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PREFACE

This research paper collection is the edited versions of the supervised theses of the undergraduates of the Department of Accountancy and Finance. Nearly 120 theses are supervised by the academics of the Department annually, and five papers were selected from each supervisor for the current volume. Therefore, all the papers considered in this volume are jointly authored by the final-year students and the respective supervisors of the Department. What primarily motivated me to begin this edited research series is to inculcate research culture among the academics and the students of the Department. Secondly, to disseminate intellectual knowledge to a wide spectrum of audiences, in turn, it contributes to the advancement of the body of knowledge in the field. The premise of all papers included in the volume is in the discipline of finance which covers the Capital Market, Banking Sector, and Insurance Sectors.

All the papers in this volume address timely important and academically relevant research issues. So that readers will be well-equipped with objectively addressed and scientifically supported conclusions. As such, I believe this collection will immensely benefit the corporate sector and government policymakers. Moreover, this will be useful for students, teachers, researchers, and other public-spirited citizens interested in this subject discipline. Also, I witnessed the extent of work done by all the academic authors in bringing undergraduate theses up to the standard demanded by academia. I congratulate all the academics for encouraging the students to contribute papers for this publication.

As the initiator of this idea, I first compiled the concept paper for the Faculty Board and the University Senate. The comments given by the members of both bodies to further shape the idea are highly appreciated. Very importantly, I must appreciate all the academic members of the Department of Accountancy and Finance for encouraging me to proceed with my innovative idea and giving their fullest corporation to bring the idea to a reality. My Co-authors' intellectual and expert contribution is also commendable. Finally, I also appreciate the efforts of the editorial assistants and the copy editor of this edited book.

D.A.I. Dayaratne, PhD
Professor in Finance
Editor-in-Chief

CONTENT

CHAPTER ONE

Effect of Policy Convergence on the Trade Potential of South Asia

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Abstract

South Asia being a developing region several trade models were introduced to expand the intra-regional trade. However, the trade among these member countries hardly increased even though those trade agreements have the potential. Policy isolation might be a possible reason for this slow growth in intra-regional trade. Thus, this study investigates the effect of policy convergence on intra-regional trade in South Asia. In this regard, both the effects of internal policy convergence and external policy convergence on the trade policy were measured for the period from 2000 to 2021. The trade policy was proxied through intra-regional trade. Meanwhile, monetary policy and fiscal policy were represented through inflation, money supply, interest rate, government expenditure, and tax revenue accordingly. Internal policy convergence was measured through the Generalized Method of Moments (GMM) model while external policy convergence was measured through Vector Error Correction Model (VECM). Even though the internal policy convergences are statistically significant, they depicted a lower catch-up ratio resulting in a higher length of time for the full convergence. Meanwhile, external policy convergence also plays a significant role when deciding the level of intra-regional trade in South Asia, because, results depicted that the trade is higher for the country pairs whose external policy convergences are strong and vice versa. Thus, this study confirms that the lack of internal policy convergence and external policy convergence is a trickle of significant hindrances to intra-regional trade in South Asia. Therefore, policymakers need to concentrate more on policy convergence so as to reach the optimum outcome of the trade policies in South Asia.

Keywords: *External Policy Convergence, Internal Policy Convergence, Intra-regional Trade, South Asia.*

1. Introduction

Prior to the independence, South Asian nations were governed by the British for about 200 years. These nations adopted a Soviet-style model after gaining their independence, which revealed the characteristics of import-substituting policies, a dominant public sector, and the concomitant placing of numerous restraints on the private sector (Devarajan & Nabi, 2001). These nations started the process of reforming their trade policies in the late 1970s and early 1980s. For instance, in the late 1970s, Sri Lanka started the process of policy liberalization, which was then adopted by other countries in the area (Devarajan & Nabi, 2001). Several bilateral and multilateral trade agreements were started notably after the South Asian Association for Regional Corporation (SAARC) was established. The South Asian Preferential Trade Agreement (SAPTA), which was introduced in 1995, served as the catalyst for these nations' trade unification. By establishing the South Asian Free Trade Area in 2005, SAPTA was transformed into a free trade agreement. Improving intra-regional trade is one of the main goals of the SAFTA launch. The following graph illustrates how trade within South Asia has increased following the SAFTA.

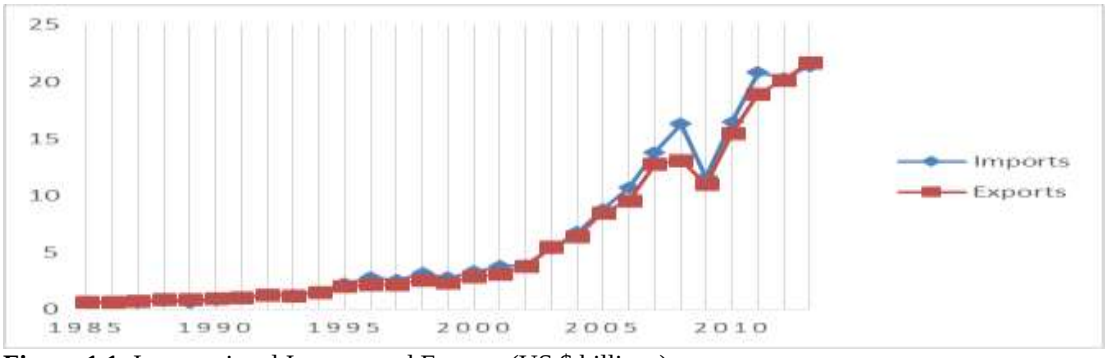

Figure 1.1: Intra-regional Imports and Exports (US $ billions)

Source: World Bank Database

The total intra-regional imports and exports from 1985 to 2013 are depicted in Figure 1.1. When SAARC was established in the middle of the 1980s, intra-regional imports and exports had a combined value of about 0.6 billion US dollars. Till the early 1990s, South Asia's intra-regional trade amounted to less than $1 billion USD. The total imports and exports between these nations were 2.84 and 2.20 billion US dollars, respectively, when SAPTA was established in 1995. Intra-regional imports and exports showed a noticeable rise in their volumes throughout this SAPTA era, 1996 to 2005, with imports rising from 2.84 billion US dollars to 8.79 billion US dollars and exports rising from 2.20 billion US dollars to 8.52 billion US dollars. Figure 1.1 demonstrates that, starting from 2003, intra-regional trade has been rapidly expanding. That is two years prior to SAFTA's implementation, and seven years after the implementation of SAPTA. This might be a result of the late response of SAPTA

(Moktan, 2009) or the "anticipation effect" of SAFTA. A trade agreement's anticipatory effect is expected because, according to Frankel (1997), businesses may position themselves in advance for the future markets now. Numerous other academics concur that the anticipatory effects of firms have had a major positive impact on trade flows even before the implementation of trade agreements (Magee, 2008; Freund & McLaren, 1999).

Except for 2009, this rising trend in boosting intra-regional trade that began in the pre-SAFTA era has persisted even after the formation of SAFTA. In 2009, regional exports decreased from 13.12 billion to 11.01 billion and intraregional imports decreased from 16.30 billion to 11.62 billion. This abrupt decline might be attributable to the global financial crisis occurred at the time. However, the region swiftly recovered as trade returned to its typical trend from the subsequent year. With the exception of this 2009 incident, trade between South Asian nations increased throughout the SAFTA era. This increase in intra-regional trade would undoubtedly point to a trade creation effect of SAFTA. One of the best instances in this regard is the sharp increase in the import of automobiles from India into Sri Lanka. However, the level of intra-regional trade is still quite low when compared to all trade in South Asia. In 1990, it was about 2.4 percent; by 2001, it had risen to 4.3 percent; and right now, it is about 4.8 percent. Figures 1.2 and 1.3 provide further elucidations that are more focused on imports and exports of the region.

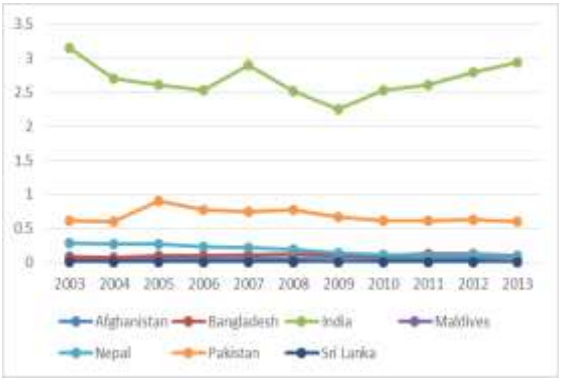

Figure 1.2: Intra- regional exports % in total
Source: World Bank Database exports

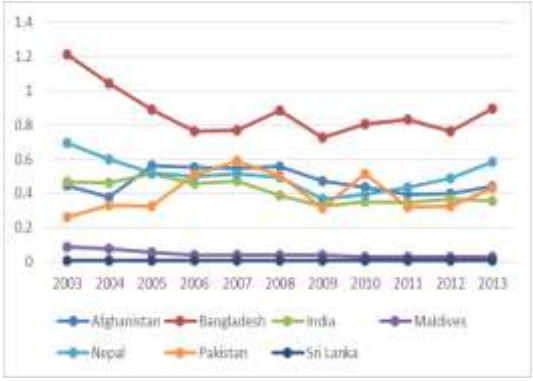

Figure 1.3: Intra- regional imports % in total import
Source: World Bank Database

Figure 1.2 shows the intra-regional exports for each country as a share of the total exports for the region. Since India is the dominating nation in the region, it depicts the highest share of exports to the region. The region's total proportion of exports from all other countries is less than 1%, while India's export percentage has remained at roughly 3% over time. Despite the region's considerable intra-regional export increase, the share of intra-regional exports shows a falling tendency when compared to total exports. The trend of intra-regional import shares

in total imports is remarkably similar to their export shares. Figure 1.3 shows that during the era, fewer than 1% of the nation's total imports came from the region. Additionally, as with intra-regional exports, the trend is negatively skewed for the majority of the countries. This shows that intra-regional trade in the region, both in terms of imports and exports, has not increased along with the overall trade expansions. Thus, it clearly indicates that the policy attempts taken to expand the intra-regional trade have not provide the expected results. Even though, these countries depict a similarity in terms of their culture, business cycles, and political business cycles, the integration process in terms of trade has not depicted the expected result. It is apparent that the governments have been taking considerable attempts in terms of their fiscal and monetary policies to support the above phenomena, however the failure to have a proper harmonisation among the policies might be the issue. Because policy isolation is always hinders the potentials of the policy decisions, most of the governments tend to have a proper harmonisation in terms of their intra- regional and inter-regional policies. The present diplomatic issues prevailing in the region is there for could be the reason for the failure in the trade strategies taken so far to boost the intra-regional trade. Thus, this study examines the intra- regional and inter-regional policy convergence on trade potential of South Asia.

