out to implement modified approaches based on some prominent theories. For instance, as planning and budget preparation are closely related and reflect the government's future planning, governments introduced program budgeting with the aim of enhancing the efficient achievement of their selected goals and policies (Schick, 1966). To align organizational resources with strategic priorities, priority-based budgeting (PBB) has gained popularity as an efficient approach (Mitchell, 2023). The problems related to budget formulation, decision-making processes, and budgetary outcomes have been analyzed using the concepts of legislative and executive power (Posner & Park, 2008;

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Lienert, 2005), public participation (Butler & Petrovsky, 2023; Rainero et al., 2020), and so on. These theories and concepts provide valuable frameworks for policymakers, analysts, and researchers to understand the complexities of public budgeting and to design budget processes that align with specific goals and contexts.

Although each country has a different context and specific purpose when implementing budget reforms in the public sector, the most common purposes are based on three orientations: control orientation (controlling expenditures based on organizational units, functions, objectives, and so on), management orientation (improving the efficiency of public service delivery), and planning orientation (linking the public budget to policy priorities and long-term development frameworks) (Shafritz, & Hyde, 2016). It is crucial to recognize that budgeting processes encompass not only bureaucratic dimensions but also social and political aspects that play significant roles and influence how public budgets are formulated, allocated, executed, and evaluated. Researchers from diverse fields, such as economics, social and political science, public administration, and finance, have extensively examined public budgets and the processes of budget reform in various countries. These studies have facilitated an in-depth exploration of the connections between policy, governance, economics, and public administration, as well as how governments operate and how their actions affect society.

Before 2011, Myanmar faced several longstanding problems within its budget system, including centralization, a lack of transparency and accountability, and persistent budget deficits (OECD, 2014; Deshpande, 2017; World Bank, 1999). To solve these problems, Myanmar embarked on implementing budget reform processes

in 2011. To explore Myanmar's budget reform processes, this dissertation discusses the issues that existed prior to the budget reform, the obstacles to changing budget policies, the development of policy solutions, and the impacts of such changes in budget policies. To fully understand complex policy processes, this dissertation mainly uses multiple streams theory (MST) and punctuated equilibrium theory (PET), which are the two prominent theories used for studying public policy and budgetary processes. This dissertation consists of three essays, each of which focuses on a different aspect of the Myanmar budget reform process and its impacts.

1.2 Research objectives

There are several motivation factors for researching Myanmar's public budgetary system. There were many policy changes made when Myanmar transitioned from an authoritarian to a democratic regime in 2011. To assess the characteristics of Myanmar's policy processes, this study concentrates on the budget system because the public budget is critical to describing these policy changes, and the data accessibility for the budget is the best among other such areas. Moreover, there were several longstanding problems within its budget system. Therefore, this dissertation aims to present the budget dynamics in regimes changing from authoritarian to democratic political institutions and the effect of budget changes on public service delivery. MST and PET aim to analyze Myanmar's budget system both theoretically and empirically, which has never been done before. First, this dissertation aims to discuss the background circumstances and agenda setting of Myanmar's budget reform from a theoretical perspective. Then, empirical analyses are performed to investigate the effects of political and institutional changes on budget punctuation

patterns and how these punctuation patterns affect public service performance. The overall research questions of this dissertation are as follows:

1. What were the fundamental problems in Myanmar's budget system before 2011, and how did these issues come to the government's decision agenda?

2. How did Myanmar's transition to a democratic and decentralized system impact budget punctuation?

3. How did different magnitudes and directions of budget changes affect the efficiency, effectiveness, and equity of public service delivery in Myanmar?

1.3 Research methodology

This dissertation employs different theoretical and methodological approaches. The first essay discusses the background circumstances for adopting and implementing budget reform using a qualitative approach (i.e., single case study analysis method) and employing MST, which is composed of three independent but mutually influencing streams, namely, problem, policy, and politics. There are several theories to explain policy changes, such as multiple stream theory (MST), punctuated equilibrium theory (PET), and the advocacy coalition framework (ACF). Among these theories, this first essay applied Kingdon's MST (1995) because it has the following advantages over other theories that are well suited for presenting the first essay:

- MST allows the utilization of diverse qualitative data sources, especially when quantitative data are scarce or unreliable.

- MST effectively explains the initial stages of policy changes, including how issues capture the government's attention to and progress on the policy agenda.

- By dividing the policy process into three streams (problems, policies, and politics), MST facilitates a clear understanding of how different factors contribute to policy changes.

The second essay applies incrementalism and punctuated equilibrium theory to examine the linkage between budget allocation and the country's political and institutional changes. In addition, the second essay analyses its hypotheses by conceptualizing and measuring budget punctuations and by categorizing nine budget punctuation patterns based on corrective and trend models. The third essay also applies punctuated equilibrium theory but does so by incorporating several theories from the public administration literature to investigate the effect of budget reform on multiple public service performances. Furthermore, the third essay uses multilevel modeling to analyze a two-level dataset of budget allocation and public performance.

1.4 Chapter outline

This dissertation is composed of three essays that are arranged in the following sequence. The first essay (Chapter 2) focuses on "process", which examines "how" the budget reform was adopted; the second essay (Chapter 3) focuses on "output", which explores "what" happened due to the budget reform that coincided with political and institutional changes; and the third essay (Chapter 4) focuses on "outcomes", which investigates the "impacts" of the budget reform. These three essays are presented within different time frames. The first essay discusses the issues

and development of policy solutions in the budgetary system before the 2011 budget reform. The second essay discusses how budget allocation patterns changed both before and after the budget reform. The third essay assesses how the changes in allocation patterns after the budget reform have affected public service performance. Table 1.1 provides a summary of the three essays.

Table 1.1. Summary of the Three Essays

Essay	Title	Focus	Research Objective	Applied Theories	Methodology
First essay (Chapter 2)	Partial and Complete Couplings Leading to the Myanmar Budget Reform in 2011 Based on Multiple Streams Theory	Process of the budget reform	To explain how the budget reform happened	Multiple streams theory	Qualitative and descriptive approach (single case study analysis)
Second essay (Chapter 3)	Myanmar's Budgetary Punctuation Before and After the 2011 Budget Reforms: Budget Incrementalism and Punctuated Equilibrium Theory	Outputs of the budget reform	To examine what happened as the result of the budget reform that coincided with political and institutional changes	Incrementalism and punctuated equilibrium theory	Quantitative and descriptive approach (comparisons of budget punctuations across policy domains)
Third essay (Chapter 4)	Myanmar's Budget Dynamics and Their Effect on Multiple Performances of Public Service Delivery: A Multilevel Approach	Outcomes of the budget reform	To investigate how changes in budget allocation patterns impact the public service performance	Punctuated equilibrium theory	Quantitative and inferential approach (multilevel analysis of a two-level dataset)

The first essay aims to present the background circumstances of Myanmar's budget reform by answering the following research questions: what were the prereform problems in Myanmar's budget system, how did these problems come to public attention and arrive on the government's agenda, what were the proposed solutions to these problems, to what extent were institutional and political factors

critical for these policy changes, and who were the policy entrepreneurs for the policy reform? This essay employs MST to explain how and when the problems, policy solutions, and politics surrounding the Myanmar budget reform came together to open the policy window. First, in the problem stream, the events that indicated problems with the budget system and some indicators that showed the conditions inherent in the problems are described. Second, in the solutions stream, this essay highlights numerous clauses present within the 2008 Constitution that are useable as policy solutions to address the problems of Myanmar's budget system. Third, in the politics stream, this study presents the Myanmar government's democratic transition of 2011, which provided the opportunity to reform the country's budget policies. Furthermore, it highlights the significance of issue linkage and partial coupling in the policy process (Kingdon, 1995; Dolan, 2021). Issue linkage refers to the connection between a specific issue and one or more other significant issues. This linkage encourages the policy to reach the status of the government agenda and brings the three streams together completely. In Myanmar's case, even though the military government recognized the problems related to the budgeting system, they were not willing to change the policy. However, due to the issue of international pressure for democratization, the military government formulated the necessary policy solutions for all sectors, including the budget system, in accordance with democratic standards. The linkage between budget problems and democratic transformation brought budget problems to the forefront of the government agenda and helped in the development of policy solutions that aimed to democratically resolve budget problems. However, before complete coupling of the three streams occurs to promote policy change, there

may be several partial couplings. In Myanmar's case, partial coupling of the problem and policy streams was observed before the budget reform was implemented. This study attempts to discover the constraints that led to the complete coupling of three streams not occurring at that time. Afterward, this study discusses the democratic government's reform efforts that finally encouraged the complete coupling of the three streams.

The second essay explores what has happened due to the budget reform. Myanmar's budget reform coincided with political and institutional changes. In 2011, Myanmar underwent political change, transitioning from an authoritarian regime to a democratic system. Following democratization, institutional reforms were implemented as a result of the government's liberalization strategy. The budget system was also changed from a centralized to a decentralized system. This essay tries to explain the effect of political and institutional changes on budget punctuation patterns by employing budget incrementalism and PET. Incrementalism is the predominant budget theory; it is the simplest way of budgeting, i.e., by adding a narrow range of increasing and decreasing amounts to the previous year's budget (Davis et al., 1966). Baumgartner and Jones (1993) introduced PET, which refers to a transition from stable to unstable conditions because of changes in external circumstances. This study also expects budget punctuation to occur in different directions and at different frequencies. The significant theoretical contribution of this study is to extend Flink and Robinson's (2020) corrective and trend models, which are rooted in the PET literature. The corrective and trend models are used to examine the directions of budget punctuation (positive or negative). By applying corrective and

trend models, this study distinguishes nine budget punctuation patterns for Myanmar government spending on seven sectors from 2000 to 2019 (10 years before the budget reform and 9 years after the budget reform). The study reveals that political and institutional changes have had different effects on different sectors. Additionally, different budget punctuation patterns have been observed with different frequencies across sectors due to sector-specific characteristics and evolving policy priorities.

The third essay aims to assess how different patterns of budget changes following budget reform have affected public service performance. Several theoretical perspectives support the idea that financial resources and organizational performance have a positive relationship (Fisher, 2007; Williamson, 1999; Boyne, 2003). While most previous studies have analyzed the linkage between resource allocation and public performance, they have also measured public performance based mainly on output quality and have not differentiated the dimensions of public performance. This study differentiates public performance into three competing dimensions of public service performance (3 Es: efficiency, effectiveness, and equity). It is assumed that different magnitudes and directions of budget changes have different performance outcomes. To examine how budget allocation changes made after the reform affected the 3 Es, this study applies PET by incorporating other theories from the public administration literature. As the current study uses a two-level dataset—budget allocation data at the ministry level and performance data (3Es and other control variables) at the individual level—multilevel modeling, which provides the unique advantage of examining the associations between the variables measured at different hierarchical levels, is employed. To measure the changes in resource allocation, we

define four categories of budget changes (i.e., positive punctuation, negative punctuation, positive annual percentage changes, and negative annual percentage changes) by using the annual budget allocation of 18 ministries over a fourteen-year period (including both before and after the budget reform). To accurately assess the quality of public service performance, it is necessary to consider not only the impact of financial resources but also the impact of other factors, such as governance type, management capacity, and human capacity. Consequently, this study used several control variables, such as three governance modes (hierarchy, market, and network), financial management capacity, budget monitoring capacity, budget information sharing capacity, gender, and experience. Performance data are obtained by administering surveys to public officers from different ministries. Through multilevel analysis on a two-level dataset, the results of the current study reveal that budget increases have not uniformly improved all 3 Es. The different magnitudes and directions of budget changes had different effects on the 3 Es.

Chapter 5 concludes with policy implications, research limitations, and research recommendations for future studies.

<center>**CHAPTER TWO**</center>

<center>**PARTIAL AND COMPLETE COUPLINGS LEADING TO THE MYANMAR BUDGET REFORM IN 2011 BASED ON MULTIPLE STREAMS THEORY**</center>

2.1 Introduction

In general, the government must provide a wide range of public services to ensure citizens' well-being. These public services have the potential to improve the country's social and economic conditions. Due to the importance of public services, the government's budgetary allocation for public services has become a major topic. Because public budgets are limited, governments design budget policies to ensure that these resources are used efficiently and effectively. As a result, several academics have examined public budgeting as an important public policy issue (De Wals et al., 2019; Ecton & Dziesinski, 2022; Guragain & Lim, 2019; Chen & Flink, 2022).

Among several theoretical frameworks for studying public policy processes, Kingdon's multiple streams theory (MST) (1995) has been widely used because each independent stream can explain how policy processes work: A few problems reach an agenda-setting stage among multiple issues (problem stream), the solution production process includes the formation of the visible solution, softening the policy to be accepted by the policy communities (policy stream), and when policymakers have the motivation and opportunities to adopt the policy solution in a favorable political

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climate (politics stream). MST can be applied to any policy, time, and place (Cairney & Jones, 2016).

To address a variety of issues, Myanmar began its budget reform efforts in 2011. The development of reform efforts was supported by the long-term background and circumstances. Before 2011, Myanmar's public budgetary processes had been plagued by several challenges and issues. Myanmar's budget allocation decisions were unclear, inefficient, and unfair. Moreover, the country's annual budget process had been tainted by a lack of transparency. Budgeting guidelines and regulations provided little direction on how to prepare a government budget. Some studies reviewed Myanmar's budget procedures and processes and made recommendations to improve them, including an overview of Myanmar's budget processes and procedures (Deshpande, 2017; Shotton, 2019), budget decentralization, state and regional budget procedures, and the role of state and regional governments in budget processes (Dickenson-Jones & Smurra, 2015; Kyaw, 2015; Nixon & Joelene, 2014; Robertson, 2017; Shotton, Yee, & Oo, 2016;). However, a theoretical approach is rarely employed to explain the background and circumstances that led to the emergence of Myanmar's budget reform. For that reason, it is important to study Myanmar's budget reform from a theoretical perspective and to address the following research questions: What were the problems in the budget system before 2011? How did these problems come to the attention of the government and become part of its agenda? What were the policy solutions to those problems? How did Myanmar's new government support budget reform? To answer these questions, this study employs MST and explains how the problems, policy solutions, and politics surrounding Myanmar's budget reform

came together to open the policy window. There are several theories to explain the policy changes such as MST, punctuated equilibrium theory (PET), advocacy coalition framework (ACF), and so on. Among these theories, this first essay applied Kingdon's MST (1995) because it has the following advantages over other theories which well-suited to presenting the first essay:

- MST allows the utilization of diverse qualitative data sources, especially when quantitative data is scarce or unreliable.

- MST effectively explains the initial stages of policy changes, including how issues capture the government's attention and progress onto the policy agenda.

- By dividing the policy process into three streams (problems, policies, and politics), MST facilitates a clear understanding of how different factors contribute to policy changes.

Reviews of the literature on MST and the methodology of this study are presented next. Subsequently, this study delves into the three-stream approach to Myanmar's budget reform and its window of opportunity facilitating the policy reform. Policy implications and conclusions are discussed in the last section.

2.2 Literature Review: Multiple Streams Theory

Kingdon introduced the three-stream approach in his first published book, *Agendas, Alternatives and Public Policies*, in 1995. Kingdon (1995) defined the political agenda as a list of subjects or issues that attract the attention of government officials and people outside the government at any given time. To simplify the complex public policy process in ambiguous circumstances, he developed MST, which is composed

of three independent but parallel streams: the problem, policy, and politics. Kingdon's

multiple streams approach is a powerful tool for analyzing agenda setting and

explaining the underlying mechanisms of policy changes. These three streams

develop independently, each with its forces, dynamics, and rules. When they are

connected, a window of opportunity facilitating policy changes is opened. According

to Birkland (2016: 200), agenda setting is "the process by which problems and

alternative solutions gain or lose public and elite attention, or the activities of various

actors and groups cause issues to gain attention or prevent them from gaining

attention."

The problem stream is the initial stage, and it is critical in the agenda-setting

process. According to Kingdon (1995), the problem stream contains the processes of

how problems are beginning to be noticed, how conditions are categorized as

problems, and how problems receive the attention of policymakers. Conditions can be

defined as problems when people perceive that the existing performance or

circumstances should be improved or modified by comparing them to their ideal

status or those of others. Dolan (2021) stated that conditions need to meet two criteria

to be defined as a problem. First, conditions deviate from current societal values,

norms, and expectations. The second is a condition in which people believe that the

government should be in charge of resolving the inconsistency. Even if a problem

satisfies these two requirements, it is difficult for it to receive the attention of

policymakers. Kingdon (1995) also stated that government officials and ordinary

citizens both inside and outside the government face a variety of problems. Some

problems receive substantial attention as part of the government's agenda, while

others are ignored. Guldbrandsson and Fossum (2009) argued that not all conditions can develop into problems even though they have policy solutions and have received the attention of politicians. Some problems draw attention from decision-makers through more or less systematic indicators and without political pressure. Sometimes, policymakers notice problems based on the feedback of existing or focusing events.

In the policy stream, policymakers, specialists, and experts from various institutions try to produce a set of plausible policy ideas. These policy ideas are identified, evaluated, and narrowed down to a short list of more feasible options (Béland & Howlett, 2016). According to Guldbrandsson and Fossum (2009), the policy stream is concerned with the proposal of policy solutions for changing existing problems. Additionally, they stated that decision-makers need to present at least one acceptable policy solution before reaching the government agenda. Only some proposed solutions to problems that fit numerous criteria are chosen for inclusion on the government's agenda and are available for serious consideration by the government (Kingdon, 1995). The proposed policy solution may take a long time to develop into a viable policy, but the policy entrepreneur can accelerate this development (Dolan, 2021).

The politics stream consists of influential factors such as changes in national mood, administrative or legislative turnover, and interest group campaigns (Kingdon, 1995). According to Cairney and Jones (2016), government transitions offer policymakers opportunities to turn proposed solutions into specific policies. Dolan (2021) claimed that policymakers are unwilling to focus on long-term issues that will bring benefits only after the end of their tenure in office.

Policy entrepreneurs are individuals who are capable of taking significant action to couple the three streams, and they can appear from any stream (Ridde, 2009). Kingdon (1995) stated that skillful entrepreneurs play a key role in highlighting a problem to make it reach the agenda status, proposing their policy solutions, and pushing their problems and pet solutions to achieve political receptivity. To adopt and implement the complex programs, policy entrepreneurs also employ several key strategies, including effective problem framing, acquiring political support through trusted relationships, building networks and coalitions with supportive groups, and demonstrating strong leadership skills (Maurya & Mintrom, 2020). Sometimes, for a particular issue, the three streams cannot be coupled. In such cases, policy entrepreneurs attempt to connect the three streams by linking and reinforcing that particular issue with one or more other related issues (Dolan, 2021).