1.1. Barriers to Intra-Regional Trade Expansions in South Asia

Many different types of internal political conflicts and inner-state conflicts are said to be prevalent in South Asia. South Asia exhibits more intra-state political conflicts than other regional blocs, which is likely the biggest impediment to intra-regional trade. The most significant conflict in the region is the dispute over Kashmir between India and Pakistan. This conflict led to at least three conflicts between India and Pakistan, including the wars between the two countries in 1947, 1965, and 1999. As the Sri Lankan civil war against the LTTE came to an end, India's decision to vote against Sri Lanka on the issue of accountability and violations in the civil war at the United Nations Human Rights Council also contributed to some political incoherence between India and Sri Lanka. Next, Sri Lanka accuses the state government of Tamil Nadu of providing arms and providing training to the Liberation Tigers of Tamil Eelam (LTTE). Another notable intra-state political conflict was the territorial dispute between India and Nepal regarding the Kalapani region. In addition, after the India-China war in 1962, Nepal's decision to permit China to construct the Lhasa-Kathmandu-road encouraged India to focus more on security matters while dealing with Nepal. The disputes between the two parties over the boundaries of the fertile islands of Boraibari and Dekhta-Dumabato Falls, as well as the enclaves, partially destabilised politics in both India and Bangladesh (Bhatta, 2004). Finally, there have been some political disputes between

Afghanistan and Pakistan as a result of Afghanistan's obligations on Pakistan regarding federally managed tribal areas.

Religious diversity and its impact on politics are also important in the area. According to Bhatta (2004), the opposite intentions of different religious groups, such as Pakistan's strong commitment to converting India into an Islamic state and the Bharatiya Janata Party's commitment to converting it into a purely Hindu state, have also harmed relations between India and Pakistan on the political front. Additionally, he says that whereas religion has a relatively minor impact in other states, it has a high impact in Pakistan and Bangladesh. Political system adoption disparities have contributed to the region's disintegration as well. Both Pakistan and Bangladesh, according to Bhatta (2004), "have yet to institutionalise democracy and confirm the capabilities of the political system to keep the military out of politics." Following the Maoist movement, Nepal's journey to democracy is at a turning point. While the Maldives recently had a multiparty political system, Bhutan still maintains the monarchy as the primary institution. However, compared to other nations, Sri Lanka and India are well-established democracies (Bhatta, 2004). The governance and statecraft of each nation are likely influenced by these divergent political systems to adhere to distinct values and principles, making it more difficult for the region to adopt a standard trade policy.

Numerous arguments regarding the expected impact of RTAs in promoting peace among politically disintegrated countries are presented in RTA-specific literature. First, because RTAs have the potential to boost bilateral trade and have corresponding welfare impacts, they may increase the opportunity cost of continuing these political disagreements (Martin, Mayer, and Thoenig, 2008; Oneal and Russett, 1997, 1999; Barbieri, 2002). Additionally, the creation of supranational institutions in accordance with RTAs would result in the resolution of these interstate issues (Bearce, 2003; Bearce and Omori, 2005; Haftel, 2007). The RTA's pressure on politically fractured nations may also have a considerable impact on the peaceful solutions adopted by these nations.

Political complications inside individual nations, in addition to these intra-state conflicts, are important in the region. For instance, the Kashmir issue has sparked an internal struggle in India as certain insurgent groups support the region's accession to Pakistan while others advocate for total independence. Despite this, India still faces issues with communalism, religion, terrorism, separatist demands, subversive activities, etc. Numerous democratically elected administrations in Nepal failed due to widespread corruption, a crisis in governance, threats from the Maoists, and pressures from mainstream political parties. Thirty years of civil war in Sri Lanka with the LTTE led to serious problems with democracy, the economy, and social issues. In Pakistan, the conflict between the ethnic Sindish and those who immigrated

from India generated serious issues in addition to military rule. Additionally, the Taliban terrorist groups' activity in Afghanistan led to a number of problems with democracy and security. Similar to the Maldives, the country's unity was impacted by the 1987 coup attempt. Bhutan is also experiencing some serious internal political problems, leading to an unpredictable political environment.

These political considerations all point to serious institutional and governance problems in the area. Therefore, for a variety of reasons, these issues may impede international trade. First, they could make the situation more unpredictable due to higher transaction costs. By decreasing the security of properties and degree of trust in the transaction process, this is accomplished. Second, the complexity of understanding legal frameworks and tax policies as well as the establishment of new connections between communication, financial, and shipping activities make the transaction process more challenging under these circumstances. Price mark-ups are yet another substantial trade barrier that manifests as a result of poor governance procedures, according to Anderson and Marcouiller (2002). Price mark-ups could make traded goods more expensive than domestic ones, leading to more insecurity. Additionally, they show that the proportional mark-up of insecurity of traded products is also higher as a result of a lack of legal procedures to defend property rights in countries with weaker governance (Groot, Linders, Rievtveld, & Subramanian, 2004). Presence of both inner-country and inter-country policy incongruities within the South Asian countries motivated the researchers to investigate the effect of internal policy convergence and external policy convergence on the intra-regional trade of South Asia.

2. Previous Literature

Convergence is the tendency for policies to develop more uniformly, in the form of increasing similarity in structures, processes and performances (Drezner, 2001). The definition of Policy convergence as the growing similarity of policies over time still leaves a broad range of options as to how to empirically assess and evaluate similarity changes (Holzinger & Knill, 2007). The Organization for Economic Cooperation and Development, (2008) defines policy coherence as the systematic promotion of mutually reinforcing policy processes through collaborations between government departments and agencies to achieve the set goals.

According to Holzinger & Knill (2007) imposition, international harmonization, regulatory competition, and independent problem-solving are the key causal mechanisms for policy convergence. Policy convergence through imposition occurs by external political factors force a government to adopt a certain policy. Harmonization is the adoption of similar policies and programs according to the legal requirements of government as key factors of their

obligations as members of international institutions and it is a specific outcome of international cooperation (Holzinger & Knill, 2007). When countries merge with uniform legal obligations defined in international or supranational law, the mechanism of international harmonization heads to cross-national convergence. International harmonization assumes the existence of interdependencies or externalities that push governments to solve common problems across cooperation through international institutions, hence sacrificing some independence for the good of the community at large (Hoberg, 2001). After being established, institutional arrangements will constrain and shape domestic policy choices, even as they are constantly challenged and reformed by their member states. The mechanism of regulatory competition leads to cross-national convergence through countries facing competitive pressure to mutually adjust their policies while assuming economic integration among countries (Holzinger & Knill, 2007). For instance, when increasing the integration of European and global markets and the abolition of national trade barriers, the international mobility of goods, workers, and capital competitive pressure were imposed on the nation-states to rebuild domestic market regulations in order to neglect regulatory burdens restricting the competitiveness of domestic industries. The pressure is raised from potential threats of economic factors to move their activities elsewhere, inducing governments to lower their regulatory standards (Hoberg, 2001). Many authors observed that as a result of similar but independent responses of political factors to parallel problem pressures head to policy convergence between several countries. It is called an independent problem-solving mechanism (Holzinger & Knill, 2007). It works, as individuals open their umbrellas simultaneously during a rainstorm, because governments may decide to change their policies in the presence of tax evasion, environmental pressures, such as air pollution, or an ageing population (Holzinger & Knill, 2007).

Policy convergence on foreign trade policies is among the most important concept in developing countries (Rodrigue & Rodri, 2000). Therefore, policy convergence on trade is quite important. However, the overall volume of trade in the South Asian region has remained significantly below par (Shah, 2021). Intra-regional trade in South Asia in 2015 accounted for approximately 5% of the total international trade in South Asia (Kaushik, 2015). In addition to that, the ineffectiveness of the South Asian Association for Regional Cooperation (SAARC) agreement has further irrigated intra-regional trade across South Asia (Ashraf, Nasrudin, & Akhir, 2017). These depressing trends can occur due to multifaceted factors such as inappropriate tariff measures, high costs of intra-regional connectivity, and, most importantly, geopolitical tensions among the South Asian economies which have impeded trade corporations among the South Asian region (Kathuria, 2018). As mentioned above, tariffs lead to a less efficient allocation of resources and promote economic inefficiencies that

generate greater overall losses to consumers than gains to producers regardless of retaliation and other collateral effects (Martín, 2021). The main channel through which import tariffs reduce welfare is by introducing a gap between the marginal social costs and marginal social benefits of imported goods (Martín, 2021). Tariffs, in the modern economy, have proven to have economy-wide effects, making trade policy a macroeconomic and geopolitical policy tool to be used by governments. In the 1930s, protectionist policies, such as the Smoot-Hawley tariff, were one of the main factors contributing to the collapse of international trade (Martín, 2021). Thus, tariffs contribute significantly to ruining the trade policy convergence among countries. However, the diseconomies of tariffs can be minimized through policy coherence approaches like trade agreements. Even if SAARC fails to do so as mentioned above, the South Asian Free Trade Area should succeed. Because, one of the main objectives and principles of SAFTA is removing barriers to trade and facilitating the movement of goods across borders between the territories of contracting states (Ministry of Commerce, Sri Lanka, 2020).