Kingdon (1995) also highlighted that the government agenda can be reached by the problem or politics stream alone; however, the decision agenda can be reached only when all three streams—problem, policy, and politics—are coupled. These three independent streams come together at a certain time to open the window for policy change. The policy window opens only on rare occasions and for short periods. Thus, policymakers must prepare their proposed solutions and well document their problems to pass their solutions before the window is closed. Kingdom (1995) stated his partial coupling concept as follows: Two of the three streams come together. For example, problems and solutions are combined but lack political support. Alternatively, problems and politics converge, but there are no feasible solutions. To better illustrate Kingdon's partial coupling concept, Dolan (2021) provided Figure 2.1 below, which

indicates the three types of partial couplings, i.e., only problems and policies
(numbered 1), only policies and politics (numbered 2), and only problems and politics
(numbered 3), as well as complete coupling with all three streams (numbered 4).

Figure 2.1. Partial couplings and complete coupling
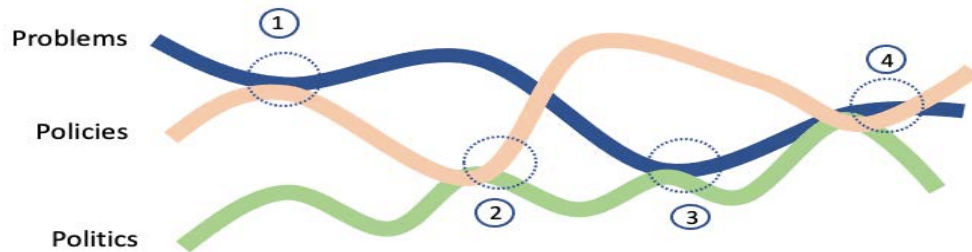
Source: Dolan (2021: 180).

It is impossible to move from the government agenda to the decision agenda if
any one of these three streams is absent. Van den Dool (2022) used MST to explain
why China has not adopted a permanent ban on live poultry sales as a national policy.
Multiple epidemic breakouts created multiple problem windows since live poultry
sales were the main issue in preventing epidemic outbreaks. The political window was
also opened since the significant regulatory bodies in this field supported a permanent
ban on live poultry sales. However, due to a lack of policy acceptance, the permanent
ban solution reached only the government agenda and did not reach the decision
agenda, which is the reason the intended policy could not be adopted. Using the
concepts of partial and complete couplings, Dolan (2021) also examined the issue of
water management in Australia. He explained that the problem stream (the most
extreme drought) and the policy stream (a proposal to reform water management and
natural resource policies) were ripe. Furthermore, drought issues had gained public
attention (national mood), and the prime minister was also interested in water

management. However, the states had jurisdiction over water resource management, and the opposition party ruled at the state level. There was friction in the political stream since the opposition party did not favor policy change. In this situation, the two streams (problem and policy) were partially coupled, and the decision agenda could not be reached. That is, without political receptivity, complete coupling was impossible. Meanwhile, a political event (i.e., an election) became the driving force for policy change, while policy entrepreneurs linked the issue of water management to climate change issues. Water management and climate change issues became top issues for political leaders to attract voters. Then, the three streams were fully coupled to change the water management policy.

Cumming (2016) used MST to investigate why a health service delivery organization adopted a formal priority-setting framework for making resource allocation decisions. The author demonstrated that the problem (lack of board engagement in resource allocation decisions), policy (understandable program budgeting and marginal analysis (PBMA), and politics (allowing a health service delivery organization to pursue PBMA) all came together to make resource allocation decisions and opened the policy window. Linh et al. (2017) showed that MST could help analyze reform-related fiscal issues and help in understanding the causes of reform problems, policy alternatives, and political factors. However, the logic of MST still has not been fully applied to cases of public budgeting and finance. Therefore, this study fully employs MST to examine Myanmar's budget reform from this theoretical perspective.

2.3 Research Methodology

This study employs MST to theoretically explain the preceding circumstances that drove Myanmar's budget reform in 2011. MST can be applied in both qualitative and quantitative assessments of public policy processes (Cairney & Jones, 2016; Jones et al., 2016). We reviewed some articles applying MST and found that MST studies used different analyses and methodologies, such as theory and documentary analysis with and without interviews (Buhr, 2012; Lieberman, 2002; Linh et al., 2017; Tembo & Lim, 2022), quantitative analysis using data and surveys (Robinson & Eller, 2010), mixed methods (Huitema & Meijerink, 2010), and direct experience (De Wals et al., 2019). This study aims to explain the background and circumstance of budget reform over 10 years ago. Since access to budget data is very limited for this period, the qualitative case study method is more appropriate.

Van Evera (1997) stated that case study analysis focuses on examining in depth a small number of cases to assess whether events occur as predicted and whether actors behave in accordance with the selected theory's predictions. Furthermore, he added that sometimes an in-depth study of a single case is better than an investigation of several cases (for example, relevant data are recorded for a single case). This study mainly focuses on Myanmar's budget reform, the purpose of which was to decentralize budget processes, reduce the budget deficit, improve transparency and accountability, and so on. However, the background and circumstances of Myanmar's budget reform were distinct from other budget reforms in democratic countries because they occurred in a military regime. Additionally, the main driving force for the budget reform was the international pressure to transform from a military

government to a democratic government. Due to these unique circumstances, this

study employs a single case study analysis method. The main reason for using MST in

this study is that this study aims to discuss in detail the background and circumstances

(including the problems, the policy solutions, and the political contexts) that led to

budget reform. This study tests the MST's predictions, such as whether the coupling

of the three streams drove changes in national-level budget policies or not and

whether issue linkage can support the opening of the window of opportunity for

policy change or not.

In the context of the problem stream, we describe the events that indicate

problems with the budget system as well as some indicators that show the problem's

conditions. This study presents a number of clauses in the 2008 Constitution as policy

solutions for addressing the problems of Myanmar's budget system. As part of the

politics stream, this study examines the Myanmar government's democratic transition

in 2011, which provided the opportunity to reform the country's budget policies. The

events, indicators, and statements discussed in this study are drawn from a range of

sources, including published documents, relevant academic studies, reports from

international organizations, related government departments and media, and so on.

2.4 Using the Multiple Streams Approach to Analyze Myanmar's Budget Reform Processes

After identifying the prior conditions of the budget reform in 2011, we discovered that

it took a long time to start this reform. Myanmar had faced a variety of problems in

the public budget system for decades. However, these conditions received scarce

public attention because budget information was not published under the military

regime. Nonetheless, the military government was aware of these issues due to the indicators of continuous financial deficits and terrible socioeconomic conditions. Despite gaining the military government's attention, problems with the public budget system did not appear on the government's agenda. Due to international pressure to carry out a democratic transformation, in 2003, the military government announced a seven-step roadmap to establish an elected constitutional government (Taylor, 2004). One step of the roadmap was to draft a new constitution. When drafting the constitution, fiscal policy was considered to be reformed according to democratic standards. Thus, budgetary problems reached the government's agenda, and policy solutions were developed. Fiscal policies adhering to democratic norms (including policy solutions to budgetary problems) were incorporated into the constitution. In 2008, the constitution was approved through a nationwide referendum. Therefore, in 2008, we found that the problem and policy streams were partially coupled since budgetary problems reached the government agenda and policy solutions were developed. However, at that time, there was no political climate or impetus created for deciding and implementing the budget reform. In 2011, the new democratic government took office through the general election. The new government followed the constitutional articles and orders, and the president's administration was interested in reforming all sectors. There was a political environment that was favorable for starting a budget reform, and the three streams were coupled in 2011. The partial coupling and complete coupling for the budget reform are illustrated in Figure 2.2.

Figure 2.2. Partial and complete couplings of the problems, policies, and politics for Myanmar's budget reform
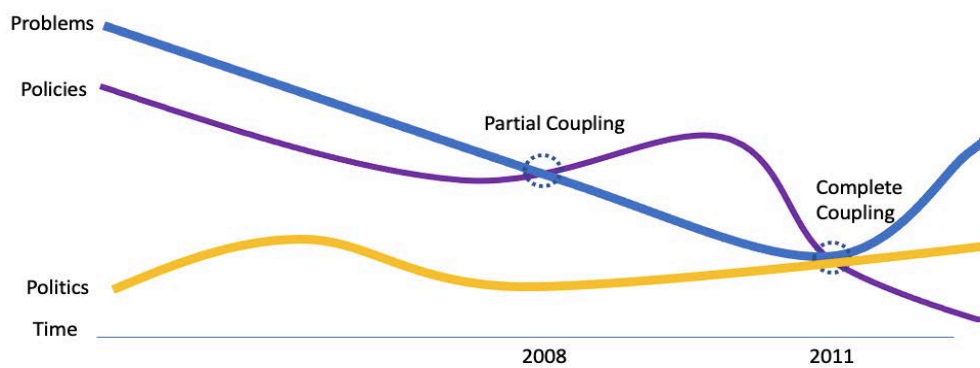
2.4.1 Problem Stream

To be included in the government's agenda list, public issues must be classified as problems, and policymakers must pay considerable attention to these problems (Kingdon, 1995). According to Mosier (2013), there are three factors that can draw policymakers' attention to problems: indicators, focal events, and feedback. For the past five decades, the Myanmar budget system had faced several issues, and this study discusses the major issues in the budget system.

Centralization of spending: Myanmar's budget system was centralized during this period, with only one union budget and no legislative oversight. The government of Myanmar (GOM) allocated a large portion of the budget for defense spending and a smaller portion to meet public demands. The amount spent on defense was regularly more than the amount spent on education and health combined. According to Turnell (2011), defense spending accounted for 22.7%, 19.8%, 18.9%, 17.8%, and 21% of overall government spending in FY 2004-2005, 2005-2006, 2006-2007, 2007-2008, and 2008-2009, respectively; in contrast, combined education and health spending accounted for 17%, 9.3%, 14.1%, 12%, and 13% of total public spending,

respectively. The centralized budget system failed to respond to the desires of the general public.

Lack of transparency and accountability: Another issue was the lack of transparency and accountability throughout the budget process. Before 2011, there was no parliamentary scrutiny of budget processes. The government did not publish budget documents (only gross budget information was published in a government-owned newspaper, and it was not useful for detailed analysis), and only a few documents were available for internal usage (enacted budget and audit reports). Myanmar was included in the international budget partnership's open budget survey for the first time in 2012, and its open budget index (OBI) score was "zero" (out of 100) due to the lack of budget transparency, weak legislation, and weak auditors (OECD, 2014: 69). There was no evidence of systematic procedures and guidelines for budget monitoring or for conducting performance reviews of spending agencies (Deshpande, 2017), which also reduced the accountability of spending departments.

The budget deficit: Furthermore, the continuous fiscal deficit was a critical challenge. Myanmar's budget allocation pattern was based on incremental budgeting (PEFA, 2020: 37; Deshpande, 2017: 22). In the incremental method, the budget was prepared by spending agencies with little increase or decrease compared to the previous year's budget (Davis et al., 1966). Because of this method, if a spending agency did not spend the allocated budget for the current year, the next year's budget would be reduced. This aspect led to higher expenditures in the budget and increased the budget deficit year by year. Additionally, the budget deficit was directly affected by the low level of tax revenues. Due to the poor capacity of tax administration,

complex procedures, and a weak culture of compliance in the tax system, tax collections were extremely low. The tax-to-GDP ratio was extremely low, at 3.193%, 2.625%, 2.454%, 2.556%, 3.537%, and 4.464% in 2000, 2001, 2002, 2003, 2004, and 2005, respectively (World Bank, 2022). The GOM was unable to collect enough revenue to cover its expenses, resulting in continuous budget deficits (World Bank, 1999: 6, Oo et al., 2015). Another factor causing the budget deficit was the inefficiency of state-owned economic enterprises (SEEs) (Lim & Yamada, 2012). SEEs were funded by the public budget but lacked autonomy and efficiency. SEEs suffered losses, and their public spending became ineffective. In fiscal years 1988-89, 1990-91, 1991-92, and 2000-01, the budget deficits were 8.3%, 7.4%, 6.6%, and 8.4% of GDP, respectively (Oo, 2019). The government financed the budget deficit by printing money, resulting in rising inflation year after year.

In summary, Myanmar's budget system had serious problems, including the centralization of spending, continuous budget deficits for a variety of reasons, and a lack of accountability and transparency. However, none of these issues drew public attention. As previously stated, budget information was unpublished and manipulated by the autocratic government. Due to the lack of budget information available to citizens, rather than focusing on the budget allocation side, citizens assumed that the reasons for the low levels of education, health, and social welfare were government negligence and the poor performance of relevant ministries. Although these conditions deviated from citizens' expectations of and general standards for an appropriate role of the government, citizens did not pay attention to budget allocation since they had no idea where the money went or how the government spent it. This

raises the following question: How did these problems come to the attention of the government and become part of the government's agenda?

According to Dolan (2021), focusing events—sudden, rare, and harmful events—and indicators—collected data used to determine how the long-term policymaking context is doing—are the main factors that can draw policymakers' attention to define issues as salient problems and make appropriate policy adjustments. Cairney and Zahariadis (2016) stated that the variation in indicators draws policymakers' attention to problems (for example, the poverty rate in a nation is consistently 5% but rises 10% in a year). In the case of Myanmar, the reason policymakers' attention was drawn to budget problems was not the variation in indicators, as Cairney and Zahariadis (2016) pointed out. Myanmar's indicators pointed to long-term macroeconomic distortions and did not meet international standards. Although the military government became aware of the budget problems due to the long-term problematic indicators, the awareness of these long-term problematic indicators was not the driving force to find possible solutions to the budget problems. So, what was the driving force that brought the budget problems to the government's agenda?

Whether or not any of these problems received government attention and were put on the government's agenda was determined by whether policymakers or experts had developed a policy solution to the problems. Meanwhile, the military government faced international pressure to create political changes, including sanctions imposed by the United States and the European Union, such as a ban on trade and investment, international remittance restrictions, and asset freezes (Hufbauer et al., 2008; Martin,

2010; Erlanger, 1997). Moreover, international financial institutions such as the World Bank, International Monetary Fund, and Asia Development Bank suspended their assistance to Myanmar (Taylor, 2004). The leaders of the Association of Southeast Asian Nations (ASEAN) had pressed Myanmar for reforms since they were also under criticism from the U.S. and Europe for failing to support Myanmar's reforms (Chow & Easley, 2016). The World Bank recommended implementing reforms including the budget process, state-owned enterprises, tax policy, and tax administration (World Bank, 1999).

To overcome this variety of problems and international pressure, on August 30, 2003, the prime minister of the military government outlined a seven-step roadmap to establish an elected constitutional government (Taylor, 2004; Moe, 2007). The commencement of the military government's constitutional roadmap encouraged the drafting of a new constitution. When the constitution was drafted, policymakers prepared to incorporate the laws and regulations required to address the country's fiscal issues in accordance with democratic standards. Therefore, the problems of the budget system reached the government agenda. In our case, the driving force that brought the budget problems to the government's agenda was the international pressure for democratic reform.

2.4.2 Policy Stream

The policy stream is the process by which policymakers or experts generate policy ideas or solutions that can help solve existing problems (Kingdon, 1995). We found that Myanmar's budget system had many problems over the fifty years before 2011. Did the government solve these problems simultaneously?

As mentioned above, the military government faced enormous international pressure for democratization. In an attempt to pave the way for democracy, Myanmar's military government announced the seven-step roadmap for the country's democratic transition in 2003. One step in the roadmap was to draft a constitution. To be consistent with democracy, the military government planned to reform all sectors at the same time. In May 2008, Myanmar's military government produced a new constitution to enable the country's transformation into a democratic society. The necessary rules and regulations were incorporated into the constitution to change every area (political, fiscal, economic, social, etc.) in line with democratic principles. Democratically sound policy solutions to address the problems of the budget system were enshrined in the 2008 Constitution, which was Myanmar's third constitution.

Policy solutions for decentralization, transparency, and accountability: A number of clauses in the 2008 Constitution aimed to promote political, fiscal, and administrative decentralization. The following are the basic principles and rules for fiscal decentralization and the fiscal responsibilities of the union, state, and regional governments as stipulated in the 2008 Constitution:

- The constitution outlines the submission and review processes for the union budget in Chapter 4, 103 and the state and regional budget submission and review processes in Chapter 4, 193.

- The Financial Commission is in charge of managing the union budget. The Financial Commission must submit a union budget bill with recommendations to the president and the Union Assembly

(Pyidaungsu Hluttaw) to promulgate the annual budget law (Chapter 5, 230, c (i)).

- The union budget bill must contain the union budget, the distribution of appropriate funds from union fund accounts to regions or states, special provisions or funding, and loan disbursement (Chapter 5, 230, d).

- If the Pyidaungsu Hluttaw is unable to pass the union budget bill before the end of the fiscal year, the union government will spend within the framework of the Pyidaungsu Hluttaw's most recently adopted budget law (Chapter 5, 222).

- Furthermore, the union has the right to spend the union fund by law (Chapter 5, 231, c).

- The constitution, however, does not constrain government spending, and it specifies that the union government and regions or state governments can spend the budget according to law.

In accordance with the constitutional guidelines, the budget process was changed. State and regional governments were allowed to prepare their budgets, which could lead to budget allocations based on public needs. These situations supported the budget decentralization processes. Furthermore, allowing state and regional governments to prepare their budgets and requiring Pyidaungsu Hluttaw approval before enacting the budget law were the factors that improved budget transparency and accountability. Therefore, the constitution contained policy solutions for implementing budget decentralization, budget transparency, and accountability.

Policy solutions for reducing the budget deficit: One of the policy solutions for reducing the budget deficit was government tax reform strategies. The constitution clarified the taxation powers of state and regional governments: "The union government shall collect taxes and revenues by law, except taxes collected by regions or states such as land revenue, excise revenue, water tax, and toll fees. After that, all taxes must be deposited in the union fund" (Chapter 5, 231, a).

Another problem that caused the budget deficit was the operation of inefficient SEEs. The state-owned economic law (1989) allowed SEEs to operate joint ventures with other individuals or economic organizations for the benefit of SEEs. Since the 2008 Constitution allows all necessary actions to improve the development of the national economy (Chapter 1, 36, a), the government was able to take necessary actions to enhance the performance of SEEs. Moreover, the basic principles and guidelines of the 2008 Constitution called for the budgetary transparency of the government (on both the revenue and expenditure sides). This fact could exert social and political pressure on SEEs to perform well. Due to these conditions, the budget deficit caused by SEEs could be reduced.

We found that many factors caused problems with the budget system, and there was more than one policy solution to solve them. In 2008, the problems of the budget system were reaching the government agenda, and policy solutions for those problems were developed. To change the policy, not only the recognition of the problems and the availability of policy solutions but also the political context that favored policy changes was needed.

2.4.3 Issue Linkage and Partial Coupling of the Problem and Policy Streams in 2008

Kingdon (1995) stated that experts in policy communities, policy entrepreneurs, or interest groups are the primary actors who influence the policy stream. These actors might work in or outside the government. They devote their resources to identifying and developing policy solutions with various incentives such as political rewards, the protection of individual interests or the interests of their group members, stability, job security, and career promotion. In our case, the main actor who moved the problems onto the policy agenda was the military government. Before 2003, the military government paid attention to budget problems due to the indicators of continuous fiscal deficits and poor levels of socioeconomic conditions. However, the problems of the budget system obviously observed were not sufficient to reach the government's agenda itself. Nonetheless, these issues were linked to another important issue, the international pressure for democratization, and this linkage encouraged the development of policy solutions for the budget system. In 2003, the military government launched a seven-step roadmap for reform and democratization. There are a variety of arguments for why military governments pursue reform and democratization, including the avoidance of sudden regime changes, the desire to maintain political control by establishing a civilian government under their control, integration into the ASEAN, and the lifting of Western sanctions (Chow & Easley, 2016). According to Huang (2013), the adoption of the reform by the military government was complicated and was created to institutionalize the military's influence over the government and to protect the military's survival. Regardless of the

incentives, the military government prepared the necessary policy solutions for all sectors to be reformed in accordance with democratic standards. Thus, it developed policy solutions that would democratically resolve current budget problems, and it enshrined them in the 2008 Constitution, which was released in September 2008. The new constitution included the rules and regulations required to develop a fiscal policy that would be democratically sound.

Therefore, in 2008, problem and policy streams were developed, and these two streams were coupled. However, there was no political environment for changing policy. Although the military government intended to solve the country's budget problems, developed policy solutions, and included them in the 2008 Constitution, the constitution would be effective only after the establishment of a democratic government. In particular, as the policy solutions to the budget issues were drawn up in accordance with democratic standards, it would not be possible to change the policies without a democratic government. In this situation, the problem and policy streams were partially coupled in 2008, but there was not a political climate that was favorable for policy change (see Figure 2.2). Therefore, the three streams were not completely coupled, and the policy change did not occur at that time.

2.4.4 Politics Stream

The constitution stipulated that a general election would be held and that the president would be appointed. The constitution was passed by a countrywide referendum in May 2008. According to the Constitution, a general election was held in 2010, and President Thein Sein's first democratically elected cabinet entered office on March 30, 2011. On March 31, 2011, the 2008 Constitution came into force, and the new

government followed the law and order of the constitution. As soon as it gained power, the new government began a democratic transition and the reform processes for all sectors simultaneously.

Decentralization: After the 2008 Constitution was released, the military government started to prepare the required institutions for democratic transition. According to the 2008 Constitution, state and regional governments can create their budgets in line with the preferences of the local population, and budget classification is divided into two parts: the union budget and state and regional budgets. Therefore, budget departments at the state and regional levels were established in 2010 and 2011, and these departments prepared for budget operations that were separate from the union budget (MOPF, n.d.). As a result, the necessary fiscal institutional basis for budget decentralization was created. A new budget procedure (to separate the union budget and state and regional budgets) was put into practice in October 2011 after the democratic government came into power. The political force, such as the government's democratic transformation, was the key engine for complying with the constitution and allowing for the implementation of budget decentralization. Budget decentralization was initiated when the new government complied with the rules and regulations of the fiscal system contained in the constitution.

Transparency and accountability: After the democratic government took over in 2011, the law and order of the 2008 Constitution were enforced. According to Chapter 4.103 of the 2008 Constitution, the budget bill must be submitted to the Pyidaungsu Hluttaw, after which legislators can discuss, analyze, and review the proposed budget inside the Pyidaungsu Hluttaw. The budget bill becomes law after it

is approved by parliament. The parliament's involvement in government activities created a political climate conducive to increasing budget transparency and accountability. The political sphere for reforming the budget approval process was initiated when the new government took over.

Reducing the budget deficit: Even though policy solutions to address the poor taxing system and inefficient operation of SEEs that led to the budget deficit were included in the 2008 Constitution, these democratically designed policy solutions could be applied only under a democratic system. After the democratically elected government took office in 2011, the political mood was favorable for changing the tax system and the structure of SEEs that had caused the budget deficit. Since then, the new government has made efforts to reduce budget deficits.

In 2011, there was an advantageous political environment for budget reform since a democratic government was elected and the constitution was adopted. Therefore, the political stream was ripe for budget reform.

2.4.5 Complete Coupling of the Three Streams in 2011

In 2011, there were problem, policy, and politics streams for budget reforms. The regime change (from the military regime to democracy in 2011) was the best opportunity to open the window for budget reform. According to Kingdon (1995), the successful coupling of the three streams depends on a variety of factors, such as policy entrepreneurs' skills, workable solutions, and a degree of luck. The policy entrepreneur for coupling the three streams of Myanmar's budget reforms was President Thein Sein's new democratic government. The president intended to focus more on public issues, including public health, education, and economic development.

President Thein Sein made the following statement in his inauguration speech (EBO, 2011): "We will promulgate all necessary policies and laws so that the fruits will go down to the grassroots level and the entire people enjoy better socioeconomic status." His new government recognized that fiscal reform was the foundation for implementing other reforms. As a result, budget reform became a top priority for the new government's transformation efforts. After 2011, the three streams for budget reforms were coupled completely, and a series of budget reforms was initiated. The budget system was decentralized by allowing state and regional governments to prepare their budgets. In the first parliamentary session in February 2012, the new government budget was debated, which was a crucial historical first step toward fiscal transparency. Compared to the prior year, the budget planned to double spending on health and education and the government started to increase its allocation for social welfare (Karasulu & Dodzin, 2012). Since then, the democratic government has gradually implemented a series of budget reforms.

2.5 Conclusion

In this paper, using MST, we discussed the circumstances preceding Myanmar's budget reforms. Myanmar's budget system had faced several problems for five decades. The major problems were a centralized system, the lack of transparency and accountability, and continuous budget deficits. The government was aware of these problems due to the indicators of continuous fiscal deficits and the poor level of the country's socioeconomic conditions. However, the awareness of these indicators had not pushed these problems to the government's agenda. One factor that pushed these problems to be included on the government's agenda and that pushed the development

of policy solutions was the international pressure for democratic reform. In 2003, the

military government initiated the implementation of the plan for democratization. The

military government developed policy solutions to address budget issues in line with

democratic standards, and it inserted these solutions into the newly drafted

constitution. Therefore, in 2008, the problem and policy streams for budget reform

were partially coupled. However, the policy solutions in the constitution were drawn

up in accordance with democratic standards, and the constitution would take effect

only after the formation of a democratic government. Therefore, there was no political

environment for budget reforms at that time. In 2011, the democratic government was

elected, and this regime change created a political environment favorable for budget

reforms. After the new government came to power, it began adopting and

implementing reform processes for various sectors. It prioritized budget reform since

it recognized that fiscal reform was the foundation for the implementation of other

reforms. After 2011, the problems of the budget system (problem stream), the 2008

Constitution (policy stream), and the new government's democratic transformation

(politics stream) all came together. The new democratic government's will and effort

to design and carry out the reform process were the main driving force for coupling

the three streams and opened the window of opportunity for budget reforms.

In our case, we found that there were distinct policy entrepreneurs for

developing policy solutions and coupling the three streams. The military government

devised the policy solutions, but the new democratic government was the policy

entrepreneur for fully coupling the three streams. Dolan (2021) argued that politicians

do not want to focus on long-term issues that are beneficial only after their tenure in

office. However, we found that the military government paid attention to problems

and developed policy solutions that could be implemented after the regime change.

This finding does not contradict Dolan's (2021) argument. The reason is that the 2008

Constitution reserved 25% of the seats in parliament exclusively for military officers.

That is, even under the democratic regime, the military retained significant power and

could continue to participate in politics and still benefit. From this situation, we

discovered that policymakers paid attention to problems and attempted to solve them

if they thought that doing so would benefit them politically after their tenure. Our

study also supports Dolan's (2021) argument that when changing a single policy is

impossible, it can be changed more quickly by linking it to other related important

policies. In our case, the problems of the budget system could not reach the

government's agenda in isolation. However, these issues were linked to the

international pressure for democratization, and this linkage encouraged the

development of policy solutions for the budget system. Moreover, we found that even

though the government paid attention to the budget issues, made efforts to find

solutions, and was eager to change policy, without a favorable political environment,

none of this was sufficient to change policy. During the period under study, we

discovered that, first, the policy and problem streams were partially coupled.

However, after a long time, the three streams were fully coupled.

Under a democracy, the government and parliament, interest groups, and the

national mood are the three components that can bring policy issues to the

government agenda (Weible & Workman, 2022). However, in our case, problems

with the budget system occurred under a nondemocratic regime. Therefore, these

three components were not important and were unable to bring these problems to the attention of the government. The driving force was the international pressure that forced the military government to undergo democratic reform. Therefore, policymakers and policy entrepreneurs should be aware that not only domestic but also external factors can put problems on the government, especially in nondemocratic countries. In addition, we understand that under a nondemocracy, it is impossible for policy problems to reach the government agenda without the willingness of the ruling authorities to change policy themselves or the existence of a force that might put pressure on the authorities to change policy.

All MST studies agree that policy cannot change without coupling the three streams. Furthermore, only a few studies, including ours, have discovered that multiple partial couplings occur before the complete coupling of the three streams. Therefore, policymakers or policy entrepreneurs need to be aware of partial coupling. As soon as partial coupling occurs, policymakers or policy entrepreneurs should try to find any constraints that make it impossible for the remaining stream to couple with the other two streams. By doing so, they will be able to find the policy factors or political strategies that quickly lead to complete coupling. Future research that examines the background circumstances of policy reform utilizing alternative theorical approaches to public policy processes such as PET, ACF, or institutional theory other than MST would be interesting.

CHAPTER THREE

MYANMAR'S BUDGETARY PUNCTUATION BEFORE AND AFTER THE 2011 BUDGET REFORMS: BUDGET INCREMENTALISM AND PUNCTUATED EQUILIBRIUM THEORY

3.1 Introduction

The amount of allocation of the public budget reflects the government's policy agenda as well as its intentions (Willoughby, 2014). The public budget is not only an aspect of the allocation of limited public resources, but it is also linked to the social, political, and economic contexts of a country. Politicians and administrative personnel have exercised control over public budgeting, which is a critical aspect of state governance (Lim & Oh, 2016; Lin & Chen, 2020). Regime changes (or changes in government) result in policy changes, which have a profound impact on budgetary policy and decision making (Li et al., 2022; Chan & Zhao, 2016). In particular, institutional changes due to the government's liberalization have a direct impact on budget allocation decisions (True, 1995; Breuning & Koski, 2006). Budget punctuation can occur in clusters (positive or negative trending budget punctuation), and budget punctuation can be followed by an opposite direction of punctuation (positive or negative corrective budget punctuation) (Robinson et al., 2014; Flink & Robinson, 2020).

Myanmar was under military rule from 1962 to 2011. In April 2011, power was shifted to a new semicivilian government led by former military leader Thein

Sein. In 2015, the pure democracy party, the "National League for Democracy," won the first openly contested elections, bringing Myanmar's political transition closer to a free democratic government. Since 2011, along with democratization, Myanmar governments have implemented budget reform processes aimed at budget decentralization, reducing the budget deficit, and implementing government spending policies, such as allocating budget priority to projects and sectors that directly benefit citizens. Myanmar's budget reform process coincides with the country's political transition from military rule to a semidemocratic system and finally to a fully democratic government over the past ten years before the 2021 coup. Following the findings of previous studies that budget punctuation is associated with policy changes (True, 1995), changes in political and institutional conditions (Breuning & Koski, 2006), and socioeconomic conditions (Li & Feiock, 2020), it is also expected that Myanmar's budget allocation patterns will change following regime changes and budget decentralization.

The majority of Myanmar budget reform studies have focused solely on the implementation of reform processes and budget decentralization (Shotton, 2019; Deshpande, 2017, Nixon & Joelene, 2014; Shotton et al., 2016; Dickenson-Jones & Smurra, 2015), with no theoretically based empirical research applied to assess whether budget allocation patterns change as a result of reform processes. Therefore, this study aims to analyze the changes in budget punctuation patterns in different regimes, and the research questions are, "Did democracy and a decentralized system cause less budget punctuation than authoritarian and centralized systems? Did budget

punctuation vary depending on government attention? Could political and institutional liberalizations change budget punctuation patterns?"

This study tries to explain the effect of political and institutional changes on budget punctuation patterns. The main theoretical contribution of this study is to extend Flink and Robinson's (2020) corrective and trend models rooted in punctuated equilibrium theory. We examined the changes in budget punctuation patterns and their frequency before and after the reform. We distinguished nine budget punctuation patterns and identified the frequency of the different budget punctuation patterns in more detail. We found that political and institutional liberalization made the total budget more stable but the capital budget more punctuated. Moreover, the budget punctuation patterns for each sector are totally different before and after the reform, and the country's other contexts and the government's policy priority were associated with punctuation. Our contribution is to introduce new categories of punctuation based on corrective and trend models of budget punctuation. This study fills a gap in the theoretical understanding of Myanmar's political reform and budgetary changes and contributes to the new punctuated equilibrium theory literature on transitioning regimes.

3.2 Public Budgetary Process Before and After the Reform in Myanmar

Before 2011, Myanmar had only a union budget under the centralized system. Myanmar's budget allocation decisions were shrouded in mystery, and the budget was not always efficient or fair. A lack of transparency tainted the country's annual budget process. According to the 2012 Open Budget Survey, Myanmar received a score of 0

out of 100 for its lack of budget allocation transparency and public budget accountability (OECD, 2014: 69). Budgeting guidelines and regulations offered little guidance on how to prepare a budget. The budget was prepared by spending agencies by provisioning a slight increase or decrease to the previous year's budget, i.e., incrementalism budgeting, without taking policy priorities into account (PEFA, 2020: 37; Deshpande, 2017: 22). Budgets were also decided at the agency level rather than at the program level (SAN SAN, 2016: 8). The military received a large share of the government budget, and military spending constantly exceeded health and education spending combined (Turnell, 2011). Myanmar's public spending on education was quite low when compared to international standards (UNCT, 2011: 20). According to data on state budget laws, education expenditures accounted for only 4.57 percent, 5.68 percent, 4.54 percent, and 4.75 percent of total government expenditures in FY 2001-2002, 2004-2005, 2007-2008, and 2010-2011, respectively (State Budget Law, 2001; 2004; 2007; 2010). Furthermore, in those fiscal years, health expenditures accounted for 1.16 percent, 1.57 percent, 1.28 percent, and 1.20 percent of total government expenditures, respectively. In addition, government spending on social and infrastructure development was insufficient. To meet the demands of a democratic society, all sectors must improve in accordance with that democracy's expansion. Therefore, the new civilian government undertook several reforms, including budget reform.

After 2011, the new government began to implement budget reforms. The 2008 constitution provides the fundamental principles and guidelines for fiscal decentralization and the budgetary duties of the union, state, and local governments.

As of October 2011, state and regional governments are able to prepare their budgets to better reflect the preferences of local citizens. The budget has been split into two classifications since 1 October 2011, namely, the union budget and the state and regional budgets (CSO, 2015: 545). In accordance with the new parliament's budget discussion, budget priorities were shifting to health and education, and capital budgets for rural development and energy projects were expanding (IMF, 2012). According to the nationwide budget opinion poll for the 2014-15 fiscal year, the education and health sectors should have received more financing in the 2014-15 fiscal year, a move that was supported by 74.5 percent and 62 percent of the vote, respectively (Robertson, 2017). With 24.4 percent, spending on peace and ethnic development came in third, followed by spending on jobs, social security, and agriculture. According to Li & Feiock (2020), electoral incentives based on public preference and political term limits have a substantial impact on punctuated policy changes. Myanmar held general elections in November 2015, and the incumbent ruling party needed to persuade the people to vote for it. As a result, the budget allocations for education and health increased to 6.1 percent and 3.51 percent, respectively, in the fiscal year 2014-2015. After 2011, the budget bill needed to be submitted to parliament so that legislators could deliberate and review the proposed budget. A budget bill becomes law after it is approved by parliament. Parliament's involvement in government activities created a political climate conducive to increasing budget transparency and accountability, but it also increased political debates over the budget.

Many previous studies have stated that Myanmar's budget allocations followed an incremental pattern before the reform (PEFA, 2020; Addison et al., 2015; Deshpande, 2017). The political and institutional changes caused significant changes to Myanmar's budgeting system. Because of political and institutional changes, we can expect that budget allocation was more punctuated after the reform. On the other hand, due to political and institutional liberalization, budget allocation can be considered more stable after reform. According to the corrective and trend models (Robinson et al., 2014; Flink & Robinson, 2020), we also expect that there might be several punctuation patterns, and the frequency of these patterns might change due to political and institutional changes. Therefore, using actual budget data in Myanmar, this study aims to assess budget punctuation patterns both before and after the budget reform.

3.3 Budget Incrementalism and Punctuated Equilibrium Theory

There are many budget theories and studies that indicate how various countries allocate their public budgets. Using an incrementalism approach, budgetary decision makers focus their assessment only on marginal or incremental changes to the budget (by adding a narrow range of increasing or decreasing amounts to the previous year's budget) (Davis et al., 1966). After Wildavsky (1964) and Fenno (1966) successfully introduced the use of incrementalism in the study of politics and budget policy, it became the predominant budget theory for more than two decades because it is the simplest method for calculating an annual budget (True, 2000).

By the late 1970s, however, incrementalism had been criticized as insufficient and unable to explain the rapid changes in public budgets. According to Kingdon's

study (1995) on agenda setting, incrementalism has little effect on government agenda setting because government decisions do not always appear gradually over time and might sometimes change suddenly and dramatically. In general, a subsystem's policy can change incrementally, as policy changes require bargaining with other policy interests and obtaining substantial public attention. However, a sudden policy change occurs in a policy subsystem when new policy actors enter the subsystem with the intention of changing the status quo, and these newcomers have strong power to control the subsystem (Tan, 2007). True (2000) also demonstrated that incremental budgeting is insufficient to explain nonincremental changes, such as the rapid drop in U.S. military defense spending that occurred at the end of WWII or the case in which spending on recreation resources and national parks showed largely incremental growth until peaking in FY 1978 with President Carter's Land Heritage Program, after which it sharply declined since the Reagan Administration did not support this program. According to Baumgartner and Jones (1993), punctuated equilibrium indicates a transition from stable to unstable conditions, and instability occurs when a stable system is shaken by organized activities (or mobilizations). Budget punctuation can be caused by changes in external circumstances, such as changing levels of public attention, striking and compelling new information, or changing policy decision-makers (True et al., 2007: 165). True (1995) discovered that nonincremental budget changes occur because of policy changes such as "the Great Society" and the Cold War military buildup. Breunig and Koski (2006) investigated the dynamics of policy change among American states, concluding that state budgets are punctuated by

different types and levels of political and institutional conditions, as well as by distinct forms of decision-making ideology between ruling and opposition parties.