East Asian (Indonesia, Korea Rep., Malaysia, Philippines, and Thailand) economic crisis from 1993 to 1997 was a great incident for the dearth of internal policy convergence (Bora & Neufeld, 2001). During pre-crisis trade environment, as a result of external policy convergence practises, tariff rates in East Asia rose to 19.4% (World Bank, 2000). Because of the crisis, the five economies experienced negative growth rates, inflationary pressures, reductions in export volumes, export prices, and tax revenues fell down (Bora & Neufeld, 2001). Government revenues also have fallen significantly due to low revenue generation despite domestic pressures to spend on social programs and falling domestic demand (Bora & Neufeld, 2001). Indonesia was strengthening of legal framework for banking operations, tightening capital adequacy requirements, strengthening auditing requirements, and strengthening bankruptcy law to face economic crisis (Bora & Neufeld, 2001). The Republic of Korea did structural reforms in response to the Asian crisis. Some of those are the merger or recapitalization of weak financial institutions, the introduction of more stringent conditions for official liquidity support, and the strengthening of bankruptcy laws (Bora & Neufeld, 2001). Malaysia mergers or recapitalization of weak financial institutions, tightening of guidelines on loan exposure, and softening of foreign investment restrictions as responses (Bora & Neufeld, 2001). The Philippines did structural reforms by strengthening of supervisory framework, tightening of guidelines on loan exposure, and softening of quantitative import restrictions (Bora & Neufeld, 2001). Thailand responded by strengthening of supervisory framework, and liberalization of procedures for mergers and acquisitions (Bora & Neufeld, 2001). However, commonly five economies reduced tariffs policy as response to the crisis (Bora & Neufeld, 2001). Through these structural reforms, the five economies tried

to maintain the internal policy convergence in a strong position to control the impact of the crisis. After the crisis, tariffs rates also fell down and those shifts increased competition for East Asian producers in certain industries and sectors while creating new opportunities. Thus, it is evident that internal policy convergence helps to mitigate some of the possible threats of external policy convergence.

3. Methodology

The objective of this study is to investigate the effect of internal and external policy convergence on the intra-regional trade of South Asia. Beta convergence was used to measure the effect of internal policy convergence while an error correction model was employed to measure the effect of external policy convergence on intra-regional trade. In this regard, data were collected for only six countries (Bangladesh, Bhutan, Pakistan, India, Maldives, and Sri Lanka) out of eight South Asian countries due to the lack of data. The required data were collected from the World Bank Data Bank and Central Bank annual reports for the period of 2000 to 2021.

South Asian countries initiated several strategies in order to magnify intra-regional trade. The introduction of SAARC, SAPTA, and SAFTA are some of those cooperative strategies. However, statistics indicate that intra-regional trade has not expanded as expected. Lack of internal policy convergence may be a reason in this regard. For instance, these trade policies need to be supported by other policies like investment policy, macroeconomic policy credibility, policies to stabilize democracy, etc. Therefore, the researchers hypothesize:

H_1: Lack of Internal policy convergence significantly hinders the expansion of intra-regional trade in South Asia

A high level of political tension in the South Asian countries hinders the potential of the region to expand intra-regional trade. Political tensions like the Indo-Pakistan war over Kashmir, India's decision to vote against Sri Lanka on the issue of accountability and violations in the civil war at the United Nations Human Rights Council.

Therefore, the researchers hypothesize:

H_2: Lack of external policy convergence significantly hinders the expansion of intra-regional trade in South Asia

The above hypotheses were tested through the monetary policy instruments and fiscal policy instruments of inflation, money supply, interest rate, government expenditure, and tax revenue.

3.1 Measuring the Internal Convergence

Beta convergence was used to measure the effect of internal policy convergence on trade flows of South Asia. Equation (1) represents the beta convergence models that are created separately for monetary policy instruments and fiscal policy instruments. The beta convergence approach is required to assess catch-up in inflation, interest rate, money supply, government expenditure, and tax revenue (Asongu et al., 2017).

$$\text{In}\,(TE_{ijt}) - \text{In}\,(TE_{ijt-\tau}) = \beta\,\text{In}\,(TE_{ijt-\tau}) + \delta\text{CV}_{it} + \eta_i + \xi_t + \varepsilon_{ijt} \quad (1)$$

$$\text{In}\,(TE_{ijt}) = a\,\text{In}\,(TE_{ijt-\tau}) + \delta\text{CV}_{it-\tau} + \eta_i + \xi_t + \varepsilon_{ijt} \quad (2)$$

Where, $a = 1+\beta$, TE_{ijt} is the intra-regional trade between country i and the rest of the countries in the region at period t. τ is tau. The CV_{it} represents the convergence variable in country i at period t, η_i is a country-specific effect, ξ_t is a time- specific constant and ε_{ijt} is an error term. If $0< |a|<1$ in the equation, then $TE_{ijt-\tau}$ is dynamically stable around the way with a trend growth rate similar to that of CV and with a height relative to the level of *CV*.

Providing insights for the computation of catch-up rates and time to full catch-up is not a big deal. The equation for cat-up rate is (α/6)*100). Here 6 equals non-overlapping intervals and the equation for the length of time needed for full catch-up is (600% the cat-up rate) (Asongu, Tchamyou, Minkoua N, Asongu, & Tchamyou, 2017). Since the above models are dynamic models with a lag-dependent variable, system GMM modelling technique is used to analyse the models. Validity of the over-identified instruments in GMM is tested using the Sargan test.

3.2 Measuring External Convergence

The researchers tested the long-run cointegration among policies by using the Johansen cointegration test. If it is insignificant, there is no long-run steady state among the policy variables. But, if it is significant, there is a long-run steady state among the variables. Therefore, the external convergence between intra-regional trade and monetary and fiscal policy variables are tested by using the speed of adjustment coefficient in the vector error correction model. Thus, the error correction model can be specified as follows.

$$\Delta TE_{ijt} = \beta_0 + \beta_1 \Delta CV_i + \beta_2 \Delta CV_j - \lambda\,(TE_{t-1} - a_0 - a_1 CV_{t-1} - a_2 CV_{t-2}) + \upsilon^t_t \quad (3)$$

In the model, TE_{ijt} denotes intra-regional trade. CV_i and CV_j indicate the convergence variable in country i and j. Accordingly, the convergence variable denotes all the variables in the model (inflation, interest rate, money supply, government expenditure, and tax revenue). The equation represents the short-run and long-run relationship between trade expansion and

convergence variables in country *i* and *j*. Eventually, the coefficient λ is the convergence measure of this period (t-1) and disequilibrium which happens in period t, and v^t_t is the error term. λ is the speed of adjustment and it is used to measure convergence in this section. If the λ coefficient depicts a negative value and if it is in the range of $0<|\lambda|>1$, then, that variable reaches the position of convergence, otherwise it will deviate from the steady state.

4. Results and Discussion

Table 4.1 represents the results obtained for the system GMM model developed to measure the policy convergence between intra-regional trade and monetary and fiscal policy variables. The lagged dependent variable in all the models is statistically significant at a 95% confidence level as the p-values are less than 0.05. In addition to that, the Sargan test confirms the validity of over-identified instruments in the GMM model. Thus, the results are valid. Therefore, results indicate a significant convergence between trade policy and the other variables considered in this study.

Table 4.1: Internal Policy Convergence Measures

	Inflation	**Money supply**	**Interest rate**	**Govn. exp.**	**Tax revenue**
GMM coefficient	0.716	0.667	0.694	0.71	0.718
p. value	0.000	0.000	0.000	0.000	0.000
catch-up ratio	11.95%	11.12%	11.57%	11.84%	11.97%
length of time	50.21 Years	53.95 Years	51.85Years	50.67 Years	50.12 Years
sargan p. value	0.761	0.751	0.745	0.72	0.767

Source: STATA Output

Given an estimated coefficient for an initial lagged intra-regional trade value of 0.716, which is significant with no autocorrelation in the residuals and has valid instruments, the catch-up rate is 11.95% ([0.716/6] ×100) and the length of time needed for full catch-up is 50.21 years (600%/11.95%). Therefore, the trade policy demands 50 years and approximately 77 days to achieve 100% catch-up with the inflation policy. The catch-up ratio for money supply is 11.12%. Therefore, the length of time needed for a full catch-up is 53.95 years. That means, trade policy demands 53 years and approximately 347 days to achieve 100% catch-up with the money supply. The catch-up ratio for interest rate is 11.57%. Therefore, the length of time needed for a full catch-up is 51.85 years. That means trade policy demands 51 years and approximately 310 days to achieve 100% catch-up with the interest rate. The catch-up ratio of government expenditure is 11.85%. The length of time needed for a full catch-up is 50.67 years. It denotes trade policy demands of 50 years and approximately 245 days to achieve

100% catch-up with the government expenditure. Eventually, the catch-up ratio of tax revenue is 11.97% and the length of time required for full catch-up is 50.67 years. It indicates trade policy demands of 50 years and approximately 245 days to achieve 100% catch-up with the tax revenue strategy. The above analysis indicates the need for a very long time for internal policy convergence in the region. Thus, the low intra-regional trade may have occurred mainly because of the lack of internal policy convergence. Therefore, accept the hypothesis of Lack of Internal policy convergence significantly hinders the expansion of intra-regional trade in South Asia (H_1).

The above analysis on policy convergence between the trade policy of Sri Lanka and the monitory and fiscal policy do no depict a good picture as the full convergence occurs in about 50 years' time. The trade policy of the country had to change time to time as it could not provide the expected result. For instance, soon after 1997 Sri Lanka adopted imports substitution policy later it was changed to import substitution with protection. Sri Lanka could not use this policy for the betterment of the country mainly because of policy isolation. That means if the rest of the policies like monitory policy and the educational policy did not support the entrepreneurs to substitute what the country import then the country will continue to import leading to a significantly negative trade balance. Subsequently the trade policy was changed to export promotion model. Still the model has failed to deliver the expected results due to lack of convergence with the monitory and fiscal policy instruments.

4.1 Johansen Cointegration Test

Table 4.2 shows the results obtained for the Johansen cointegration test for each of the monetary policy and fiscal policy variables with trade between country pairs. For instance, BP stands for trade between Bangladesh and Pakistan. Since this study concentrates only on six South Asian countries 15 such combinations are possible. But, due to the unavailability of trade data between some of the country pairs (eg. Afghanistan and Bangladesh) only 10 country pairs were considered.

Table 4.1: Johansen Cointegration Test Results

Variable		BP	BS	BI	BM	IP	IM	IS	PM	PS	SM
IN	None	0.12	0.09	0.02	0.17	0.01	0.01	0.00	0.17	0.16	0.10
	At m1	0.21	0.11	0.09	0.17	0.14	0.18	0.01	0.39	0.24	0.34
	At m2	0.08	0.09	0.07	0.17	0.02	0.20	0.07	0.08	0.07	0.09
MS	None	0.16	0.01	0.07	0.01	0.00	0.12	0.01	0.33	0.21	0.28
	At m1	0.05	0.21	0.17	0.84	0.01	0.11	0.03	0.25	0.40	0.37
	At m2	0.01	0.08	0.06	0.63	0.01	0.03	0.06	0.04	0.87	0.21
INR	None	0.20	0.05	0.35	0.67	0.10	0.00	0.01	0.07	0.00	0.01

	At m1	0.48	0.94	0.70	0.73	0.18	0.01	0.03	0.25	0.11	0.21
	At m2	0.11	0.40	0.12	0.74	0.09	0.00	0.02	0.18	0.04	0.90
GE	None	0.16	0.23	0.16	0.00	0.03	0.35	35.65	0.61	0.07	0.17
	At m1	0.05	0.18	0.31	0.00	0.33	0.69	20.04	0.91	0.11	0.44
	At m2	0.01	0.03	0.12	0.00	0.26	0.82	6.65	0.50	0.15	0.88
TAX	None	0.01	0.67	0.10	0.48	0.32	0.05	0.22	0.01	0.05	0.51
	At m1	0.01	0.50	0.11	0.39	0.34	0.03	0.45	0.21	0.03	0.61
	At m2	0.02	0.13	0.11	0.04	0.30	0.01	0.15	0.21	0.03	0.74

Source: EViews Output

Bangladesh and Pakistan (BP) trade combination show that, there is a statistically significant cointegration with money supply, government expenditure and tax revenue. Which indicates that, BP trade combination shows a long run relationship with money supply, government expenditure, and tax revenue of the respective countries. Similarly, Bangladesh and Sri Lanka (BS) trade combination depict a statistically significant cointegration with government expenditure. It means, BS trade combination has a long run relationship only with government expenditure of the respective countries. However, Bangladesh and India (BI) trade combination elaborate that, there is no statistically significant cointegration with the variables of the respective countries. Meanwhile, the Bangladesh and Maldives (BM) trade combination shows a statistically significant cointegration with the variables of government expenditure, and tax revenue. This indicates that the BM trade combination has a long-run relationship with government expenditure and tax revenue of the respective countries. India and Pakistan (IP) trade combination show that there is a statistically significant cointegration with variables of money supply, and inflation. Therefore, money supply and inflation have a long-run relationship with the IP trade combination. Meantime, none of the fiscal policy variables show a cointegration with the IP trade.

India and Maldives (IM) trade combination denote that, there is a statistically significant cointegration with money supply, interest rate, and tax revenue. It means, IM trade combination has a long run relationship with the money supply, interest rate, and tax revenue of India and Maldives. Similarly, the India and Sri Lanka (IS) trade combination denotes that, there is a statistically significant cointegration between money supply and interest rate. It indicates that the IS trade combination has a long-run relationship with the variables of money supply, and interest rate of the respective countries. Pakistan and Maldives (PM) trade combination show statistically significant cointegration only with money supply. Pakistan and Sri Lanka (PS) trade combination show that there is a statistically significant cointegration between interest rate and tax revenue. It indicates that the PS trade combination has a long-run relationship with the variables of interest rate, and tax revenue of the respective countries.

However, the Sri Lanka and Maldives (SM) trade combination does not show any statistically significant cointegration with the monetary policy and fiscal policy variables of Sri Lanka and Maldives.

Table 4.2: Speed of adjustment Coefficient

Speed of Adjust.	BP	IS	BI	IP	PM	SM	BS	BM	IM	PS
IN	-0.13	-0.40	-0.08	-0.10	-0.01	-0.17	-0.01	-0.01	-0.02	0.06
	[-3.27]	[-3.03]	[-2.02]	[-0.77]	[-0.3]	[-1.0]	[-0.66]	[-0.15]	[-1.03]	[1.0]
MS	0.19	-0.93	-0.39	-1.06	-0.60	-0.82	0.60	-0.53	-0.01	-0.36
	[-2.46]	[-3.85]	[-3.9]	[-2.23]	[-2.1]	[-1.2]	[1.61]	[-2.06]	[-0.96]	[-3.0]
IR	-0.16	-0.25	-0.012	-0.04	-2.07	-0.41	-0.01	-0.56	-0.21	0.03
	[-2.10]	[-3.13]	[-0.13]	[-2.04]	[-3.7]	[-3.1]	[-0.31]	[-1.01]	[-2.8]	[0.7]
GE	-0.98	-0.13	-0.26	-0.09	-0.06	-0.23	-0.14	-0.09	-0.076	-0.46
	[-4.01]	[-1.70]	[-3.64]	[-1.05]	[-0.2]	[-3.2]	[-2.43]	[-0.22]	[-1.0]	[-1.8]
Tax	0.21	0.07	-0.09	-0.15	-0.13	-0.05	-0.11	-0.14	-0.06	-0.18
	[1.37]	[3.6]	[-0.89]	[-2.19]	[-0.8]	[-0.6]	[-1.90]	[-1.61]	[-0.67]	[-1.4]

Source: EViews Output

External policy convergence is measured with the help of the speed of adjustment coefficient in the VECM model. The abstracted test results for the equation (3) is reported in table 4.3. According to the reported results in table 4.3, speed of adjustment coefficients of inflation, money supply, interest rate, and government expenditure on the BP trade combination model are statistically significant. Inflation depicts a 13% adjustment to the steady state of BP trade flows in the previous period. The adjustment of the money supply is 19%. The interest rate shows an adjustment of 16%. Meanwhile, government expenditure depicts the highest adjustment, which is 98%. However, the IS trade combination was statistically significant for the speed of adjustment coefficient of inflation, money supply, interest rate, and tax revenue while it shows the adjustment of 40%, 93%, 25%, and 7% respectively. Meantime, the BI trade combination significantly converges with inflation, government expenditure, and money supply. The adjustment of inflation is 8%, adjustment of government expenditure is 26%. Meanwhile, the highest adjustment of 39% is shown by the money supply. The speed of adjustment of money supply, interest rate, and tax revenue on the IP trade combination model is statistically significant. The money supply depicts an adjustment of 106%, which seems unrealistic. The interest rate shows an adjustment of 6%, and tax revenue shows a 15% adjustment. The speed of adjustment of money supply, and interest rate on the PM trade

combination model are statistically significant. Money supply shows an adjustment of 60% while the interest rate depicts an adjustment of 207%, which seems unrealistic. The interest rate and government expenditure depict 41%, and 23% adjustments respectively to the steady state of SM trade flows in the previous period. In the BS trade combination models, the speed of adjustment coefficient is statistically significant only for the government expenditure model. It shows an adjustment of 14% to the steady state of BS trade flows in the previous period. The speed of adjustment of the money supply is a monetary policy variable that is statistically significant on the BM trade combination. It shows an adjustment of 53%. IM trade combination was statistically significant only for the monetary policy variable of interest rate and it depicts an adjustment of 21%. Finally, PS trade combination significantly converges with the money supply and the adjustment of the money supply is 36%. As explained in the above section, external policy convergence is not satisfactory for the individual country pairs except for Bangladesh and Pakistan, and India and Sri Lanka. During the last 26 years, the exports of Pakistan to Bangladesh have increased at an annualized rate of 5.4%, from $207M in 1995 to $813M in 2021. However, in 2021, Pakistan did not export any services to Bangladesh. India was Sri Lanka's largest trading partner with an overall bilateral merchandise trade of US$ 5.45 billion in 2021. Merchandise trade between India and Sri Lanka stood at US$ 3.6 billion in 2020. The significant increase (about 48 %) in bilateral trade in 2021 as compared to 2020 reflects the deepening of the comprehensive commercial engagement between India and Sri Lanka. However, the trade between the rest of the country pairs has not significantly increased recently which might have resulted due to the lack of external policy convergence among those country pairs. Therefore, accept the hypothesis of Lack of External policy convergence significantly hinders the expansion of intra-regional trade in South Asia (H2).

5. Conclusion

This study was conducted to examine the impact of policy convergence on intra-regional trade in South Asia. Policy convergence in terms of both internal and external was investigated in this regard. When measuring the impact of internal policy convergence on intra-regional trade, a GMM model was developed for intra-regional trade, and three monetary policy variables and two fiscal policy variables were employed. Inflation, money supply, and interest rates are the three monetary policy variables. Meanwhile, government expenditure and tax revenue are the two fiscal policy variables considered in this study. Five GMM models were fitted for intra-regional trade taking each of the above variables as regressors separately. All the models depicted a statistically significant lagged dependent variable indicating possible convergence. However, all these parameters showed somewhat

lower values ranging from 0.667 to 0.718 resulting in lower catch-up ratios. Policy convergence between intra-regional trade and tax revenue is the fastest because it depicts the highest catch-up ratio, which is 11.97%. However, as the catch-up ratio is not relatively high the length of time for the full convergence is 50.12 years. Similarly, the convergence with all the other variables showed a longer length of time for the full convergence. Thus, the results indicate that internal policy convergence in terms of both monetary policy and fiscal policy needs to be strengthened further in order to expand intra-regional trade in South Asia.