Baumgartner et al. (2017) investigated budgetary changes under democratic and highly centralized political systems in four distinct countries. They tested two hypotheses based on two perspectives: information advantage and institutional efficiency. According to the information advantage, autocrats have less chance to gather information about societal problems, and they respond to an issue when it dramatically needs to be addressed. On the other hand, democracies have more information efficiency, and they have the willingness to respond to societal preferences quickly. Therefore, democracies have less possibility of punctuation than autocrats. According to institutional efficiency, autocrats have a lower institutional fraction than democracies because autocrats do not pay attention to the external environment. Thus, autocracies have less possibility of budget punctuation than democracies. Their findings demonstrated that public budgeting under centralized rule had higher budget punctuations because of information collection challenges and the fact that autocrats respond only when the problem becomes severe. Chan and Zhao (2016) analyzed how punctuated equilibrium under authoritarian institutions differs from that under liberal democracies due to differences in government attention allocation. This study offers empirical evidence that authoritarian states have a high level of punctuation since decision-makers pay less attention to policy changes as a result of a lack of information exposure and make drastic changes when a problem endangers the survival of the regime.

Fagan (2021) claims that a centralized system restricts freedom of speech, media freedom, and complaints from civil society. These restrictions lead to low information processing and increase the risk of policy disasters. On the other hand, liberal democracy allows policymakers to deal with problems before they become disasters. Chen (2004) stated that centralized systems of government try to maintain economic stability and concentrate on offering a uniform package of services, while decentralized systems of government observe diversity of policy choice and innovation. According to Jones et al. (2019), a centralized system relies on few central power decision-makers, limits information processing, and lacks incentives for problem solving. Thus, a centralized system results in long periods of unchanging policies. Long-term disregard for policy issues accumulates errors and increases punctuated policy change. However, a decentralized system allows the involvement of more decision-makers, a higher flow of information (Jones, 2001) and a quick response to policy issues (Baumgartner & Jones, 2015), resulting in less punctuated policy change. According to the previous literature, a centralized system is more likely to be punctuated than a decentralized system.

However, according to Sebők and Berki (2018), policy punctuation for a regime type is not always linear. They investigated the Hungarian budget punctuations in three different regimes (socialist autocracy, partly free, and postdemocratic era) and reported that the budget was less punctuated in the post-1989 democratic era than in other regimes. However, their study also found that the budget was less punctuated in the socialist autocracy than in the free regimes before World War II. Because of these findings, Boda et al. (2021) investigated the regime effect on

political dynamics and found that historical contexts (social, cultural, and economic backgrounds) are more important than regime types in defining policy choices and policy practices.

Most countries' comprehensive budget books commonly include both recurrent and capital budgets (Mikesell, 2011). Policymakers have different political tactics for using capital and recurrent budgets to attain their desired policy goals. Therefore, some budget studies have examined the punctuation for different budget categories (total budget, capital budget, and recurrent budget). According to Xiao et al. (2020), capital budgets are more punctuated than recurrent budgets because capital projects have significant consequences, symbolic importance, and attraction to stakeholders. They claim that policymakers pay more attention to capital projects, and capital budgets have become the core of political debates and experiences involving budget punctuations. By using the recurrent and capital spending of Hong Kong for the 1976-2016 period, the authors examined the budget punctuations before and after Hong Kong was handed over from Great Britain to China. After the handover and under democratic institutional development in Hong Kong, there was punctuation in the capital budget due to increasing legislative engagement, and politicians competed for financial funds. Although democracy reduces the chance of large policy changes by making the information needed for services easy to gather, democratization allows different political parties to express their opinions, and the resultant political debate focuses attention on the budgets of major capital projects, which leads to more punctuation. According to Kovari (2016), there are also considerable differences between operating and capital budgets. His analysis of local governments'

expenditures showed that capital budgets are significantly more punctuated than operating budgets. Operating budgets cover the expenditures for basic service delivery and are expected to remain stable, but capital budgets cover the expenditures for long-term projects and are more prone to punctuations. Moreover, his study determined that capital budget punctuations vary across budget categories due to the distinct natures of subbudget categories. For example, capital expenditures in the transportation sector are more likely to be punctuated than capital expenditures in the health sector. Li et al. (2022) examined the patterns of budgetary changes both before and after Macao was handed over to China. Their results showed that the capital budget was more incremental after the handover and that this was a unique characteristic of Macao. In this case, the central government provided financial assistance to Macao to stabilize the economy after the handover, so the Macao government did not need to immediately change its capital budget even in response to the handover and the resultant institutional changes.

Using punctuated equilibrium theory, most scholars explore the shapes of budget distribution over time, but there are limited studies on the positive or negative directions of punctuation. Robinson et al. (2014) focused on two contrasting theories of budgetary punctuation—error accumulation and institutional models—and proposed two hypotheses to test the association between a particular year's policy change and the preceding year's policy change. The error accumulation model assumes that errors accumulate because policymakers ignore most policy issues. This situation may lead to further large policy changes. To prevent further large policy changes, a punctuated policy change that is negatively related to recent past policy

changes should be made. Thus, one hypothesis is that there is a negative correlation between the likelihood of policy punctuation in a given year and policy punctuation in the previous year. According to the institutional model, some specific organizations have inherent features that lead them to punctuation change. Thus, the hypothesis is that there is a positive correlation between the possibility of punctuation in one year and that of the preceding year. Their empirical results supported the institutional model according to which budget punctuations occur in clusters. However, their study missed the directions of punctuation, whether it was positive or negative. To examine the directions of punctuation, Flink and Robinson (2020) extended punctuated equilibrium theory by providing two theoretical models of budgetary punctuation: the corrective model and the trend model. These two models are used to examine the directions, i.e., positive or negative, of budgetary punctuations. The corrective model describes how a drastic budget change is corrected by an opposite rapid change to maintain the budget's equilibrium. This means that a negative budgetary punctuation in recent years is followed by a positive budgetary punctuation in the next year and vice versa. The trend model describes budgetary punctuations occurring in clusters; that is, budgetary punctuations (positive or negative) occur in the same direction in the following year. They raised the questions of whether the budget is punctuated by positive and negative clusters and whether budget punctuation is followed by punctuation in the opposite direction. By using corrective and trend models, they examined the directions, i.e., positive or negative, of budgetary punctuation for over 1,000 Texas school districts over 20 years. Their findings showed that large budget

decreases are likely to be followed by a significant budget increase, which supports the corrective model.

3.4 Hypotheses

According to the findings of Baumgartner et al. (2017), Chan and Zhao (2016), and Jones et al. (2019), which we discussed in the literature review, the centralized system is more punctuated than the decentralized system. Myanmar's budget reform coincided with regime change (from authoritarian to democratic). Simultaneously, with the regime change, the budget system was also changed from centralized to decentralized. Due to the implementation of the democratic system and the decentralized budget system, we expect that policymakers will quickly respond to the policy demands, resulting in less punctuated policy change. Therefore, we propose the following hypothesis:

Hypothesis 1: Budget reform causes less punctuation in budget allocations.

Decision-makers used different political approaches for different budget categories. Myanmar's public spending can be generally categorized into two parts: capital and recurrent budgetary spending. Capital budgets cover all government spending related to construction, the purchasing of machinery and equipment, and other related capital expenditures, while recurrent budgets cover all costs related to salaries, wages, travel allowances, maintenance fees, interest payments, entertainment, government subsidies, etc. (SAN SAN, 2016: 15). For the recurrent budget, spending agencies prepare the proposed budget to cover their basic requirements (Bauer et al., 2018: 37). After 2015, the budget department set an expenditure ceiling, and spending agencies prepared a proposed recurrent budget

under the expenditure ceiling. However, capital budget preparation was the
responsibility of line ministries in accordance with their ministry's policy priorities,
which were included in the Five-Year State/Region or Union Plan for that sector
(Shotton et al., 2016: 63). Therefore, this study emphasizes the capital budgets that
are directly related to government policy priorities. After the budget reform, the
Myanmar government increased the capital budgets for rural development and energy
projects to achieve its political goals (IMF, 2012). The political change caused
significant changes to capital spending. Similar to the findings of Xiao et al. (2020)
and Kovari (2016) discussed in the literature review, we also expected that
Myanmar's capital budgets would be more punctuated after the reform, in accordance
with the following hypothesis:

> ***Hypothesis 2:*** Capital spending after the reform is more punctuated than
> capital spending before the reform.

As discussed in the literature review, the results of Robinson et al. (2014)
support the institutional model that budget punctuations occur in clusters (in the same
direction). However, Flink and Robinson's (2020) findings show that large budget
decreases are likely to be followed by a significant budget increase, which supports
the corrective model (opposite directions). These studies demonstrate that budgets are
punctuated according to both corrective and trend models. We also expect that before
and after the budget reform, all of Myanmar's government sectors may experience
patterns of corrective budget punctuation as well as trending budget punctuation.
Additionally, the frequency of each punctuation pattern may vary by sector because
each sector has its own significant characteristics. To evaluate the directions and

frequencies of budget punctuation in the pre- and postreform periods, we developed

another two hypotheses as follows:

> *Hypothesis 3* (**Positive or negative corrections)**: A negative budgetary
>
> punctuation follows a positive budgetary punctuation, and vice versa.
>
> *Hypothesis 4* (**Positive or negative trends):** A positive budgetary punctuation
>
> follows a positive budgetary punctuation, and a negative budgetary
>
> punctuation follows a negative budgetary punctuation.

3.5 Data and Methodology

To test the abovementioned hypotheses, this study used a time series dataset of

Myanmar government budget allocations from 2000 to 2019 (10 years before the

budget reform to 9 years after the budget reform). These data were collected from the

website of Myanmar's central statistical organization (https://www.mmsis.gov.mm/).

We used government spending on seven sectors: agriculture, mines, energy,

construction, transport and communication, social services and defense.

First, we calculated the annual percentage changes in budget allocations by

using the following equation (Baumgartner & Jones, 1993):

$$\%\Delta B_t = \frac{(B_t - B_{t-1})}{B_{t-1}}$$

where $\% \Delta B_t$ is the annual percent change in the current year's budget allocation over

the previous year's allocations,

> B_t is the current year's budget allocation value, and
>
> B_{t-1} is the previous year's budget allocation value.

We also defined three categories of budget punctuation depending on the

degree of annual percentage changes in budget allocation from year t -1 to year t as follows (Baumgartner & Jones, 1993):

- There is no punctuation (incremental) if the annual percentage change is between $\pm$ 25%,

- There is positive punctuation if the annual percentage change is more than +25%, and

- There is negative punctuation if the annual percentage change is less than -25% of that of the previous year.

For each sector, we intended to separately check the frequency of each punctuation pattern over both pre- and postreform periods. Thus, we defined budget punctuation patterns by extending Flink and Robinson's (2020: 102-103) corrective and trend models. According to their corrective model, budget punctuation has a positive or negative correction. For example, due to the government's policy goals or external/internal shocks, a certain public agency's budget may increase (decrease) significantly for a year. However, the government may want to maintain the original budget level, and thus, the budget could be decreased (increased) dramatically in the following year to reach the original point. The budget returns to its previous level to maintain budget equilibrium, which is known as a corrective pattern. Figures 3.1 and 3.2 display the positive and negative corrections.

Figure 3. 1 Positive Correction
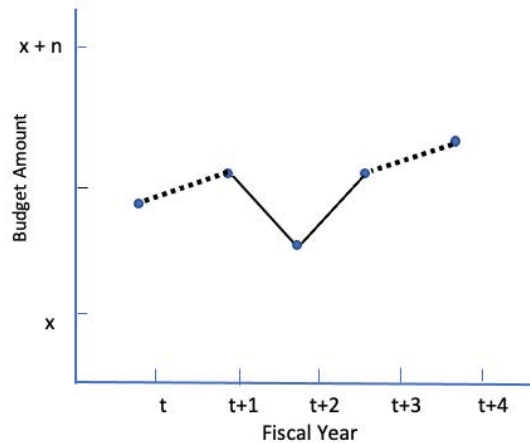
Figure 3. 2. Negative Correction
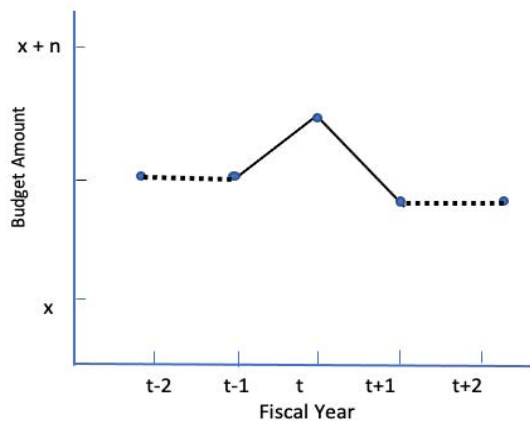
Flink & Robinson's (2020: 102-103) trend model describes budgetary punctuations occurring in clusters; that is, budgetary punctuations (positive or negative) occur in the same direction in the following year. Organizational spending could exhibit some trending or reinforcing patterns; that is, spending could exhibit patterns that cause budgets to continue to increase or decrease over several years. For instance, a positive trend may be the result of several years of investment in a large

project or program that is related to a highly prioritized policy goal of the

government. On the other hand, a negative trend could occur due to negative financial

conditions or crises. Figures 3.3 and 3.4 display the positive and negative trends.

Figure 3. 3. Positive Trend
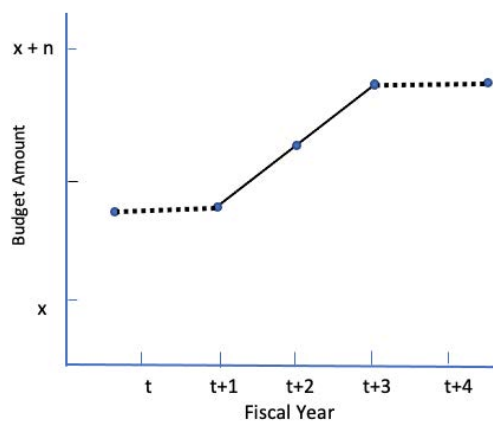
Source: Flink and Robinson (2020: 103)

Figure 3. 4. Negative Trend
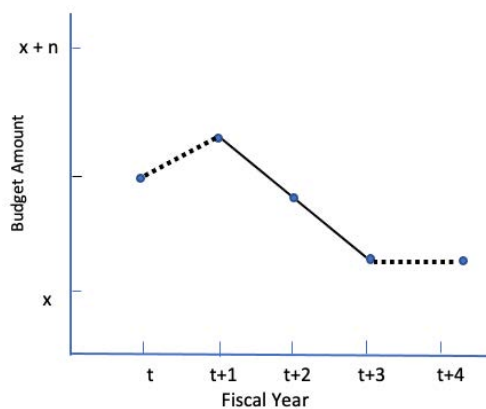
Source: Flink and Robinson (2020: 103)

By the extended corrective and trend models, we distinguished the different

budget punctuation patterns on the basis of the reactions in year (t+1) to the budget

punctuations of the previous year (t). If there was no punctuation in the previous year

(t), then there was a possibility of one of three categories of punctuation (none,

positive, or negative) occurring in the following year (t+1), as shown by patterns 1, 2,

and 3 in Table 3.1. We could see the same patterns in year (t+1) when there were

positive (4, 5, and 6 in Table 3.1) or negative (7, 8, and 9 in Table 3.1) punctuations in

the previous year (t). Thus, we identified the nine patterns of budget punctuation

based on the corrective and trend models, as shown in Table 3.1, and each type of

pattern is illustrated from Figure 3.5(a) to Figure 3.5(i).

Table 3. 1.Patterns of budget punctuation

No.	Previous year (t)	Following year (t+1)	Budget Punctuation patterns
1	No punctuation	No punctuation	Incremental change (INC)
2	No punctuation	Positive punctuation	Weak positive trend (WPT)
3	No punctuation	Negative punctuation	Weak negative trend (WNT)
4	Positive punctuation	No punctuation	Weak negative correction (WNC)
5	Positive punctuation	Positive punctuation	Strong positive trend (SPT)
6	Positive punctuation	Negative punctuation	Strong negative correction (SNC)
7	Negative punctuation	No punctuation	Weak positive correction (WPC)
8	Negative punctuation	Positive punctuation	Strong positive correction (SPC)
9	Negative punctuation	Negative punctuation	Strong negative trend (SNT)

Figure 3. 5. Illustration of each budget punctuation pattern
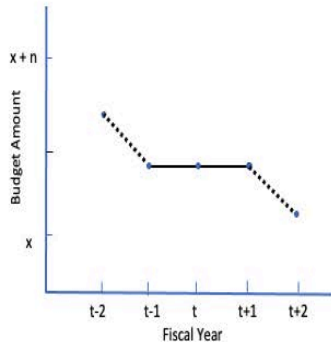
Figure.5(a). Incremental change
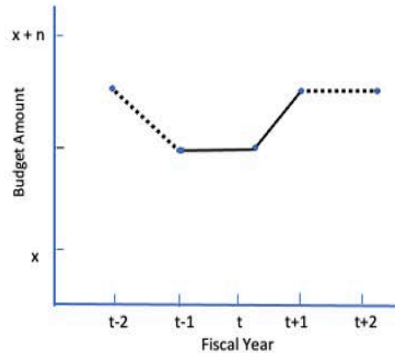
Figure.5(b). Weak positive trend
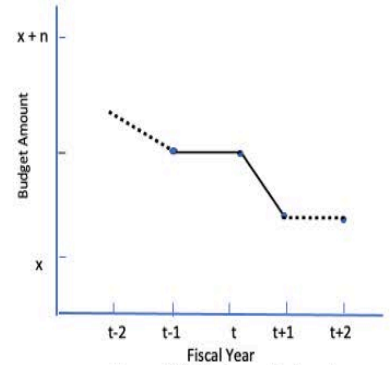
Figure. 5(c). Weak negative trend
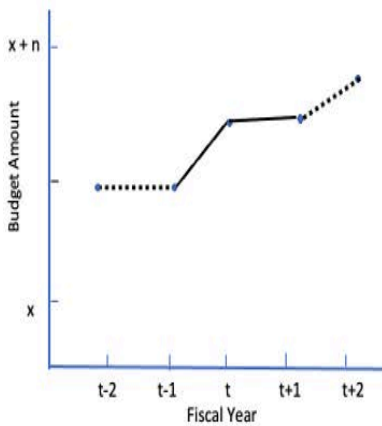
Figure. 5 (d). Weak negative correction
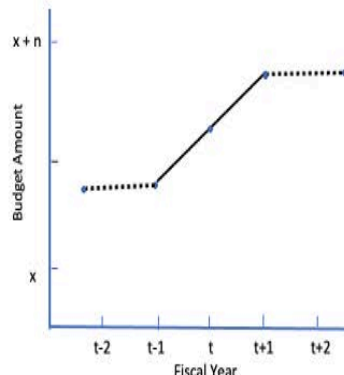
Figure. 5 (e). Strong positive trend
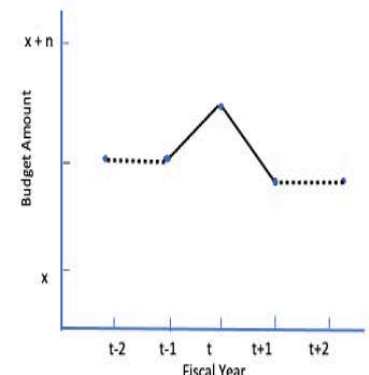
Figure. 5 (f). Strong negative correction
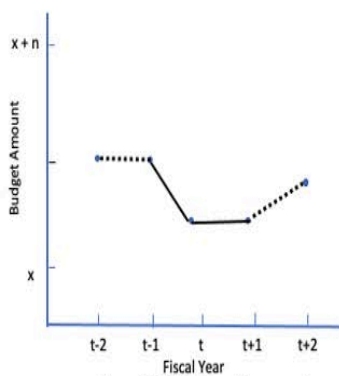
Figure. 5 (g). Weak positive correction
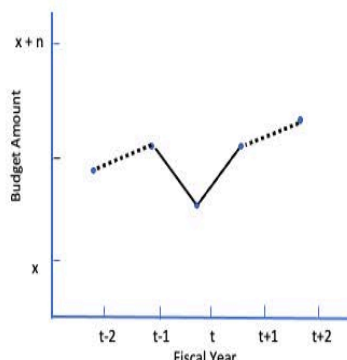
Figure. 5 (h). Strong positive correction
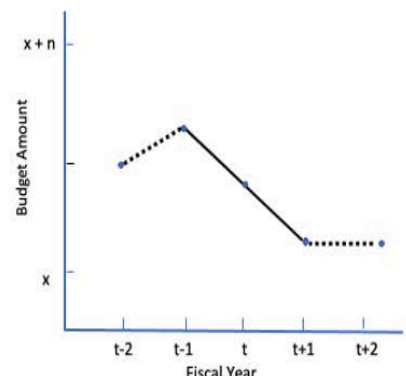
Figure. 5 (i). Strong negative trend

We tested Hypotheses 1 and 2 using the L-kurtosis measure, which allows comparison across other samples and is more robust to the presence of extreme outliers. The tighter bounds for L-kurtosis are within [-1/4, 1] (Hosking, 1990: 108). For the nonnegative random variable, L-kurtosis lies at the boundary between 0 and 1. However, our data (annual percentage change in budget allocation) have a negative value; thus, the constraint on some L-kurtosis values in our result line is [-1/4, 1]. The L-kurtosis value of a normal distribution is 0.123, and any score above this threshold is considered a leptokurtic distribution (Breunig & Koski, 2006). In punctuated equilibrium theory studies, a leptokurtic distribution indicates that a policy is punctuated (Kwon & Gonzalez-Gorman, 2019: 11). For Hypotheses 3 and 4, we judged budget punctuation patterns by the criteria proposed in Table 3.1.