The study further extended to examine the effect of external policy convergence on intra-regional trade. In this regard, the nature of co-integration in between bilateral trade and the above mentioned monetary and fiscal policy variables were analysed separately for some selected country pairs. Country pairs were selected based on the availability of data. Herein, Bangladesh-Pakistan, Bangladesh-Sri Lanka, Bangladesh-India, Bangladesh-Maldives, India-Pakistan, India-Maldives, India-Sri Lanka, Pakistan-Maldives, Pakistan-Sri Lanka, and Sri Lanka-Maldives were considered. The major findings for the external convergence reveal that inflation policies in BP, BI, and IS country pairs are statistically significant with their trade policies. Meanwhile, policies on money supply significantly converge with the trade policies of BP, BI, BM, IP, IS, PM, and PS. Significant external convergence between the trade policies and the interest rate policies was observed in the country pairs of BP, IP, IM, IS, PM, and SM. The government expenditure policies in BP, BS, BI, and SM country pairs are statistically significant with their trade policies. However, tax policies depicted the lowest potential in terms of external convergence because a significant convergence is observed only with IP and IS country pairs. During the period of analyses India and Sri Lanka were recorded as the maximum trading pair among the country pairs considered in the study. This may be due to the extremely high policy convergence depicted among the pair. Out of the policy variables considered only the government expenditure did not converge with the trade policy. Similarly, the Bangladesh and Pakistan pair showed a significant policy convergence resulting in a significant trade between the pair. Meanwhile, the Bangladesh and Maldives pair depicted the lowest trade during the period. This might have resulted due to the low level of external policy convergence between the pair. Within the pair, only the money supply significantly converged with the trade policy showing a weaker policy-level integration between the two countries. India and Maldives trade combination, Pakistan and Sri Lanka trade combination and Bangladesh and Sri Lanka trade combination also depicted weaker convergences with very low trade in between the pairs. All in all, it is evident that as and when the external convergence is poor the trade between the country pairs is also very low. Thus, it is recommended to concentrate more on policy convergence in order to reach the optimum outcome of the trade policy.

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CHAPTER TWO

Impact of Firm Performance on Sustainable Growth in Financial Sector Companies Listed in Colombo Stock Exchange: PRAT Model Approach

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Abstract

The research explored the existing knowledge gap in the Sri Lankan context to shed light on the sustainable growth rate in Sri Lankan financial sector companies as it plays a crucial role in driving the economy. The study used PRAT model to examine the impact of firm performance on sustainable growth rate (SGR). Accordingly, the five firm performance indicators: net profit margin (P), retention rate (R), asset turnover (A), financial leverage (T), and financial liquidity (FL) were used as independent variables including firm size as a control variable. The study used a quantitative research approach, and the secondary data collected consisted of financial sector companies listed on the CSE from 2017 to 2021. The collected data was analyzed using a panel regression model. The random effects (RE) panel regression model statistically outperformed the fixed effects (FE) and pooled (POLS) models for Sri Lankan listed financial sector companies' data. The best-fitted RE one-way firm component regression showed that net profit margin, retention rate, asset turnover, and financial leverage play a positive and significant role in explaining the SGR and financial liquidity has a statistically insignificant negative relationship with SGR. According to Higgins' theory, 34.29% of Sri Lankan listed financial sector companies have demonstrated a lack of value for shareholders because their average sales growth rate (AAGR) exceeds the average sustainable growth rate (ASGR), whereas 65.71% of these companies have demonstrated excess cash because their AAGR is less than the ASGR, allowing the corporation to increase dividends, obtain stock returns, or make new corporate investments. Thus, managers, financial experts, and policymakers must focus on financial and operational decisions to ensure long-term viability in the financial sector.

Keywords: *Firm Performance, Higgins's theory, PRAT Model, Sustainable Growth Rate.*

1. Introduction

The concept of growth management is a critical area in financial planning. It is because growth is a concept that companies always try to maximize. Financial planning assists companies in formulating overall financial goals and developing a policy for what needs to be performed in the future. Long-term strategic planning is concerned with the firm's survival and growth, and actions made today will have long-term consequences. Sustainable growth is a crucial concept that companies strive to achieve always. Each company needs to prioritize sustainable growth because companies cannot last very long without it. This is directly influenced by firm performance factors. The idea of sustainable growth should be considered while planning for a strategic and long existence. The sustainable growth rate (SGR) is a key statistic to measure the causes of a business's success or failure and gives significant information to investors as well as managers (Arora et al., 2018). According to Altahtamouni et al. (2022), Growth is a control indicator used to analyze an organization's operational performance as well as its potential for controlling sources of finance. There is little question that some amount of expansion is essential for firms to survive and operate productively in the long term; however, being overly large is risky. The notion of sustainable Growth was introduced by Robert Higgins in 1977. He clearly defined Sustainable growth as the greatest rate company can increase sales without exhausting all its resources. He also stated that whenever a company's sustainable growth is identified executive can quickly determine whether the company's growth targets and financial policies are rationally attainable and then use the economists' predictions to find a better balance of growth and financial objectives of the company (Higgins, 1977).

Each company's useful financial information involves a combination of its operating aspects and financial aspects. Operating elements include the company's profit margin(P) and asset efficiency(A). Financial elements include capital structure (T) and retention ratio (R). The company's sustainable growth derivation has an outstanding value in that SGR would be the only sales growth rate that is acceptable with stable values of the four ratios called P, R, A, and T. When a company's sales rise at a level other than SGR, those ratios must change. It further happens when an organization grows faster than its SGR, it should either improve the operations of the company or start planning to change its financial policies. (Higgins, 2016)

The primary concern of the company's top management is achieving sustainable growth. However, attaining sustainable growth in a dynamic, competitive, and political environment is exceedingly difficult, specifically in today's extremely global context as well as the Sri Lankan context. The management of financial and operational tasks is now a key aspect that can affect the organization's ultimate success. Few studies have investigated the impact of

firm performance on sustainable growth rate. Those research findings also reveal conflicting viewpoints. It is difficult to find a clear picture of how firm performance affects SGR. In addition to that, little research has been conducted abroad. However, there are no appropriate studies in the Sri Lankan context that disclose the influence of firm performance on sustainable growth rates in the financial sector companies. Besides, the financial sector is a significant driver of each country's economy. There have been few studies that show the impact of company performance on the sustainable growth rate in the financial sector. As a result, the true impact of firm performance on sustainable growth rate in the context of Sri Lanka's financial sector is still unexplored. The problem arises as to whether the Company's PRAT component and Liquidity have a significant impact on the Sri Lankan financial sector companies. The current study investigates the firm's performance impact of SGR using PRAT model components as well as liquidity relevant to financial sector companies listed in the Sri Lankan context. The study significantly contributes to the existing literature on how firm performance indicators drive sustainability in the Sri Lankan context by providing insights towards the application of the PRAT model in emerging markets. The remainder of this study is organized as follows: Section 2 explores the previous literature by emphasizing the research gaps. Section 3 shows the research methodology. Section 4 comprehensively analyze and discusses findings and implications for theory and practice. Finally, section 5 concludes key findings.

Objectives of the Study

The major objective of the study is to examine the impact of firm performance on sustainable growth rate using PRAT model components in financial sector companies listed in CSE.

Specific Objectives

1. To examine the impact of operating performance indicators on the sustainable growth rate in financial sector companies listed in CSE.
2. To explore the impact of companies' financial policy indicators on the sustainable growth rate in financial sector companies listed in CSE.
3. To investigate the impact of financial liquidity on the Sustainable growth rate in financial sector companies listed in CSE.
4. To determine which classification and percentage of Sri Lankan listed financial sector companies are following Higgins' theory by comparing the average actual sales growth rate (AAGR) and the average sustainable growth rate (ASGR).

2. Previous Literature

2.1. Higgins Sustainable Growth Model

Sustainable growth is very useful in obtaining healthy company growth. Higgins (2016) states that if the corporation is willing to sell equities or borrow excessively, this boundary limits the amount of growth it can accomplish without stressing the company's resources. It is known as a sustainable growth rate. As equity rises, the company may obtain financing without changing its capital structure. The pace at which liabilities and equity expand jointly influences the rate at which assets rise. Therefore, it restricts the rate of sales growth of the company. The Rate at which the owner's equity improves is always what limits the rate at which revenue increases. So a company's sustainable growth rate equals its equity growth rate. This gives SGR Equations as follows,

$$SGR = \frac{R \times Earnings}{Equity_{BOP}} = R \times ROE$$

The performance levers are the same across all organizations. It emphasizes how an executive may impact the return on equity (ROE). The organization has three levers that control ROE. The levers of return on equity are as follows:

$$ROE = Profit\ Margin \times Asset\ Turnover \times Financial\ Leverage$$

$$ROE = \frac{Net\ Income}{Sales} \times \frac{Sales}{Asset} \times \frac{Asset}{Shareholder's\ Equity}$$

This implies that the levers by which executives influence the firm's financial success are limited and consistent from one organization to the next. It is the executive's responsibility to regulate these levers to guarantee an effective and reliable operation.

As above mentioned, Higgins (2016) states that the Sustainable Growth Rate (SGR) expression can be rearranged using the PRAT model as follows,

$$SGR = P\ R\ A\ T$$

$$SGR = Profit\ Margin\ (P) \times Retention\ Rate(R) \times Asset\ Turnover\ (A) \times Finacial\ Leverage\ (T)$$

Moreover, the author highlights that the Profit Margin (P) and Asset Turnover (A) reflect the company's operating performance, whereas the Retention Rate (R) and Financial Leverage(T) outline the company's primary financial policies. Accordingly, retention rate (R) shows the company's views towards dividend distribution, and financial leverage (T) indicates the company's financial leverage practices.

If the company's actual sales growth (AG) is higher than sustainable growth(SG)

According to Higgins (2016), overly large growth causes financial issues and makes it difficult for businesses to raise their debt capabilities. If the corporation's rate of growth is anticipated to slow down as soon as it hits maturity, the issue is merely temporary and may be resolved by more borrowing. The firm should change by absorbing cash towards the generation of cash flows in the future, at which point it will be able to finance the debts once the actual growth drops under sustainable growth.

If the company's actual sales growth (AG) is less than sustainable growth (SG)

An organization has a challenge with excessive cash flow if the firm experiences sustainable growth that exceeds actual growth. In this situation, the business can use less leverage for a slower balance increase, but cash must still be available. Like Higgins (2016), it is important to evaluate whether this issue is short-term or long-term; if it is, the organization can gather resources to foresee future expansion. However, if the issue persists over time, it may be a sign of industry stagnation. As a result, the organization should encourage fresh development or make new expenditures to expand, raise dividends, or repurchase shares.

2.2. Global Perspective of Sustainable Growth Rate

Every firm aims to achieve a great deal from the combination of operating and aspects into a single assessment. The rise in yearly sales is sufficient to be sustained by annual flows of corporate capital, showing how sustainable growth and financial policy are interdependent (Higgins, 2016). The computation of the firm's SGR must then concentrate only on the requirement that the growth of assets must match the growth of stockholders' equity. Alternatively, a rise in equity can fund new assets using retained earnings rather than new debt, which is required to finance new assets (Higgins, 2016; Higgins, 1977).

Growth is important for business, specifically for the firm's objective. It is because it allows the organization to sustain its performance without experiencing financial difficulties. Financial troubles or financial distress may leave a corporation with insufficient resource allocation to conduct its operation (Rahim, 2017). Bankers, Investors, and even analysts all find SGR to be appealing, and it is one of the company's surviving objectives. SGR must be assessed using a certain measure of an organization's performance. To assist stakeholders in making the best decisions, it is indeed necessary to identify the elements that impact the company's SGR. It is the main metric used by businesses to assess their effectiveness and profitability. The management of financial and operational tasks has become a crucial element that might affect the company's long-term expansion (Mat Noret al., 2020).

2.3. PRAT Model Components and Specific Firm Performance Indicators toward SGR

The sustainable growth rate (SGR) of an organization must be assessed using certain performance metrics. To assist stakeholders, such as internal or external management, in making the best decisions, those metrics can be defined by identifying the elements that have an impact on the company's SGR. Profitability, asset efficiency, and financial boundaries must all be considered in this situation, as they are significant variables that may affect the company's capacity to develop sustainably. His panel regression analysis discovered that both the operational and financial components in Higgin's PRAT model are extremely important variables affecting Saudi banking sector companies. Moreover, stated that the SGR is equivalent to the retention rate multiplied by the ROE because of blending the DuPont model and the retention rate (Altahtamouni, 2022).

Mat Nor et al. (2020) investigated factors affecting SGR differently using panel data analysis by separating positive ROE and negative ROE in Malaysian companies. The lowering of the dividend payout ratio and the company's asset turnover, as well as an increase in net profit margin, will enhance the SGR for firms with positive ROE. The companies with a negative ROE demonstrate that reducing the debt ratio and increasing profit margin will result in an enhanced company's sustainable growth rate.

The firm's net profit margin feeds its long-term sustainable growth. The findings are dependable all over the industry sectors and techniques for determining the sustainable growth rate. When realizing acceptable growth opportunities, companies that are unwilling to issue new equity can endorse their sale growth with a similar increase in assets funded by retained earnings. It depends on the level of profit performance of a firm (Verma, 2018).

Memon et al. (2011) determined that there is a significant association between ROA, current ratio, quick ratio, EPS, and SGR. Nevertheless, there is no proof of a link between firm size, ROE, and SGR in Pakistani pharmaceutical companies.

Utami et al. (2018) attempted to further explore Higgin's sustainable growth model by investigating whether there is a distinction between sustainable, actual, and balanced growth of the Indonesian firm engaged in manufacturing. The researcher categorized the samples into low-growth, medium-growth, and high-growth companies to evaluate them using one-way ANOVA and paired sample tests. The results show that businesses with more balanced growth also have higher dividend payout and price earnings and that higher net profit and higher asset turnover cannot be explained by strong sales growth. Higher balanced growth is thought to result in a decreased debt-equity ratio. However, this study discovered that businesses with higher SGR had more debt in their funding.

By the analysis of the issuers listed on the Indonesian stock exchange shows that SGR is significantly impacted by a company's financial leverage, which may improve a company's financial performance. As a result, the greater the leverage, the lower the level of the SGR; conversely, the lower the leverage, the greater the rate of the SGR. However, if the borrowing total exceeds the equity, the company's liquidity risk increases. The SGR significantly benefited from liquidity. The greater the company's liquidity, the greater the company's SGR. Furthermore, it highlighted that asset efficiency had a favorable influence on the SGR, proving that a corporation was efficient in utilizing assets to generate income. The study used firm size as a control variable, which revealed a significant and negative impact, which means the larger the firm size, the lower the SGR of the company (Sweetly et al., 2019).

Previous studies offer various viewpoints on the sustainable growth rate that is important to firm performance. According to the literature evaluation, it is necessary to go beyond looking at how firm performance indicators impact the sustainable growth rate in the corporate world. In a considerable number of studies, the results revealed a significant association between company performance and sustainable growth rate in the global context (Altahtamouni, et al., 2022; Amouzesh, Moeinfar, & Mousavi, 2011; Utami, Sulastri, & Muthiad, 2018). However, some scholars have argued that there is a negative correlation between company performance and sustainable growth rate. In Sri Lanka, there is no acceptable research to compare with the global context. That still represents a significant gap in the concept of sustainable growth rate literature in the Sri Lankan context that the researcher considered for the investigation as it contributes valuable insights to the interaction between sustainable growth and financial performance in emerging markets where the financial sector serves as a key driver of each country's economy. Few studies indicate the influence of firm performance on the sustainable growth rate in the financial sector. This study explores the impact of firm performance on the sustainable growth rate of the listed financial sector companies in Sri Lanka to fill the identified knowledge and contextual gap. Furthermore, this research sheds some light on the sustainable growth rate concept in the Sri Lankan context concerning the financial sector.

3. Methodology

3.1. Conceptual Framework

The study outlines the conceptual model using evidence from previous researchers. The independent variables of the study include the profit margin(P), asset turnover(A), retention rate(R), financial leverage(T), and financial liquidity(FL). The study investigated how these independent variables impact the sustainable growth rate in the Sri Lankan context from the financial sector.

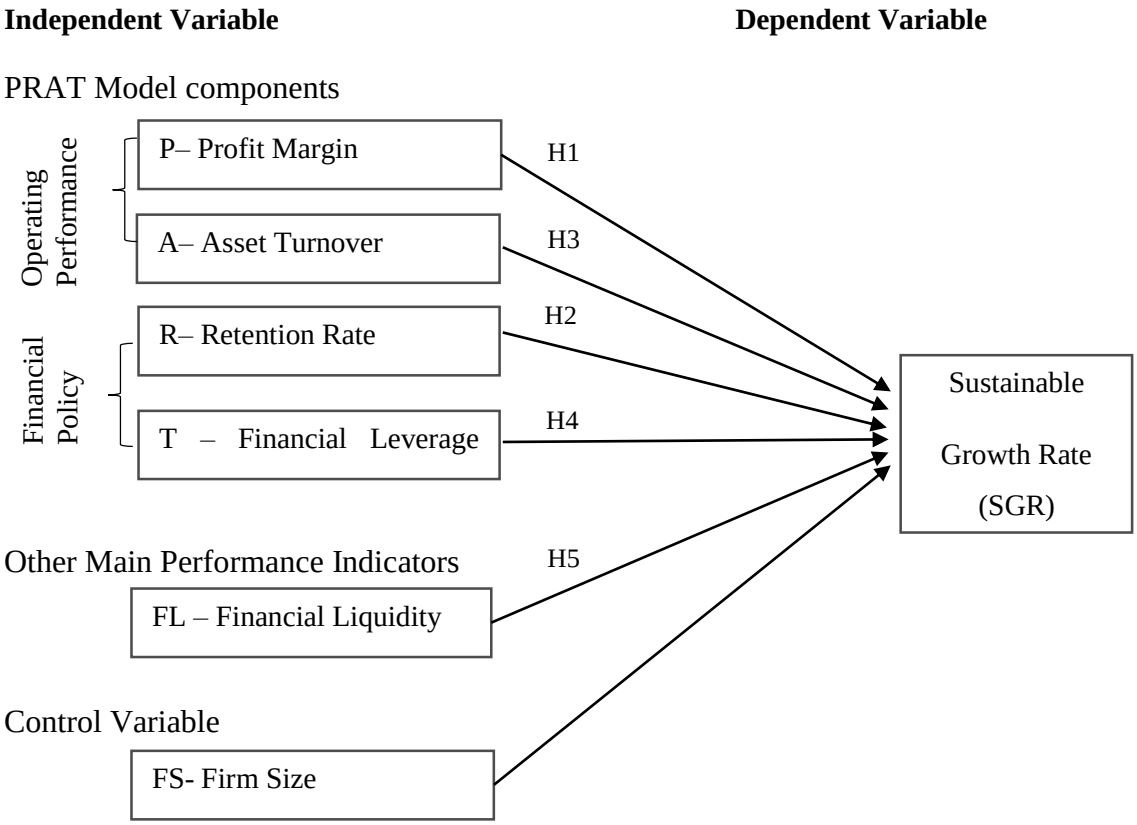

Figure 3.1: Conceptual Framework

The following hypotheses are developed based on the conceptual framework:

H1: There is a significant positive impact of profit margin (P) on sustainable growth rate (SGR).