3.6 Results

Table 3.2 shows the L-kurtosis values for each sector before and after the reform. Figure 3.6 also presents the histograms showing the distribution of annual percentage changes in government spending in each sector by comparing values from before and after the reform. After the reform, the L-kurtosis values of the four sectors (mining, energy, transportation, and social services) are higher than 0.123 (0.344, 0.139, 0.219, and 0.418, respectively) but less punctuated than those before the reform (0.422, 0.385, 0.406 and 0.421). These results support Hypothesis 1, which states that political and institutional liberalization cause less punctuation in budget allocation. However, before the reform, the L-kurtosis values of the two sectors (agriculture and construction) were less than 0.123 and less punctuated than those after the reform. Before the reform period, the country's economy was based mainly on agriculture,

and infrastructure development was initiated. Therefore, the government made budget changes when needed and underwent incremental changes. The defense sector's L-kurtosis value was higher than 0.123 for both periods, but it had the lowest L-kurtosis values among all sectors for both periods. It can be assumed that the defense sector's budget was adjusted as needed in both periods.

Figure 3.7 presents the annual percentage changes in government spending across the seven sectors from 2000 to 2019. Prior to the budget reform, Myanmar used an incremental method to prepare its budgets; however, evidence shows that greater punctuations occurred for the energy, mining, transportation, and social service sectors during that time. This was due to the government's sharply increased investment in resource exploration as a source of foreign currency revenue for economic growth, and these sectors received a large share of government budgets. Additionally, the social services budget sharply increased in 2006 because of the government's decision to raise government employees' salaries up to six times their previous value. Within the transition period of fiscal years 2009–10 and 2013–14, government spending nearly doubled due to the goal of addressing major service delivery gaps and utilizing union budgets as a tool for growth and poverty reduction (Addison et al., 2015: 2). That is, we could see that the occurrence of punctuation in both periods depended on the government's policy changes, which is in line with True (1995; 2000), who argued that nonincremental budget changes occur because of policy changes. Our finding is also consistent with Guragain and Lim's (2019) finding that the sector in which punctuation occurs varies from year to year and that decision-makers' prioritized sector has the most punctuation.

In summary, according to some results, it can be said that the budget was less

punctuated under democracy and a decentralized system. However, we found that

budget punctuation occurred in both periods, and most incidences were linked to the

policy priority and other aspects of the national context, such as the social and

economic background.

Table 3. 2. L-kurtosis values of each budget category before and after reform

Spending sector	L-kurtosis value (Before reform)	L-kurtosis value (After reform)
Agriculture	0.064	0.362
Mining	0.422	0.344
Energy	0.385	0.139
Construction	0.011	0.159
Transport and communications	0.406	0.219
Social services	0.421	0.418
Defense	0.165	0.227

Figure 3. 6. Distribution of annual percentage change in government spending before and after the reform
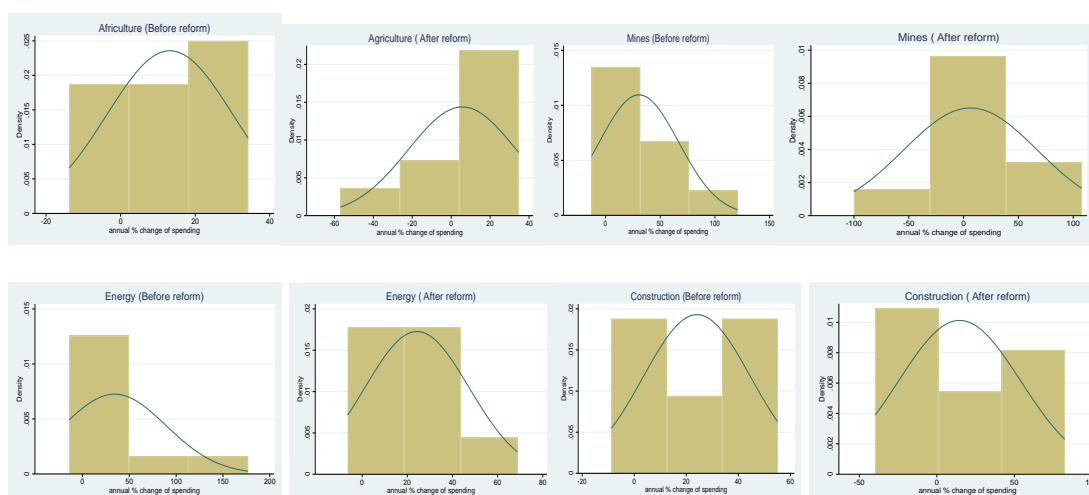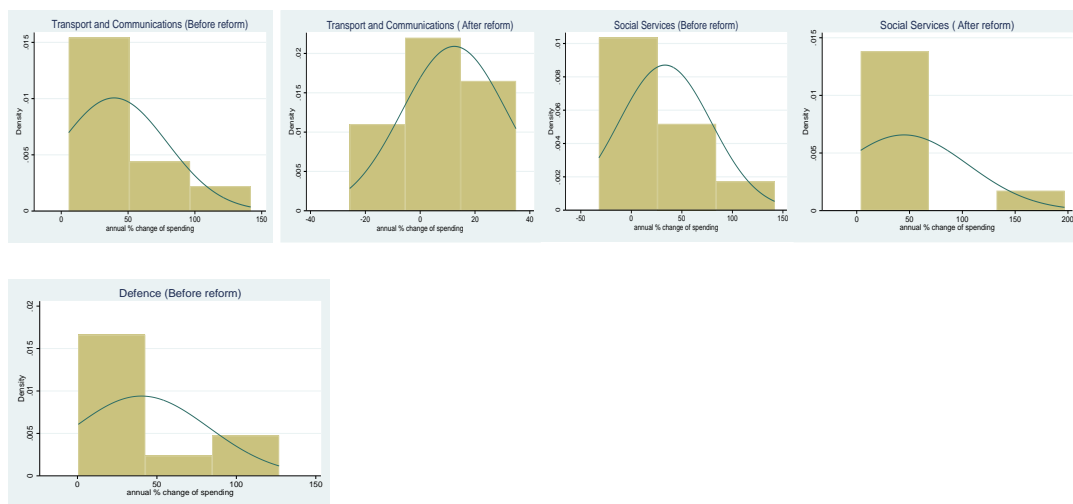
Figure 3. 7. Punctuations in government spending by sector
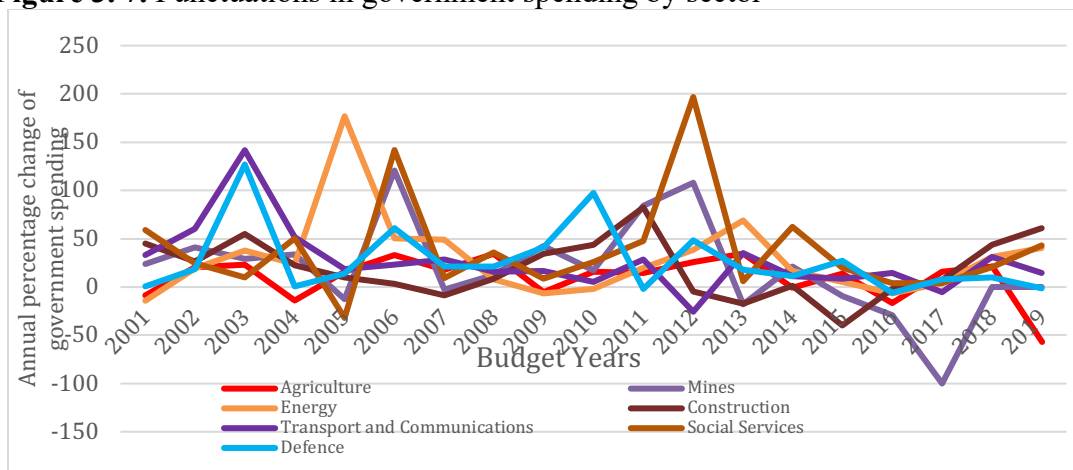
To test Hypothesis 2, we focused on capital budgets for each spending sector. This hypothesis was also simply tested by comparing the L-kurtosis values for capital spending of both periods. The L-kurtosis values are shown in Table 3.3, and Figure 3.8 displays the distributions of annual percentage changes in capital spending throughout both periods. After the reform, the L-kurtosis values of capital spending for every sector except defense were higher than those before the reform. This implies that capital spending after the reform was more punctuated than before the reform, which is consistent with Hypothesis 2. This is because in the postreform period, the

government changed the capital spending policy of every sector to achieve its political

goals. In the case of defense, under the military regime, the military sector received

the government's priority, and the budget was changed as needed. However, under

democracy, its budget allocations become more stable. If we carefully review the

results of Hypothesis 2, the most significant finding is that punctuation was correlated

with government policy priorities in both regimes.

Table 3. 3. L-kurtosis values for capital spending before and after the reform

Spending sector	L-kurtosis value (Before)	L-kurtosis value (After)
Agriculture	-0.028	0.187
Mining	0.048	0.078
Energy	0.186	0.444
Construction	-0.171	0.042
Transport and communications	-0.012	0.048
Social services	0.413	0.906
Defense	0.287	-0.022

Figure 3. 8. Distribution of annual percentage changes in the government's capital spending before and after the reform
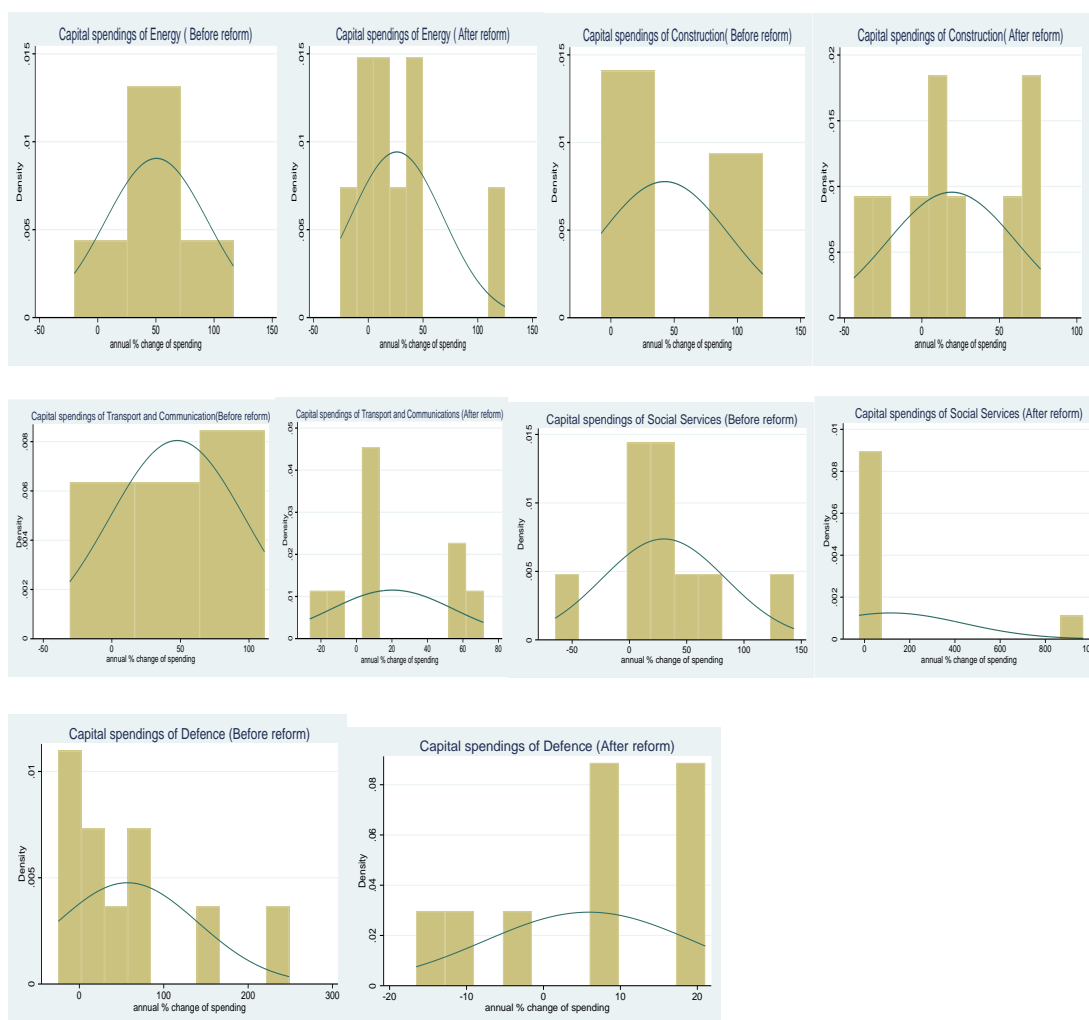
To test Hypotheses 3 and 4, we investigated whether budget punctuation occurred in clusters (in cumulative trends of positive or negative changes) or in opposing directions (positive or negative budgetary punctuation in one year followed by budgetary punctuation in the opposite direction in the following year) both before and after the reform. In Table 3.1, we defined the nine punctuation categories based on the reactions of budget punctuations from one year (t) to the following year (t+1). For each sector, we separately checked the frequency of each punctuation pattern over the 10 years prior to the reform and the 9 years after the reform. Table 3.4 lists the

frequencies of the categories of budget punctuation found both before and after the reform.

Before the reform, the energy sector had the most SPT occurrences at 7, followed by the mining, transportation, and defense sectors at 4 each. An SPT represents a large budget increase in the current year followed by another large budget increase in the following year. The energy sector's budget continuously increased year by year, as indicated by the seven SPT occurrences over 10 years. If its budget had temporarily increased due to any environmental impacts or shocks, we would observe a negative adjustment the following year. However, in those ten years, the energy sector experienced a WNC only once. Additionally, the same situation applied in the defense sector, as we found 4 instances of SPT, 2 instances of WPT, and only a single instance of WNC. These findings support Hypothesis 4 on the trend model.

In the agriculture, mining, transport, and social services sectors, SPTs and WPTs were seen at least four times over a decade. Additionally, we found a budget correction for those sectors (agriculture had 3 instances of WNC, mining had 2 instances of WNC, transport had 2 instances of WNC and one of SNC, and social service had 3 instances of WNC and a single instance of SNC). These findings partially support both Hypothesis 3 (which uses the corrective model) and Hypothesis 4 (which uses the trend model). We found the most incremental changes to the construction section, as it experienced 4 instances of INC.

However, the patterns of budget punctuation for all sectors totally changed after the reform. INC had the highest occurrence in four sectors (energy= 3, construction=3, social services=6, and defense=8). In the defense sector, there were 8

instances of INC within a 9-year period, which means that after the reform, the defense sector's budget showed incremental change, while it showed an accumulative trend before the reform. In the case of the energy sector, incremental change was the most common (INC=3), and other punctuation categories (such as 1 instance of WPT, 2 of SPT, 1 of WNT, 1 of WNC, and 1 of SPC) were also observed. According to this pattern, it can be assumed that the energy sector's budget fluctuated after the reform, which is a very different pattern than that before the reform, when the budget continuously increased year by year.

Both before and after the reform, we found SPT, WPT, or WNT (but not SNT) as well as WPC, SPC, WNC, or SNC in at least one sector. Because of this, we cannot exactly state whether these budget changes occurred in accordance with the corrective model (Hypothesis 3) or the trend model (Hypothesis 4). Since SNT was not found at all in either period, it can be stated that there was no continuous reduction in budget spending. Moreover, after the reform, we did not observe as many SPT occurrences as before the reform, which means that the budget was more stable after the reform than before the reform.

We can draw the conclusion that every sector's budget punctuation patterns and frequency before the reform were completely different from those after the reform. Our findings show that budget punctuation varied across sectors due to the unique characteristics of each sector and changing policy priorities over time.

Table 3. 4. Budget punctuation patterns observed between two consecutive years (t and t+1) before and after the reform

	Before Reform (from 2001 to 2010)			After Reform (from 2011 to 2019)		
	Punctuation in Time t+1			*Punctuation in Time t+1*		
Punctuation in Time t	No Punctuation	Positive Punctuation	Negative Punctuation	No Punctuation	Positive Punctuation	Negative Punctuation
Agriculture						
No punctuation	INC =1	WPT =2	WNT=0	INC =1	WPT =1	WNT=1
Positive Punctuation	WNC=3	SPT=2	SNC=0	WNC=1	SPT=3	SNC=1
Negative Punctuation	WPC=0	SPC=1	SNT=0	WPC=0	SPC=1	SNT=0
Mine						
No punctuation	INC =0	WPT =1	WNT=1	INC =0	WPT =0	WNT=1
Positive Punctuation	WNC=2	SPT=4	SNC=0	WNC=0	SPT=0	SNC=3
Negative Punctuation	WPC=0	SPC=1	SNT=0	WPC=1	SPC=2	SNT=0
Energy						
No punctuation	INC =1	WPT =0	WNT=0	INC =3	WPT =1	WNT=1
Positive Punctuation	WNC=1	SPT=7	SNC=0	WNC=1	SPT=2	SNC=0
Negative Punctuation	WPC=0	SPC=0	SNT=0	WPC=0	SPC=1	SNT=0
Construction						
No punctuation	INC =4	WPT =2	WNT=1	INC =3	WPT =1	WNT=2
Positive Punctuation	WNC=2	SPT=0	SNC=0	WNC=1	SPT=1	SNC=0
Negative Punctuation	WPC=0	SPC=0	SNT=0	WPC=1	SPC=0	SNT=0
Transport and Communication						

No punctuation	INC =0	WPT =1	WNT=0		INC =2	<mark>WPT =3</mark>	WNT=0
Positive Punctuation	WNC=2	<mark>SPT=4</mark>	SNC=1		WNC=2	SPT=0	SNC=1
Negative Punctuation	WPC=0	SPC=1	SNT=0		WPC=1	SPC=0	SNT=0
	Social Service						
No punctuation	INC =0	WPT =2	WNT=0		<mark>INC =6</mark>	WPT =2	WNT=0
Positive Punctuation	<mark>WNC=3</mark>	SPT=2	SNC=1		WNC=1	SPT=0	SNC=0
Negative Punctuation	WPC=1	SPC=0	SNT=0		WPC=0	SPC=0	SNT=0
	Defence						
No punctuation	INC =2	WPT =2	WNT=0		<mark>INC =8</mark>	WPT =0	WNT=0
Positive Punctuation	WNC=1	<mark>SPT=4</mark>	SNC=0		WNC=1	SPT=0	SNC=0
Negative Punctuation	WPC=0	SPC=0	SNT=0		WPC=0	SPC=0	SNT=0

Note: INC (Incremental Change), WPT (Weak Positive Trend), WNT (Weak Negative Trend), WNC (Weak Negative Correction), SPT (Strong Positive Trend), SNC (Strong Negative Correction), WPC (Weak Positive Correction), SPC (Strong Positive Correction), and SNT (Strong Negative Trend)

3.7 Conclusion

This study proposes four hypotheses to examine the effect of Myanmar's budget reform on its budget allocation patterns. Regarding the first hypothesis, we test whether budget changes were more punctuated after the budget reform. Our findings show that some sectors (mining, energy, transport, and social services) had less punctuation after the reform, and other sectors (agriculture, construction, and defense) had more punctuation after the reform. During the pre- and postreform periods, Myanmar had different kinds of governments, and they had different policy agendas,

which had an impact on the budget allocations. It can be stated that political and institutional changes have no linear effect on different sectors.

Policymakers use the budget as a fiscal tool to achieve political objectives. To implement political strategies, they divide budgets into different categories, such as capital budgets and recurrent budgets. Additionally, politicians handle them differently and change their capital spending strategies frequently to achieve policy agendas and initiatives. Therefore, this study focuses on the capital budget by testing Hypothesis 2. Our findings show that the capital budgets of every sector except the defense sector were more punctuated after than before the reform. After the reform, the democratic government changed the spending policy for the capital budget. Our findings support the claim that politicians use the capital budget as a tool for achieving their policy objectives.

Finally, we examined the directions of budget punctuation before and after the budget reform. We found that the directions of punctuation were dissimilar across different sectors. Moreover, the budget punctuation directions for each sector differ greatly in the periods before and after the reform. Except for SNT, all other punctuation patterns are found in at least one sector. However, we do not find SNT at all for either period. Consequently, it is reasonable to assume that various punctuation patterns can be found in both periods, but continual budget reductions are extremely unusual. For the punctuated equilibrium theory literature, this study provides the assumption that the frequencies of the positive and negative trends may differ. The occurrence of continuously positive trends is possible, but a strong negative trend, such as a continuous reduction in the budget, can be possible in only very rare cases,

such as a financial crisis. This study helps public budgeting scholars gain a better understanding of the various budget punctuation patterns. Furthermore, the findings on the impact of decentralization on budget punctuation patterns can be relevant to other countries considering or implementing similar budgetary reforms. Developing or least-developed countries often base their new policy reforms on the results and experiences of previous reforms in developed countries. However, this study highlights the importance of taking into account a least-developed country's own historical, cultural, and socio-political contexts when implementing policy reforms.

After carefully examining the results of our study, we conclude that Myanmar's budget allocation decisions in the periods before the reform did not fully follow incrementalism. Political and institutional liberalization have different effects on the total budget and capital budget. Liberalization made the total budget more stable, but the capital budget more punctuated. Before the reform, budget allocations in several sectors (such as mining, energy, transportation, and defense) obviously increased year by year, as we found many instances of SPT in those sectors. After the budget reform, we did not observe a continual budget increase for a specific sector. This result also supports that the total budget is more stable after democratization and decentralization. Different budget punctuation patterns occur at different frequencies across sectors due to the unique characteristics of each sector, changing policy priorities over time and the country's other contexts (social and economic conditions).

There are some limitations in this study. We employed a single case and single methodology but cannot provide confirmation of our results by using different methods or datasets, as seen in Chan and Zhao's (2016) triangulation, due to the lack

of any available complementary data in Myanmar's data-poor contexts. Another

limitation is related to data reliability. The budget data published by the Myanmar

Central Statistical Organization (CSO) and the budget department are inconsistent. In

this study, we used CSO data because the CSO provides budget data for 20 years and

different budget categories (separated by total and capital budgets). Future punctuated

equilibrium theory studies should investigate the patterns of punctuation by providing

complementary data (not only budget data) and exploring the effects of different

punctuation patterns.

CHAPTER FOUR

MYANMAR BUDGET DYNAMICS AND THEIR EFFECT ON MULTIPLE PERFORMANCES OF PUBLIC SERVICE DELIVERY: A MULTILEVEL APPROACH

4.1 Introduction

The allocation of public funds is crucial for a country's socioeconomic and multisectoral development and strategic goals, especially in developing countries (Khujamkulov, 2023). In addition to thinking of public budgeting as an annual financial arrangement, such planning has evolved into a multiyear financial and development process. To comply with macroeconomic policies, budgetary actions are also being developed. Governments implement a series of budget reforms with the goal of making public budgetary systems more rational and sustainable (Willoughby, 2014). The most important goal is to effectively manage the finite public budget to successfully implement projects and deliver public services to citizens efficiently, effectively, and equitably.

Incorporating performance information into budget documents is critical for strengthening public bureaucrats' accountability for outputs and outcomes based on the budget inputs appropriated to them. These performance data can be used to assess how inputs are converted to outputs (efficiency), the level at which stated objectives are achieved (effectiveness), and whether the results of budget allocations are fair (equity) (Oh et al., 2014). However, previous budget documents of Myanmar did not provide performance data for all ministries and public agencies. Furthermore, only a

few ministries released annual reports for performance evaluations, and it was unclear

how these performances were related to the public budgeting process (PEFA, 2020).

In some cases, the divisions between ministries' responsibilities and functions were

blurred. For example, road spending was split between the Ministry of Construction,

the Department of Rural Development, and the Development Affairs Organization.

Such a blending of responsibilities can result in ambiguous expenditure

responsibilities and a lack of accountability among institutions (Shotton et al., 2016).

The Myanmar government has been implementing a fiscal reform process

since 2011, including decentralizing the budget process, improving budget

transparency, implementing public financial management (PFM) reform, and so on.

According to budget decentralization processes, state and regional governments

should prepare their own budgets in line with local citizens' preferences. As different

states and regions have different demands and needs, allowing state and regional

governments to control public spending to supply local goods and services may lead

to improved efficiency, effectiveness, and equity (Shotton et al., 2016). Furthermore,

the union government prioritizes the country's economic and infrastructure

development projects in its budget. The PFM reform strategy aims to improve all

aspects of PFM, including planning and budgeting; budget execution, monitoring,

accounting, and reporting systems; and auditing and external scrutiny (Oo et al., 2015:

35).

Some scholars have examined Myanmar's budget system, processes, and

procedures and made recommendations for improving them (Shotton, 2019;

Deshpande, 2017); others have discussed budget decentralization and the role and

budgeting processes of state and regional governments (Kyaw, 2015; Nixon &

Joelene, 2014; Robertson, 2017; Shotton et al., 2016; Dickenson-Jones & Smurra,

2015). Still others have provided an overview of and recommendations for the

public finance management system (Oo et al., 2015; PEFA, 2020). However, there are

only a few empirical studies on the impact of budget allocation on public service

delivery performance after the Myanmar budget reform began in 2011. This study

intends to fill this gap in the existing punctuated equilibrium theory (PET) literature

by providing useful information about budget allocation and evaluation.

Most previous studies have analyzed the impact of financial resources on the

quality of public services without differentiating the dimensions of public service

performance (Chen & Flink, 2022; Flink & Molina, 2021). This study makes a

theoretical contribution to the PET literature by examining how the different patterns

of budget changes (i.e., no, positive, and negative punctuation) affect diverse aspects

of public service performance by employing hierarchical linear modeling (HLM).

That is, the impacts of budget allocation changes on public service delivery will be

assessed in terms of competing public values such as efficiency, effectiveness, and

equity (3Es). Most of the previous public service performance studies have been

based on the service recipients' perceptions and indices that measure the quality of

outputs in only a particular sector. However, this study conducted a multilevel

analysis based on a two-level dataset using HLM. At the ministry level, we used

budget allocation data from several ministries, while at the individual level, we used

individual public service providers' perceptions of how the changes in budget

allocation caused by the policy change (i.e., budget reform) affected service

performance. To answer the research question, "Have changes in budget allocation made after the Myanmar budget reform of 2011 improved the efficiency, effectiveness, and equity of public service delivery?", we will examine the annual budget changes in 18 ministries over a fourteen-year period that includes years both before and after the budget reform.

4.2 Budget Changes and Public Service Performance

A public budget is critical for providing public services because public organizations cannot function or produce services without it (Willoughby, 2014). Therefore, the budget itself is considered a policy input for delivering efficient and effective public services, which is the basic purpose of governmental operations (Chen & Flink, 2022). As a policy tool, public budgeting allocates a society's limited financial resources among numerous conflicting interests and competing problems (Wang, 2002). It is also an economic tool used to promote a country's economic growth and development (Bartle & Shields, 2008). As an administrative tool, a public budget provides the methods and means by which public services are delivered, as well as the criteria used to evaluate and review those services (He, 2011).

According to nonincremental social demands and changes, the budget allocation model reflects a dynamic system that changes from year to year. In the twentieth century, budget decisions were made rationally based on the problems faced by organizations and the potential solutions to those problems (Reddick, 2003). According to Baumgartner and Jones (1993), punctuated equilibrium indicates a transition from stable to unstable conditions, and instability occurs when a stable system is shaken by organized activities (or mobilizations). Budget punctuations can

be caused by changes in external circumstances, such as shifting public attention, striking and compelling new information, or changes in policy decision-makers (True et al., 2007: 165). Many budget studies have employed PET to examine and explain the occurrence of budget punctuations under different external circumstances. For example, Baumgartner et al. (2017) used PET to investigate budgetary changes under democratic and highly centralized political systems in four distinct countries. Guragain and Lim (2019) employed PET to examine Nepalese budget punctuations under various political changes and the country's poor economic conditions. Li et al. (2022) analyzed the patterns of budgetary punctuations both before and after Macao was handed over to China. Finally, Myaing and Lim (2023) studied how political and institutional changes affect the directions and frequencies of budget punctuation by extending the PET literature based on corrective and trend models. This study also uses PET to examine how the different patterns of budget changes affected public service performance before and after Myanmar's budget reform.

Resource allocations decided by public authorities that are in line with citizens' preferences tend to improve the quality of public services (Kahkonen & Lanyi, 2001). Therefore, understanding how organizational performance changes as a result of budget changes is absolutely critical. Generally, an increase in budget is expected to improve organizational productivity and performance (Andersen & Mortensen, 2010; Boyne, 2003; Carpenter, 1996). Some research empirically shows that budget allocation changes have an impact on public organization performance. For instance, Andersen and Mortensen (2010) investigated how resource allocation patterns affected organizational performance. They used multilevel models to assess

the impacts of resource stability and incremental changes on student performance by controlling for individual-, school-, and municipal-level variables. According to their findings, budget does matter for performance outcomes, but incremental increases have a more favorable effect on performance outcomes than higher levels of increases. The reason why incrementalism matters in the result is that a long period of incremental budget changes provides schools with more economic security, allowing them to focus on education itself rather than on the economy. Other scholars have extended the PET literature by incorporating the literature on organizational performance to examine how budget changes affect organizational performance. For example, Flink (2018) also examined the effects of different magnitudes of budget changes on organizational performance. She broke down budget changes into five categories: large negative (below -33%), large positive (above 35.5%), medium negative (-33 to -2%), medium positive (10 to 35.5%), and incremental (-2 to 10%) changes. The findings show that different magnitudes of budget changes have different performance outcomes (i.e., large and medium positive budget changes are expected to increase performance achievement by 9% and 12% over small positive budget change, respectively, while large and medium negative budget changes lead to a decrease in performance achievement by approximately 3% and 3.5% over small negative budget changes, respectively). However, performance changes are smaller than budget changes. With negative shocks to budgets, organizations experience only a small decrease in performance. This means that organizations can maintain some consistency in their performance even when their budgets are unstable. However, according to Chen and Flink (2022), large or medium budget increases do not result in

significant performance improvements for state transportation agencies since agency managers may not commit all fund increases to the enhancement of road qualities or may just spend the funds on nonproductive events.

It is necessary to evaluate the performance of government agencies to improve the quality of public services. Brewer and Selden (2000) proposed an organizational performance measurement in terms of three competing administrative values: efficiency, effectiveness, and fairness. The 3 Es—efficiency, effectiveness, and equity—have been used as critical criteria with which to evaluate the performance of multiple systems, programs, and organizations in diverse contexts. For example, the 3Es have been used for evaluating organizational performance (Davis et al., 2013), assessing research impacts (Hinrichs-Krapels & Grant, 2016), evaluating the system performance of humanitarian logistics location strategies (Liu et al., 2021), and monitoring the policy development of inclusive education systems (Watkins & Meijer, 2016).

Generally, efficiency is concerned with the relationship between inputs and outputs (Goddard, 1989) or resources used to achieve an organization's objectives (Daft, 2015). In public service, inputs are easily defined and assessed as budgeting or labor, while the outputs of some public services are difficult to measure, necessitating the use of numerous measurements (Savas, 1978). For example, a city's police department cannot be said to be inefficient because no one has been arrested (i.e., no output in this case) as a result of there being no crime within a jurisdiction during a certain period of time. Effectiveness measures how well an organization achieves its own goals or how an organization's output engages with the economy and society

(Rainey, 2003; Daft, 2015). On the other hand, it refers to the degree to which

unwanted negative consequences are avoided (Savas, 1978). The effectiveness of

public services can be measured by the level of citizen satisfaction (Savas, 1978) or

the successful execution of major public policies or programs (Andrews et al., 2017).

Equity refers to the degree to which public services are delivered fairly and equally to

all individuals, including underserved groups in a society (Swe & Lim, 2019).

According to Guo et al. (2017), equity is a distributional principle that is used to

ensure an equal allocation of resources and benefits. The term "public service

equality" refers to the situation in which all deserving people have access to the same

degree of publicly funded services (Andrews et al., 2017). However, when the

government allocates limited resources for multiple-dimensional public services, there

may be trade-offs made among different sectors, groups, or regions (possibly

producing winners and losers in a society). Such situations indicate that if one type of

public service requires more funding due to urgent economic, policy, or

environmental concerns, then allocations for other types of public services will be

sacrificed.

While financial resources are a key parameter for predicting performance,

there are other parameters that should be considered as well. Caiden and Sundaram

(2004) argued that simply increasing budget allocations will not guarantee better

development outcomes for target populations in the absence of improved delivery and

administration procedures. Boyne (2003) derived five sets of variables for public

service improvement, namely, resources, regulation, markets, organization, and

management, based on five critical theoretical viewpoints on the sources of

improvement. In particular, governance structures are changing along with evolving governance paradigms in the public sector. Harlow (2001) stated that it is no longer possible for central governments to rely on command-and-control tools; instead, they must adopt market-based tools and build strong partnerships with organizations in other sectors. Mauro (2021) discussed the key governance structures in three different paradigms, namely, public administration (PA), new public management (NPM), and new public governance (NPG). In the PA paradigm, hierarchy is a key governance structure. In contrast, the NPM paradigm focuses on marketization or more business-like practices to deliver public services. Finally, the NPG emphasizes that a network developed through collaboration with internal and external stakeholders can enhance the level of responsiveness to citizens' needs, thereby increasing the efficiency, effectiveness, and equity of public services. Yoo and Kim (2012) discussed these three ideal types of governance modes—hierarchy, market, and network—as service delivery mechanisms. In this study, these three governance modes were considered control variables to determine public service performance.

4.3 Hypotheses

Several theoretical perspectives, including economic, voter, and managerial perspectives, support the idea that financial resources and organizational performance have a positive relationship. First, Fisher (2007) stated that public sector theory is inseparable from the body of economic theory and highlighted that the production processes of the government and private sectors are very similar. In the government production process, budget allocation is the main input for producing public services (outputs). Economists also view a budget as a tool for achieving the basic goals of

government and society (Khan & Hildreth, 2002). Therefore, from the perspective of the theory of economics, public spending can enhance the outcomes of public services.

Since voters are interested in the final service results provided by public agencies, public spending effectiveness is used to describe the results of public resource utilization (Burkhead & Miner, 2007; Fisher, 2007). To fulfill the demands of voters, governments try to improve public service performance. Therefore, from the voters' perspective, the utilization of public financial resources is expected to enhance the quality of public services.

In the literature on strategic management, the resource-based view (RBV) is the dominant theory; this theory argues that greater organizational resources can lead to sustainable competitive advantages (Barney, 1991; Wernerfelt, 1984; Lee & Withford, 2013; Lim et al., 2017). RBV's core assumption is that "more resources have a positive influence on the growth and performance of the firm" (Williamson 1999: 1098). Public organizations also use a variety of resources, including administrative, human, financial, physical, political, and reputation resources, to achieve their organizational goals and objectives (Lee & Whitford, 2013).