H2: The retention rate (R) has a significant positive impact on the sustainable growth rate (SGR).

H3: Asset turnover (A) has a significant positive impact on the sustainable growth rate (SGR).

H4: Financial Leverage (T) has a significant positive impact on sustainable growth rate (SGR).

H5: There is a significant positive impact of financial liquidity (FL) on the sustainable growth rate (SGR).

3.2. Operationalization of Variables

The measurement scales used to measure the concepts that led to the research's conclusions and findings are referred to as operationalization. Table 3.1 summarizes the measurement scales of all variables used to achieve study objectives.

Table 3.1: Operationalization of Variables

Variable	Measurement	Source
Sustainable Growth Rate (SGR)	ROE * Retention Rate	(Sweetly et al., 2019) (Altahtamouni et al., 2022), (Mat Nor et. al., 2020), (Memonet al., 2011), (Rahim, 2017)
Independent Variables		
Profit Margin (P)	Net income / Sales	(Wijayawt et al., 2021) ,(Altahtamouni et al, 2022), (Mat Nor et. al., 2020), (Sweetly et al., 2019)
Retention Rate (R)	(1 - Dividend Payout Ratio)	(Altahtamouni et al, 2022)
Asset Turnover (A)	Sales / Total Asset	(Sweetly et al., 2019) (Altahtamouni et al, 2022), (Rahim, 2017), (Mat Nor et. al., 2020),
Financial leverage(T)	Total Asset / Equity	(Fonseka et al., 2012), (Altahtamouni et al, 2022), (Rahim, 2017), (Sweetly et al., 2019)
Financial Liquidity (FL)	Current Asset / Current Liability	(Rahim, 2017), (Guarigliaa et al., 2011)
Control Variable		
Firm Size	Log of Total Assets	(Mat Nor et. al., 2020), (Rahim, 2017)
Comparison of Average Sustainable Growth Rates and Sale Growth Rates		
Average Sustainable Growth Rate (ASGR)	Sum of Sustainable Growth Rates of the company/period	
Average Sales Growth Rate (AAGR)	Sum of sales Growth Rates of the company/period	

Source: Survey data

3.3. Research Approach, Population and Sample

The research is based on deductive reasoning and quantitative research approaches to determine how firm performance components of net profit, retention rate, asset turnover, financial leverage, and financial liquidity, as well as control variable of firm size, impact the company's sustainable growth rate in Sri Lankan financial sector firms. The study was done using secondary data. A purposive sampling method was used to pick the sample from the population according to the following standards: Losing companies and companies with a negative retention rate were eliminated from the sample, which consists of 35 out of 65 financial sector firms listed on the CSE from 2017 to 2021. The data source for this study is published annual reports of Sri Lankan financial sector firms listed on the CSE. The research

explores specific explanations or hypotheses to emphasize the link between independent variables and the dependent variable. The study used descriptive statistics, correlation analysis, and panel data regression to analyze the cross-sectional and time series data. The study's final research objective is to compare the average sustainable growth rate and the average sales growth rate across the financial sector companies to determine the proportion and category throughout using average value analysis according to theory.

3.4. Analytical Tools and Strategies

The researcher can implement a variety of techniques to examine the collected data set. All the cross-sectional data was analyzed using descriptive statistics, correlation analysis, and the panel data analysis method to analyze the cross-sectional and time series data. The researcher used EViews software as the primary analytical technique for the panel data regression analysis to determine the influence of firm performance indicators on the SGR. To achieve the fourth objective, the researcher used average value analysis using Slack by comparing the average actual sales growth rate (AAGR) and the average sustainable growth rate (ASGR).

Table 3.2: Analytical Tools and Nature of Data

Research Objectives	Analytical Tools	Nature of the Data
Preliminary objective	Descriptive Statistics and Correlation Analysis	cross-sectional and time series data
Objectives 1-3	Panel Data Analysis	cross-sectional and time series data
Objective 4	Average Values Analysis according to theory	Average values for each cross-section

Source: Survey data

4. Results and Discussion

4.1. Panel Data Screening, Cleaning, and Panel Unit Root Test

The Quantile-based outliers flooring method and the capping method remove outliers from the data set. For the lower values, the researcher used the flooring to the 10th percentile method, and for the greater values, capped to the 90th percentile. (Roy et al., 2021).

The Panel Unit Root test was used by the researcher to determine whether all the variables in the collected data are stationary or whether the process is a unit root. The study used the "intercept test equation", the "Levin, Lin, and Chu t*" (common root) method, and the "Im, Pesaran, and Shin W-stat" (individual root) method as a benchmark to analyze the stationarity in the panel data set.

This 4.1 table displays the EViews' "panel unit root test" findings for all variables (dependent, independent, and control) in the model. The results of the test show two outcomes

according to the "Levin, Lin, and Chu t*" (common root) method and the "Im, Pesaran, and Shin W-stat" (individual root) method for all variables.

Table 4.1: A Summary Table of the Unit Root Test Findings

Variables	At level	
	Levin, Lin & Chu t	Im, Pesaran and Shin W-stat
SGR	0.0000	0.0000
P	0.0000	0.0000
R	0.0000	0.0045
A	0.0000	0.0000
T	0.0000	0.0015
FL	0.0000	0.0042
LNFS	0.0000	0.0000

Source: Survey data

Note: SGR stands for Higgin's sustainable growth rate
P, R, A, and T stand for net profit margin (P), retention rate (R), asset turnover (A), financial leverage (T), and Financial Liquidity (FL), and LNFS stands for Firm Size

According to a summary of the unit root test findings, both methods of unit root tests have confirmed that all the variables in the data set are stationary at level. At a 5% confidence level, both the methods of unit root tests are significant. It is reasonable to conclude that the data set is steady at a level. These findings demonstrate that the quality of the data will not change as time passes.

4.2. Panel Regression Assumptions

It is critical to identify the preconditions before initiating the panel regression analysis. The study used several tests to determine whether or not the preconditions were violated. For that purpose, the researcher employed Heteroskedasticity, multicollinearity, and normality tests to detect the preconditions of panel analysis.

Multicollinearity Assumption

Multicollinearity exists when the study's independent variables in the panel regression are correlated with each other. The study used the variance inflation factor (VIF) test to find and evaluate if multicollinearity occurs among the independent variables within the model. The value of VIF in the accompanying table 4.2 is less than 10, which indicates that there are no multicollinearity problems with the variables being investigated. As a result, panel data analysis can be performed using the set of data.

Table 4.2: Variance Inflation Factors

Variable	VIF Value
P	1.3918
R	1.0067
A	1.6178
T	2.3510
FL	1.9850
LNFS	1.8509

Source: EViews Survey data

VIF > 10 indicates the existence of multicollinearity
Note: P, R, A, and T stand for net profit margin (P), retention rate (R), asset turnover (A), financial leverage (T), and Financial Liquidity (FL) respectively, and LNFS stands for Firm Size

Normality Test

Figure 4.1 statistics demonstrate that the Jarque Bera (JB) test's p-value in this scenario is 0.4596, indicating that the residuals of the study are normally distributed at the levels of significance of 5%, 10%, 20%, 30%, and 40%.

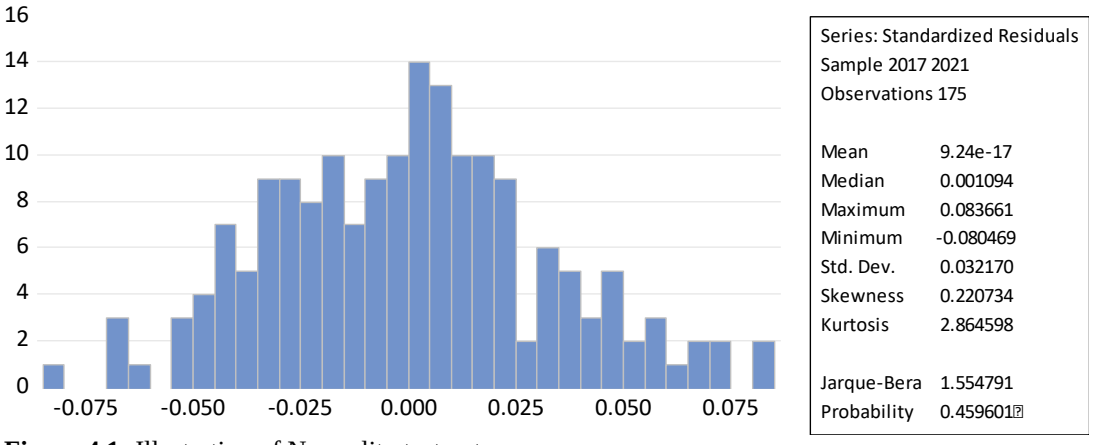

Figure 4.1: Illustration of Normality test outcome
Source: EViews Survey data

Heteroscedasticity Assumption

Table 4.3 summarizes the Heteroskedasticity test results for both the cross-section and period subject to panel data of financial sector companies from 2017 to 2021.