From the perspective of public service improvement, more public spending will increase the quantity and/or quality of public services (Boyne, 2003). Kioko et al. (2011) studied the effect of public financial resources on public services based on two management perspectives, namely, public financial management (PFM) and public administration and management (PAM). According to PFM, the use of public financial resources aims to improve public services by assessing the cost and

effectiveness of outputs. According to PAM, the use of public financial resources aims to achieve political gains by offering public services that satisfy citizens' preferences. In the spirit of NPM, decentralization can enhance the efficiency and effectiveness of public service performance by dividing the duties and responsibilities across different levels of government.

Previous research has examined how financial resources affect public service performance, and their analyses have shown mixed results. For example, in an analysis of educational performance, Wenglinsky (1997) indicated that there is no strong relationship between school expenditure and students' performance, while Hedges et al. (1994) reported a positive relationship between these factors. Flink (2018) and Andersen and Mortensen (2010) found that budgetary changes have a positive effect on the effectiveness of organizational performance by focusing on pupils' standardized test rates or student examination scores. By analyzing data from the public education sector in the United States, Flink and Molina (2021) discovered that increasing spending is associated with improving performance. Xu and Flink (2022) reported that severe budget cuts make minority representation at a managerial level of public schools more difficult and, as a result, reduce organizational performance. Lee and Whitford (2013) examined how organizational resources affect federal agencies' performance (i.e., the level of goal achievement); their analysis showed that financial resources have a positive but nonsignificant effect on agencies' effectiveness. To improve organizational performance, it is obvious that we need to consider resources other than simply increasing financial resources. However, in general, it can be expected that financial resources will increase performance, as

financial resources can be used to obtain other types of resources, including human resources, equipment, advertising campaigns, and administrative and technical capacities (Fry et al., 2004; Fernandez & Rainey, 2006).

Since 2011, Myanmar has worked to decentralize its budget to improve government agencies' level of responsiveness, to increase the quality of its public services, and to better align with residents' preferences. Moreover, Myanmar has implemented a PFM reform with the aim of improving all aspects of PFM, such as the planning and budgeting processes; budget execution; monitoring, accounting, and reporting systems; and audit and external scrutiny (Oo et al., 2015: 35). After 2011, as Myanmar began its transition to democracy, voters' perspectives became more important in elections. To fulfill the voters' desires, more efforts were made to spend the public budget more effectively. Since necessary financial management reforms have been implemented, we can expect that these increases in the budget have led to better public services. Moreover, according to the abovementioned theoretical and empirical discussions, we can expect that more financial resources have enhanced outcomes for public services. Therefore, this study hypothesizes that a positive relationship will be found between the utilization of financial resources and public service performance after controlling for other variables such as the public governance modes of hierarchy, market, and network, as proposed in the following hypotheses:

Hypothesis 1: Positive public budget changes are associated with positive public organizational performance changes.

Hypothesis 2: Negative public budget changes are associated with negative

public organizational performance changes.

4.4 Data and Methodology

The impact of budget changes on the quality of public services was examined in this

study using both hard and soft data. In most previous studies, the performance of

public services has been evaluated by various stakeholders, such as consumers,

taxpayers, and politicians, using various criteria, including quality, effectiveness, and

delivery speed (Boyne, 2003). However, in this study, public service performance was

investigated based on the service providers' perception of their public service quality,

as they have more accurate information about the quality of the services that they

actually produce and deliver than do service recipients (i.e., citizens) or service

evaluators/controllers (i.e., legislators) (Niskanen, 1971; Ohemeng et al., 2018). Data

were collected by distributing survey questionnaires to government officials across

the ministries to obtain their perception of the quality of their public services.

Individuals in the same ministry are highly likely to share similar characteristics, and

within-group information cannot be assumed to be independent of observation

(Raudenbush & Bryk, 2002). Therefore, a two-level dataset was constructed in this

study, involving respondents from different levels (i.e., 18 ministries at the ministry

level and 541 public officials at the individual level). For the ministry-level data, this

study used the budget allocation data of 18 ministries in Myanmar across 14 fiscal

years. For the individual-level data, at least 20 public officers from each ministry

were asked about their perceptions of the efficiency, effectiveness, and equity of the

public services they deliver on an individual basis. The personal profiles of survey

respondents at the individual level can be seen in Appendix 1. When independent

variables are measured at different levels, HLM can be used to investigate the

variation in the outcome variables (Woltman et al., 2012; Chien & Wu 2020; Lee et

al., 2013). HLM provides the unique advantage of examining the associations

between the variables measured at different hierarchical levels.

Regarding the dependent variables, this study focused on the terms of

competing public values such as efficiency, effectiveness, and equity of public

services provided by 18 Myanmar government ministries to measure the quality of

public services. To measure efficiency, this study asked the respondents whether their

organization efficiently delivers public services to citizens. To measure effectiveness,

it asked whether the public services of the organization meet the needs of citizens.

Finally, to measure equity, it asked whether the organization fairly and equally

distributes public services to citizens. These outcome variables (3Es) were assessed

using a seven-point Likert-type scale (strongly disagree to strongly agree) to score

how much the public officers agreed or disagreed with a set of the abovementioned

survey items on their organization's public services.

The major independent variables at the ministry level were determined based

on the annual percentage changes in budget appropriated to the ministries. To

evaluate the changing budget distribution trends, the dataset included budget

allocation data from 18 Myanmar government ministries' across 14 fiscal years, i.e.,

four years before the budget reform (FY 2001-02, 2004-05, 2007-2008, 2010-11) and

ten years after the budget reform (FY 2011-12 to 2020-21). Due to the lack of budget

transparency in some years before 2011, we were unable to collect data from

consecutive years prior to 2011, which resulted in data from nonconsecutive years.

The data were gathered from two sources: state budget regulations (before 2011) and

the Myanmar budget dashboard website (after 2011). The following outlines how the

study determined annual percentage changes in budget allocation by following

Baumgartner & Jones (1993: xxii):

$$\%\Delta B_t = \frac{(B_t - B_{t-1})}{B_{t-1}} \times 100$$

where $\%\Delta B_t$ = the percent change in the current year's budget allocation over the

previous year's allocations,

B_t = the current year's budget allocation value, and

B_{t-1} = the previous year's budget allocation value.

We considered that different magnitudes and directions of budget changes

have different performance outcomes. With regard to the measurement of the

magnitudes and directions of budget changes, this study considered two methods. The

first method measures positive or negative % changes in annual budget allocation

without considering whether these changes show budget punctuations, which

produces two different independent variables, namely, Average Positive Annual %

Change (defined by the mean value of all positive annual % change values) and

Average Negative Annual % Change (defined by the mean value of all negative

annual % change values).

The second method considers budget punctuations (i.e., large-scale changes)

and their direction (positive or negative). First, we defined three categories of budget

punctuation depending on the degree of annual percentage changes in budget

allocation from a previous year (t-1) to a current year (t), as follows (Baumgartner &

Jones, 1993):

- There is no punctuation (i.e., an incremental change) if the annual

  percentage change is between ± 25%;

- There is a positive punctuation if the annual percentage change is more

  than +25%; and

- There is a negative punctuation if the annual percentage change is less than

  -25% of that of the previous year.

Then, we counted the total numbers of positive punctuations and negative

punctuations, which are the other two independent variables, namely, Number of

Positive Punctuations and Number of Negative Punctuations. Table 4.1 describes the

descriptive statistics of the ministry-level (the upper level in this study) variables. As

shown in Table 4.1, during the 14 fiscal years examined, the minimum and maximum

numbers of positive punctuations across the ministries were 5 and 8, respectively,

while those of negative punctuations were 1 and 3, respectively.

Table 4. 1. Ministry-level (level 2) descriptive statistics

Variables	N	Mean	SD	Minimum	Maximum
No. of Positive Punctuations	18	7.06	0.87	5.00	8.00
No. of Negative Punctuations	18	1.72	0.75	1.00	3.00
Average Positive Annual % Change	18	463.48	1134.04	38.88	4784.03
Average Negative Annual % Change	18	-49.17	57.22	-258.83	-16.01

To accurately assess the quality of public service performance, it is not only

necessary to consider the impact of financial resources but also the impact of other

relevant factors such as governance types, management capacity, human capacity, and

so on. Since other factors should also be considered as affecting public service

performance, this study specified other control variables in the models. The three

public governance modes (hierarchy, market, and network), financial management capacity, budget monitoring capacity, financial information sharing capacity, gender, and service experience in government were controlled for at the individual level. These variables were measured by respondents' perceptions of which public governance modes were employed by their ministries after the budget reform and their evaluations of the ministry's budget management, monitoring, and information sharing capacities in the periods both before and after the reform. These respondents' perceptions were assessed using a seven-point Likert-type scale (strongly disagree to strongly agree). Afterward, we defined the changes in those variables by differentiating the average values before and after the reform.

In particular, this study used Yoo and Kim's (2012) measurements of the three governance modes composed of the following six task characteristics: rules, discretion, supervision, clients, goals, and environment. Then, we examined the structural relationships between each governance mode (latent variable) and the six task features (observed variables) using a confirmatory factor analysis (Brown, 2015). The observed variables for the hierarchy mode appeared to have good fitness results; the likelihood ratio chi-square value was 29.213, the p value for the chi-square test was 0.001, the root mean squared error of approximation (RMSEA) value was 0.06, and the comparative fit index (CFI) value was 0.963. However, neither the market nor network mode appeared to have good fitness results; thus, we dropped some task items from both of these modes. Goals and supervision, the two items with the lowest factor loading values, were excluded from the market mode. Supervision, which had a negative factor loading value, was eliminated from the network mode. After dropping those items, the

market and network modes had good fitness results; for the market and network modes, the likelihood ratio chi-squares were 6.158 and 17.479, the p values for the chi-square test were 0.046 and 0.004, the RMSEA value was 0.06 for both, and the CFI values were 0.97 and 0.914, respectively. Therefore, the hierarchy mode was based on the six task characteristics, whereas the market and network modes were based on four and five task characteristics, respectively. Gender was coded as 0 for female and 1 for male. Table 4.2 shows the descriptive statistics of the individual-level variables. The definitions and sources of measurements and the sources of data for individual-level variables are summarized in Appendix 2.

Table 4. 2. Individual-level (level 1) descriptive statistics

Variables	N	Mean	SD	Minimum	Maximum
Changes in Efficiency	541	0.71	0.91	- 1.00	4.00
Changes in Effectiveness	541	0.64	0.90	- 4.00	3.00
Changes in Equity	541	0.61	1.00	- 2.00	4.00
Changes in Hierarchy	54	0.35	0.49	- 2.50	3.00
Changes in Market	541	0.25	0.63	- 1.75	3.75
Changes in Network	541	0.59	0.58	- 2.00	4.00
Changes in Financial Management	541	1.15	1.12	- 1.00	5.00
Changes in Budget Monitoring	541	1.06	1.12	- 2.00	5.00
Changes in Financial Information Sharing	541	1.40	1.44	- 2.00	6.00
Gender	541	0.28	0.45	0.00	1.00
Service Experience in Government	541	18.86	7.40	4.00	40.00

To manage the abovementioned two-level datasets, the following regression equation was used for the individual level in the multilevel analysis:

$$Y_{ij} = \beta_{0j} + \beta_{1j} X_{1ij} + \beta_{2j} X_{2ij} + \ldots\ldots\ldots + \beta_{8j} X_{8ij} + e_{ij}.$$

Y_{ij} = the outcome variable,

β_{0j} = the intercept,

β_{1j} = the slope of explanatory variable X_1,

β_{2j} = the slope of explanatory variable X_2, and …….

e_{ij} = the usual residual error term for individual i inside ministry j

The ministry is represented by the subscript j (j = 1. ... ... J), while the individual officer is represented by the subscript i (i = 1. ... ... n_j). On subsequent levels, the individual-level slope(s) and intercept become dependent variables that are predicted from a ministry-level independent variable Z_1. The following regression equation was used for the ministry-level analysis:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} Z_1 + u_{0j}$$

In the aforementioned regressions, γ_{00} is the intercept, while γ_{01} is the slope of a ministry-level independent variable Z_1. Using these multilevel approaches, we were able to model the impacts of not only level-1 (individual-level) variable but also a level-2 (ministry-level) variable on the outcome variables of the study.

4.5 Results

Table 4.3 reports the results of the six regressions used in the multilevel modeling to test the effect of positive annual percentage changes and the number of positive punctuations on changes in efficiency (Models I and II), effectiveness (Models III and IV), and equity (Models V and VI). Table 4.4 has the same structure as that

previously shown for Table 4.3. Only the ministry-level main independent variables are changed to a negative annual percentage change and a number of negative punctuations. As shown in Tables 4.3 and 4.4, the coefficients of individual-level variables ($\beta_{1j} \ldots \beta_{8j}$) have similar results consistently across different models. For example, the individual-level independent variable has a similar effect on the change in efficiency (in Models I, II, VII, and VIII) even though it uses a different ministry-level independent variable. It is the same for the changes in effectiveness (Models III, IV, IX, and X) and equity (Models V, VI, XI, and XII).

Ministry-level independent variables have different results for all the models, as shown in the first and second rows of Tables 4.3 and 4.4. As shown in Table 4.3, the positive annual percentage changes in budget allocation have no significant effect on all 3Es. This outcome suggests that increasing the annual budget (without considering whether significant amounts are increased or not) has no impact on all 3Es of public services. The results do not support Hypothesis 1, i.e., that positive public budget changes are associated with positive public performance changes. Then, we used the number of positive punctuations as a ministry-level independent variable to determine what happens if the budget increases significantly. We found that positive punctuations have a positive and statistically significant effect on effectiveness ($\gamma_{01} = 0.100$, p<.10 in Model IV) but no significant effect on efficiency and equity. This means that a significant budget increase over a long period will improve the effectiveness of public services, whereas a positive punctuation cannot enhance the efficiency and equity of public services. Therefore, these results partially support Hypothesis 1.

Based on the results shown in Table 4.3, it cannot be assumed that increasing the budget will improve all 3Es. The performance outcomes may be realized differently depending on the magnitude of the budget increase. Only the effectiveness of public services is associated with an increase in financial resources, which means that with a significant budget increase, it is possible to deliver public services that meet the needs of citizens. However, to increase the efficiency of public service delivery and ensure a fairer and more equal distribution of public services, factors other than financial resources must be considered.

Table 4. 3. The effects of positive budgetary changes (Positive Annual % Change or Number of Positive Punctuations) on the changes in multiple performances of public services

	Change in Efficiency		Change in Effectiveness		Change in Equity	
Model	I	II	III	IV	V	VI
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
(+) Annual % Change, γ_{01}	0.000009 (0.00001)		- 0.000004 (0.00002)		- 0.000016 (0.00002)	
No. of (+) Punctuation, γ_{01}		-0.006 (0.062)		0.100* (0.048)		0.007 (0.080)
Changes in Hierarchy, β_{1j}	0.345*** (0.085)	0.345*** (0.085)	0.422** (0.171)	0.422** (0.171)	0.407*** (0.118)	0.407*** (0.118)
Changes in Market, β_{2j}	0.032 (0.085)	0.032 (0.085)	0.050 (0.102)	0.050 (0.102)	0.221* (0.127)	0.221* (0.127)
Changes in Network, β_{3j}	0.238** (0.103)	0.238** (0.103)	0.265*** (0.095)	0.265*** (0.095)	0.286*** (0.092)	0.286*** (0.092)

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Changes in Financial Management, β_{4j}	0.004 (0.050)	0.004 (0.050)	0.026 (0.044)	0.026 (0.044)	-0.132** (0.055)	-0.132** (0.055)
Changes in Budget Monitoring, β_{5j}	0.014 (0.054)	0.014 (0.054)	-0.090* (0.053)	-0.090* (0.053)	0.021 (0.050)	0.021 (0.050)
Changes in Financial Information Sharing, β_{6j}	0.135*** (0.036)	0.135*** (0.036)	0.166*** (0.026)	0.166*** (0.026)	0.199*** (0.023)	0.199*** (0.023)
Gender, β_{7j}	0.120 (0.122)	0.120 (0.122)	0.012 (0.051)	0.012 (0.051)	-0.024 (0.096)	-0.024 (0.096)
Service Experience, β_{8j}	-0.008 (0.006)	-0.008 (0.006)	-0.011** (0.005)	-0.011** (0.005)	-0.004 (0.004)	-0.004 (0.004)

Note: *= p< 0.10, **= p< 0.05, ***= p< 0.01

As shown in Table 4.4, the negative annual percentage change has a positive and significant effect on the changes in efficiency (γ_{01} = 0.0008, p<.10 in Model VII) and equity (γ_{01} = 0.001, p<.05 in Model XI). This implies that reducing the annual budget allocation (any level of budget reduction) would decrease the efficiency and equity of public services. In other words, if the budget is reduced, the existing inefficiency and inequality inherent in public service delivery will continue to deteriorate. These results support Hypothesis 2.

To examine what happens if the budget decreases significantly, we used the frequencies of negative punctuation as a main independent variable. The number of negative punctuations has no significant effect on all 3Es, which does not support Hypothesis 2. However, it cannot be interpreted that the 3Es would not be reduced by negative punctuations. According to our data, negative budget punctuations were not observed continuously over several years, which means that there was no continuous

negative punctuation trend (Flink & Robinson, 2020: 103) in the case of Myanmar's budget spending. Reducing a large amount of the budget (i.e., negative punctuation) was achieved only when the government intended to maintain a budget equilibrium point by correcting a previous year's dramatic budget increase (Myaing & Lim, 2023). For instance, the budget appropriated to a certain public agency or policy domain in a particular year could be positively punctuated compared to a previous year for a specific reason. After positive punctuation, the government may want to return to the budget's previous level; thus, a significant amount of budget could be reduced in the following year to regress to that original level. This is regarded as a budget equilibrium point. In Myanmar, negative punctuation was observed very rarely and only in relation to the purpose of maintaining budget equilibrium (in most ministries, negative punctuation was found only once or twice in the 14 years of data); the results show that negative punctuation has no significant effect on the 3Es. Therefore, it can be assumed that more frequent negative punctuations over the course of several years may reduce the 3Es.

Table 4. 4. The effects of negative budgetary changes (Negative Annual % Change or Number of Negative Punctuations) on the changes in multiple performances of public services

	Change in Efficiency		Change in Effectiveness		Change in Equity	
Model	VII	VIII	IX	X	XI	XII
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
(-) Annual % Change, γ_{01}	0.0008* (0.0004)		- 0.0004 (0.0003)		0.001** (0.0005)	

No. of (-) Punctuation, γ_{01}		-0.045		0.006		-0.055
		(0.060)		(0.055)		(0.074)
Changes in Hierarchy, β_{1j}	0.345***	0.345***	0.422**	0.422**	0.407***	0.407***
	(0.085)	(0.085)	(0.171)	(0.171)	(0.118)	(0.118)
Changes in Market, β_{2j}	0.032	0.032	0.050	0.050	0.221*	0.221*
	(0.085)	(0.085)	(0.102)	(0.102)	(0.127)	(0.127)
Changes in Network, β_{3j}	0.238**	0.238**	0.265***	0.265***	0.286***	0.286***
	(0.103)	(0.103)	(0.095)	(0.095)	(0.092)	(0.092)
Changes in Financial Management, β_{4j}	0.004	0.004	0.026	0.026	-0.132**	-0.132**
	(0.050)	(0.050)	(0.044)	(0.044)	(0.055)	(0.055)
Changes in Budget Monitoring, β_{5j}	0.014	0.014	-0.090*	-0.090*	0.021 (0.050)	0.021
	(0.054)	(0.054)	(0.053)	(0.053)		(0.050)
Changes in Financial Information Sharing, β_{6j}	0.135***	0.135***	0.166***	0.166***	0.199***	0.199***
	(0.036)	(0.036)	(0.026)	(0.026)	(0.023)	(0.023)
Gender, β_{7j}	0.120	0.120	0.012	0.012	-0.024	-0.024
	(0.122)	(0.122)	(0.051)	(0.051)	(0.096)	(0.096)
Service Experience, β_{8j}	-0.008	-0.008	-0.011**	-0.011**	-0.004	-0.004
	(0.006)	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)

Note: *= p< 0.10, **= p< 0.05, ***= p< 0.01

Regarding individual-level independent variables, we found the following significant results in Tables 4.3 and 4.4. Changes in the hierarchy mode had a positively significant effect on all 3Es (for efficiency: β_{1j} = 0.345, p<.01; for effectiveness: β_{1j} = 0.422, p<.05; for equity: β_{1j} = 0.407, p<.01). The results show that hierarchical governance can generate positive effects on 3Es, implying that strict rules, regulations, and close supervision can enhance the performance of Myanmar's

public servants. Myanmar's public sector cannot incentivize public servants to work hard by themselves since finances and promotion are already constrained by civil law. Therefore, it may be assumed that strict rules and close supervision are the best ways to improve employees' performance.

Changes in the market mode had a positively significant effect on only equity (β_{2j} = 0.221, p<.10). This implies that there is at least a small possibility that the adoption of more market-based practices by or competition among Myanmar governmental agencies could benefit even marginalized groups within society to some extent. However, there are no significant effects found in regard to efficiency and effectiveness. According to market characteristics, public servants need to follow a few basic rules; they have their own discretion and a lower level of supervision, and the main goal of their work is to obtain the highest number of payable outcomes. However, most public services are not profitable. Moreover, public employees might complete their work under rules, regulations, and supervision rather than being motivated to work hard by incentives or rewards. Hence, the market governance approach does not work as expected in the public sector and fails to improve the efficiency and effectiveness of public services.

Changes in the network mode had a positive significant effect on all 3Es (for efficiency: β_{3j} = 0.238, p<.05; for effectiveness: β_{3j} = 0.265, p<.01; for equity: β_{3j} = 0.286, p<.01). These results indicate that when there is increasingly more communication, collaboration, and coordination among public organizations and stakeholders with diverse interests and priorities, the performance of public services (all 3Es) will improve.

Financial information sharing had a positive significant effect on all 3Es (for efficiency: β_{6j} = 0.135, p<.01; for effectiveness: β_{6j} = 0.166, p<.01; for equity: β_{6j} = 0.199, p<.01). This means that if the government releases more budget information, it will increase the efficiency, effectiveness, and equity of public services. Jung (2022) revealed that budget information sharing using participatory budgeting programs leads to a significant improvement in government efficiency. Our findings imply that an increase in the ministries' budgetary information-sharing capacity would promote stakeholders' engagement in the public budgetary process, which would in turn make the functions and operations of budget implementation, as well as public service delivery agencies, more efficient, accountable and equitable for citizens.

Public officer's years of service for government had a negative effect on effectiveness (β_{8j} = -0.011, p<.05 in Models III, IV, IX, and X). This result can be interpreted as public employees who have more working experience within the government possibly being able to obtain more accurate internal information about the qualities of services delivered to their target recipients, tending to better underestimate the effectiveness of the public service and believing that it needs to be improved.

In sum, we can conclude that positive public budget changes have a positive impact on effectiveness depending on the magnitude of budget changes. However, care should be taken with any amount of budget cutting, as public budget reductions can decrease the efficiency and equity of public service delivery to a certain extent. In Myanmar's public sectors, hierarchical governance, network governance and financial

information sharing can improve public service performance (all 3Es), while market governance can improve only equity to some extent.

4.6 Conclusion

In the fields of public budgeting and administration, some studies have already analyzed the linkages between budget inputs and public organizations' performance (outputs or outcomes); however, this paper has some distinctions. In most of the previous studies, public performance was measured mainly based on a certain aspect or single dimension of output quality (Chen & Flink, 2022; Flink, 2019; Flink & Molina, 2021; Andersen & Mortensen, 2010; Lee & Whitford, 2013). However, some researchers have proposed the multiple dimensions of public values, i.e., efficiency, effectiveness, and equity (fairness), to evaluate organizational performance (Brewer & Selden, 2000; Davis et al., 2013). Therefore, this study contributes to the PET literature by examining how different patterns of budget changes defined by us affect these three dimensions of performance (3Es). Furthermore, most of the prior studies have focused on only one single sector or policy domain. Their results are thus too mixed to be generalized to all sectors because each sector has unique features. However, our study's findings are based on the performance of 18 ministries. Therefore, it is reasonable that our findings can be generalized to more diverse sectors. Last, there must be a different evaluation of the quality of public service performance between citizens and government servants (Scott & Enu-Kwesi, 2018). Thus, we focus on service providers' perceptions because if service providers believe that their own service qualities are poor, then policymakers should concentrate more

on the circumstances and obstacles faced by service deliverers, including the lack of

financial resources given to public organizations, which is one emphasis of this study.

According to our results, increases in budget allocation cannot improve all 3Es

at the same time. Depending on the magnitudes and directions of the budget changes,

there are different effects on the 3Es. The effectiveness of public services can be

improved by increasing a significant amount of budget allocation, as indicated by

positive punctuations (annual percentage changes greater than +25%) in this study.

However, even positive punctuations have no effect on efficiency and equity. To

deliver public services more efficiently, the capacity of public employees must also be

enhanced. That is, to deliver public service efficiently, not only public finances but

also other resources, such as human resources, need to be reinforced together. Equity

depends not only on a department's service delivery policies or programs but also on

a society's underlying equity level. Public finance alone may not be able to easily

address deeply rooted structural inequalities within a society. If a society lacks fairer

social policies aimed to eradicate or mitigate injustice (such as discrimination based

on ethnicity, religion, urban–rural, income, and age), simply increasing the budget

cannot improve the equity of service distributions.

Any level of budget reduction (including small and large budget reductions)

can diminish the efficiency and equity of public services. Budgetary or policy

decision-makers should be aware that while an increase in budget allocation may not

necessarily affect the performance of public services (i.e., all 3Es), even a small

budget reduction can harm the efficiency and equity of public services. Regarding the

three governance modes, Myanmar still relies mainly on hierarchical governance, but

there is also a growing trend toward network governance; both governance modes have a positive impact on all 3Es. However, there is relatively less emphasis on market characteristics. Another important finding is that sharing financial information is one of the crucial factors for improving all 3Es at the same time. Therefore, our findings support the role of financial information sharing among stakeholders, which should be considered to provide better public services in various public sectors in the future, especially for policymakers in Myanmar.

The policy implications are that policymakers should not simply focus on increasing the budget to improve all 3Es. Although the budget is essential for public services, it alone may not be sufficient to improve all 3Es. As discussed above, financial resources can be utilized to obtain other types of resources. Therefore, to improve all 3Es, it is necessary to use financial resources effectively to acquire or reinforce other types of resources. For instance, in labor-intensive sectors, financial resources should be used to improve human capital resources. An increased budget will definitely improve the capacity of public employees, which can consequently improve the efficiency and effectiveness of their services. On the other hand, while an increase in financial resources may not necessarily increase equity in public service delivery, it is necessary for policymakers to be cautious about the possibility that equity could also be sacrificed with any budgetary stringency.

There are some limitations to this study. We focus only on public service providers' perceptions. We argue that if service providers themselves believe that their own service qualities are poor, policymakers should concentrate more on the circumstances and obstacles faced by service deliverers. This is one emphasis of this

study. However, some studies have stated that different evaluations are used for the quality of public service performance between citizens and government servants (Scott & Enu-Kwesi, 2018) and that assessing the complexity of public service performance should involve using perceptual and archival data collected from both internal and external stakeholders (Walker et al., 2024). Therefore, future research that aims to examine the quality of public service performance should utilize perceptual and archival data collected from both public servants and service recipients.

CHAPTER FIVE

CONCLUSION

This dissertation presents an exploration of Myanmar's budget system. Myanmar experienced a regime change in 2011. This dissertation makes significant contributions to the literature on both MST (by highlighting that issue linkage and partial coupling are important for policy changes) and PET (by defining the new patterns of budget punctuation) and allows us to analyze not only the budget changes that coincided with the examined political and institutional changes but also the unique budgetary patterns of a developing country.

The first essay applies MST to the Myanmar case; the political stream is critical for making policy changes under the authoritarian regime because making such changes depends mainly on the willingness of authoritarian political leaders. If these leaders are unwilling to engage in such change, then policy changes are not possible. In Myanmar's case, external forces, such as international pressure, triggered policy changes in the authoritarian regime. The current study also highlights that complete coupling and policy change require favorable political conditions. The idea of issue linkage becomes particularly significant at this point. Policy problems frequently exist in isolation, with policymakers paying limited attention to them. However, issue linkage could serve as a crucial impetus for connecting these isolated problems to larger political or social concerns. By doing so, issue linkage increases the likelihood of these problems being recognized and addressed. In the context of the Myanmar case, the concept of issue linkage is more obvious. In Myanmar, budgetary

problems were initially isolated issues. However, when linked with international pressure for democratization, these budgetary problems gained favorable political attention. This linkage effectively propelled budget problems onto the government's agenda and ultimately paved the way for policy changes. Therefore, policymakers should recognize the concept of issue linkage as an important factor that can create the necessary conditions for policy transformation. The Myanmar case also highlights that the problem and policy streams were partially coupled before the three streams were completely coupled. The occurrence of partial couplings in multiple streams represents a crucial stage in the policy process, offering opportunities for policymakers to adopt a quicker and more adaptive approach to policy changes. From a theoretical perspective, the Myanmar context highlights the following critical insights:

- The political stream significantly influences the policy process, especially in nondemocratic contexts.

- The Myanmar case demonstrates MST's utility in explaining how linking isolated problems to significant political or social concerns can force them into the government's agenda, increasing the possibility of policy change.

The second essay also provides a valuable analysis of budgetary change patterns during the transactional period of regime change through the theoretical lens of PET. This analysis not only enhances our understanding of unique budget patterns in developing countries but also elucidates Myanmar's lesser-known policy reforms and budgetary changes. As a significant contribution, this study introduces new categories of punctuation based on corrective and trend models. The study's findings

assert that punctuation is associated with government policy priorities in both authoritarian and democratic regimes. According to this study, policymakers can see more clearly that budget punctuation occurs at different frequencies and in different directions. To understand the complexities of budgetary strategies, policymakers need to determine the occurrence of different budget punctuation patterns. The findings on the impact of decentralization on budget punctuation patterns can be relevant to other countries considering or implementing similar reforms. New policy reforms are often based on the results and experiences of previous reforms in developed countries. However, this study highlights the importance of accounting for the country's historical, cultural, and sociopolitical contexts when implementing policy reforms.

Additionally, the third essay employs PET in conjunction with theories derived from the public administration literature to evaluate the impacts of budget reform on public service performance. This study assesses the performance of public service delivery through three dimensions of public value, namely, efficiency, effectiveness, and equity. Diverse magnitudes and directions of budgetary changes have distinct impacts on these public values. The critical findings of our study are that increasing budget allocations can improve only the effectiveness of public service; it cannot improve all three values simultaneously. However, even a modest reduction in budget allocation can negatively affect both the efficiency and equity of public services. These findings imply that although financial resources are essential, they do not serve as stand-alone solutions for improving the 3 Es. Therefore, to improve the quality of public service performance, policymakers should use financial resources

wisely to support and supplement other resources, such as human capacity, information sharing capacity, and public expenditure management capacity.

Based on the conclusions of the three essays, this study aims to present the following practical implications for other emerging countries that have undergone undemocratic or centralized systems:

- In authoritarian regimes, policy changes heavily rely on the authority's willingness. Under such conditions, international pressure and external forces can be more effective than domestic factors in triggering policy changes.

- Adopting decentralized approaches can promote overall budget stability. For capital budgets, decentralization can enhance adaptability and responsiveness to public needs and policy priorities.

- Simply increasing the budget is not sufficient to improve the quality of public service delivery. Financial resources should be strategically allocated to acquire and reinforce other critical resources, including management practices, technology, human capacity, and information-sharing capacities.

- When allocating budgets, policymakers need to consider the underlying equity level of society to ensure fair and equitable access to public services.

This dissertation has certain limitations. This research is based on a single case, namely, the unique nature of the Myanmar budget system. To analyze the policy process, this study focuses on only the policy context of budgeting and thus cannot validate the findings through the application of complementary data sources that extend beyond budgetary data, which is a practice known as triangulation. The first essay is able to present Myanmar as a case study because it describes the situation as

it was over a decade ago. However, describing this situation does not give one a chance to perform in-depth qualitative interviews to capture the perspectives and experiences of key policy actors involved in agenda setting. The data collection process faced a challenge related to data reliability due to Myanmar's data-limited context. The second essay uses the Myanmar Central Statistical Organization (CSO) data, which cover a span of 20 years and encompass various budget categories, including total and capital budgets. The third essay uses budget allocation data from the state budget law (before 2011) and the Myanmar budget dashboard website (after 2011). However, it cannot and thus does not consider unreported off-budget expenditures.

Future research that examines the background circumstances of policy reform utilizing theories such as PET or institutional theory other than MST would be interesting. Similarly, future studies could investigate the budget dynamics in Myanmar's context by using another alternative theoretical framework, such as the advocacy coalition framework or policy network theory. Furthermore, a comparative analysis of budgetary punctuations in Myanmar with those of other countries that have undergone similar budget reforms could provide insights into similarities and differences in budgetary dynamics across diverse contexts. Future research should explore punctuation patterns by incorporating complementary data sources that extend beyond budgetary data. To present a more comprehensive evaluation of performance, future studies should assess more diverse stakeholders' perceptions of service quality by incorporating public servants' perceptions with citizen satisfaction surveys and feedback mechanisms.

In summary, this research advances our understanding of the complex world of budget systems by contributing to the study of Myanmar public policy processes and the broader theoretical frameworks that guide policy change and its consequences. The case of Myanmar's budget reform allows us to understand the difficulties related to policy formulation and policy entrepreneurship, the importance of issue linkage in policy processes, the effect of political and institutional changes on budgeting policies, and the diverse effects of budget changes on the performance of the public sector.

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Appendix 1.

Personal profiles of survey respondents at the individual level

Ministry ID	Ministry name	No. of collecting department under each ministry	No. of respondents under each ministry	Position of respondents		Gender		Average years of service
				Managerial Level	Subordinate Level	Male	Female	
1	Ministry of Agriculture, Livestock and Irrigation	7	21	16	5	9	12	22
2	Ministry of Border Affairs	3	51	33	18	29	22	16
3	Ministry of Commerce	4	20	16	4	3	17	18
4	Ministry of Construction	5	20	18	2	5	15	21
5	Ministry of Defense	8	20	17	3	19	1	15
6	Ministry of Education	12	51	46	5	12	39	20
7	Ministry of Electricity and Energy	6	30	23	7	6	24	18
8	Ministry of Health and Sports	6	21	20	1	1	20	22
9	Ministry of Home Affairs	5	18	12	6	4	14	22
10	Ministry of Hotel and Tourism	3	20	18	2	6	14	19
11	Ministry of Industry	9	32	14	18	5	27	18
12	Ministry of Information	5	21	20	1	2	19	19
13	Ministry of Labor Immigration and Population	9	37	31	6	10	27	20
14	Ministry of Natural Resources and Environmental Conservation	7	20	17	3	2	18	23
15	Ministry of Planning and Finance	16	84	72	12	17	67	16
16	Ministry of Religious Affairs and Culture	5	16	16	0	6	10	20
17	Ministry of Social Welfare Relief and Resettlement	3	20	20	0	2	18	19
18	Ministry of Transport and Communication	11	39	14	25	12	27	22
				423	**118**	**150**	**391**	
			541	**541**		**541**		

Appendix 2.

Definitions/measurements of variables and the sources of measurements/data

Variables	Definition/Measurement	Sources of Measurement	Data Sources
Dependent Variables			
Changes in Efficiency	The perceived changes of efficiency before and after the budget reform measured by using survey items asking whether a public organization efficiently delivers public services to citizens	Oh et al. (2014) and Swe & Lim (2019)	Survey questionnaires distributed to government officials across the ministries
Changes in Effectiveness	The perceived changes of effectiveness before and after the budget reform measured by using survey items asking whether the public services of the organizations meet the needs of citizens		
Changes in Equity	The perceived changes of equity before and after the budget reform measured by using survey items asking whether a public organization fairly and equally distributes public services to citizens		
Independent Variables			
No. of Positive Punctuations[a]	Each ministry's total number of annual percentage changes in budget more than +25%	Baumgartner & Jones (1993)	State budget regulations (before 2011) and the Myanmar budget dashboard website (after 2011)
No. of Negative Punctuations[a]	Each ministry's total number of annual percentage changes in budget less than -25%		
Average Positive Annual % Change[a]	The mean value of all positive annual % changes in budget allocated to each ministry		
Average Negative	The mean value of all negative annual % changes in budget allocated to each ministry		

Annual % Change[a]			
Changes in Hierarchy	The perceived changes in hierarchical governance mode employed by ministries before and after the budget reform	Yoo & Kim's (2012) survey items on six task characteristics: rules, discretion, supervision, clients, goals, and environment	Survey questionnaires distributed to government officials across the ministries
Changes in Market	The perceived changes in market governance mode employed by ministries before and after the budget reform		
Changes in Network	The perceived change of network governance modes employed by ministries before and after the budget reform		
Changes in Financial Management	The perceived changes in ministry's budget management capacities before and after the reform		
Changes in Budget Monitoring	The perceived changes in ministry's budget monitoring capacities before and after the reform		
Changes in Financial Information Sharing	The perceived changes in ministry's financial information sharing capacities before and after the reform		
Gender	A dummy variable coded as 0 for females and 1 for males		
Service Experience in Government	Years of service as public servants		

Note: a. Ministry-level (level 2) variables.