Table 4.3: Heteroskedasticity LR Test results for Cross-section and Period

Panel Cross-section Heteroskedasticity LR Test			
Null hypothesis: Residuals are homoscedastic			
	Value	Df	Probability
Likelihood ratio	135.7386	35	0.0000
Panel Period Heteroskedasticity LR Test			
Null hypothesis: Residuals are homoscedastic			
	Value	Df	Probability
Likelihood ratio	1.478776	35	1.0000

Source: EViews Survey data

The outcomes of the LR Assessment for both cross-section and period are displayed in Table 4.3. Heteroskedasticity in the cross-section test results of the LR Test demonstrates that residuals are heteroskedastic across the panel dataset's cross-section, denying the null hypothesis of homoscedasticity. The period test results of the LR Test demonstrate that residuals are heteroskedastic across the panel dataset's cross-section, accepting the null hypothesis of homoscedasticity. (Baltagi, 2013) suggests computing robust standard errors that account for the existence of heteroscedasticity problems. Therefore, the study computes robust standard errors for random effects regression models to determine the optimum regression coefficients. The researcher used The White-diagonal technique to robust standard errors and resistance to disturbances with an assumption of heteroskedasticity but did not correlate residuals from several observations. The study includes a small panel with only 5 years from 2017–2021, and the serial correlation test is not employed by the researcher because it is used in macro panels with large periods covering 20–30 years (Baltagi, 2013).

4.3. Best Fitted Model

The table 4.4 summarizes the statistics for the best model selection for the following analysis. The residuals obtained from the Redundant Fixed Effect Test (F-Test) show that the fixed effect model is more suitable than the pooled OLS. Lagrange Multiplier (LM) test statistics show that the random effect model is more suitable than the pooled OLS model. The Hausman Test statistics conclude that the random effect model is more suitable than the fixed effect (FE) model. Hence, the researcher employed a random effect model as the best-fitted model to investigate the impact of firm performance on the sustainable growth rate in financial sector companies in the Sri Lankan context.

Table 4.4: Summary of Model Specification Tests

Specification Test	Tested Hypothesis	Statistic	P- value	Selection
Redundant Fixed Effect Test (F-Test)	H0: Pooled OLS model is appropriate. H1: Fixed Effect model is appropriate	172.4427	0.0000	Fixed Effect Model
Lagrange Multiplier (LM) test	H0: Pooled OLS model is appropriate. H1: Random Effect model is appropriate	75.6001	0.0000	Random Effect model
Hausman Test	H0: Random Effect model is appropriate. H1: Fixed Effect model is appropriate.	11.3219	0.0789	Random Effect model

Source: EViews Survey data

Random Effect Model (RE)

According to the above section's findings, the researcher concluded that the best-fitted model is a random effect (RE) to investigate the impact of firm performance on the sustainable growth rate in Sri Lankan financial sector companies.The Random Effects (RE) model is a popular approach for investigating the influence of individual characteristics on the response variable of a panel data analysis. Table 4.5 shows the overall significance of the random effect (RE) model.

Table 4.5: Summary of the Overall Significance of the Random Effect (RE) Model

Random Effect Model -One Way			
R Square	**Adjusted R Square**	**F-Statistics**	**Prob (F-Statistics)**
0.7899	0.7824	105.2985	0.0000

Source: EViews Survey data

According to the table, the R square value in this analysis of panel data regression is 0.7899, which implies that firm performance predictive variables strongly explain the sustainable growth rate in financial sector companies in the Sri Lankan context. The probability value is 0.0000, which is less than 0.05, which implies that the predictive variables (P, R, A, T, FL, and LNFS) simultaneously influenced the dependent variable (SGR), and the effect was statistically significant.

The best-fitted random effect model results shown in Table 4.6 demonstrate the coefficients, robust standard error, t-statistics, and the significance of the firm performance variables on the sustainable growth rate concerning the financial sector companies in the Sri Lankan context.

Table 4.6: Results of the One Way: Random Effect (RE) Model

Variable	**Coefficient**	**Robust Std. Error**	**t-Statistic**	**Probability**
P	0.8645	0.0521	16.5871	0.0000*
R	0.1185	0.0184	6.4403	0.0000*
A	0.2984	0.0377	7.9015	0.0000*
T	0.0110	0.0014	7.7495	0.0000*
FL	-0.0028	0.0087	-0.3202	0.7491
LNFS	0.0058	0.0036	1.6196	0.1072
C	-0.3719	0.0973	-3.8222	0.0002*
Weighted Statistics				
R-squared	0.7899	Mean dependent var		0.0429
Adjusted R-squared	0.7824	S.D. dependent var		0.0487
S.E. of regression	0.0227	Sum squared resid		0.0869
F-statistic	105.2985	Durbin-Watson stat		1.5151
Prob(F-statistic)	0.0000			

* and ** indicate significance at 1% and 10%, respectively.
Note: SGR stands for sustainable growth rate.
P, R, A, and T stand for net profit margin (P), retention rate (R), asset turnover (A), financial leverage (T), financial liquidity (FL), and firm size (LNFS).
Source: EViews Survey data

According to the table 4.6 regressors, all the variables except financial liquidity has a significant positive influence on the sustainable growth rate (SGR) in listed financial sector companies in Sri Lanka. Based on Table 4.6 regressors' output, financial liquidity (FL) has an insignificant and negative influence on the sustainable growth rate of financial companies in Sri Lanka.

The control variable of firm size (FS) positively controls the effects of net profit margin (P), retention rate (R), asset turnover (A), financial leverage (T), and financial liquidity (FL) on sustainable growth rate (SGR). That means if firm size (LNFS) increases by one, that will cause an increase in the sustainable growth rate (SGR) by 0.0058. The p-value of this same variable shows 0.1072, so it can be concluded that this variable is statistically insignificant.

Regarding Sri Lanka, Table 4.7 clearly summarizes that the company performance indicators, namely, net profit margin (P), retention rate (R), asset turnover (A), and financial leverage (T) significantly affect the sustainable growth rate (SGR). Financial liquidity does not significantly explain the sustainable growth rate in the Sri Lankan context for financial sector companies.

Table 4.7: Significance and Relationship Nature of Predictor Variables

Variable	Expected Outcome	Relationship	Significant/ Insignificant
Net Profit Margin (P)	Positive and Significant	Positive	Significant
Retention Rate (R)	Positive and Significant	Positive	Significant
Asset Turnover (A)	Positive and Significant	Positive	Significant
Financial Leverage (T)	Positive and Significant	Positive	Significant
Financial Liquidity (FL)	Positive and Significant	Negative	Insignificant
Firm Size (LNFS)	Positive and Significant	Positive	Insignificant

Source: Survey data

The company's operating performance towards a sustainable growth rate

The study investigated the company's operating performance indicators through Hypotheses 1 and 3, which are namely, profit margin (P) and asset turnover (A). Table 4.7 summarizes that both variables positively and strongly influence the firm's sustainable growth rate (SGR) in the financial sector companies in the Sri Lankan context. This finding demonstrates that financial sector companies' profitability and asset productivity (asset turnover) have contributed significantly and positively to the sustainable growth rate in Sri Lankan financial sector companies. This finding is consistent with the findings of other investigations (Altahtamouni et al., 2022; Verma et al., 2018; Rahim et al., 2017). The researcher concludes that operating performance indicating variables are significant in the context of Sri Lankan

financial sector companies when exploring sustainable growth, according to the Higgins theory.

The company's financial policy indicators toward sustainable growth rate

Hypotheses 2 and 4 test the two financial policy indicators, namely, retention rate(R) and financial leverage(T). Retention rate (R) reflects the company's attitude regarding dividend distribution, whereas financial leverage (T) reflects the company's financial leverage practices. Fonseka et al. (2012) highlight that a company with greater leverage has a higher sustainable growth rate. By agreeing with that study, the researcher reveals that the retention rate (R) and financial leverage(T) of financial sector companies have significantly contributed to and positively impacted the sustainable growth rate of Sri Lankan listed financial sector companies, which show higher retention rate and financial leverage resulting higher sustainable growth of the company. This outcome is consistent with the findings of other studies, which demonstrate that the retention rate has a positive impact on sustainable growth. However, it has an impact on the long-term sustainable growth rate (Fonseka et al., 2012; Altahtamouni et al., 2022; Rahim, 2017). According to the Higgins theory, the researcher concludes that financial policy-indicating variables are important in the context of Sri Lankan listed financial sector companies when assessing sustainable growth.

The company's liquidity towards a sustainable growth rate

The developed hypothesis about liquidity towards sustainable growth is rejected. Because the findings in the Sri Lankan listed financial companies show contradictory outcomes. The financial liquidity (FL) of listed financial sector companies has negatively affected the companies' sustainable growth rate but has not significantly contributed. This finding is consistent with the findings of other investigations (Rahim, 2017). The study concludes that while evaluating sustainable growth for Sri Lankan financial sector companies, liquidity is not significant, and it shows the impact of negative impact on the sustainable growth rate (SGR). The outcome is different from the viewpoint of Sweetly et al. (2019), which suggests the sustainable growth rate (SGR) benefits significantly from liquidity with the bigger the company's liquidity, the higher the sustainable growth rate (SGR). The study outcome reveals that the higher the liquidity, the lower the sustainable growth, but it is not significant in the financial sector companies listed in Sri Lanka.

A comparison of average sales growth and sustainable growth rates

To achieve the last objective of the thesis, the proportion of Sri Lankan financial sector companies will be compared by comparing differences between the actual sales growth rate

and the sustainable growth rate following the Higgins theory. The researcher identified the difference between the average actual sales growth rate (AAGR) and the average sustainable growth rate (ASGR) as the "slack". The researcher employed a slack analysis to convey information about slack qualities that exist between the Average Actual Growth Rate (AAGR) and the Average Sustainable Growth Rate (ASGR) across the financial sector companies.

Figure 4.2 shows the graphical illustration of average sales growth rates (ASGR) and their average sustainable growth rates (SGR) across the financial sector companies in Sri Lanka.

Figure 4.2: Graphical Illustration of Average Sale Growth & Average Sustainable Growth Rate
Source: EViews Survey data

According to Higgins (2016), there may be variations in the company between real sales growth and sustainable growth. The discrepancy between actual and sustainable growth is referred to as slack AGR-SGR.' Positive slack indicates that the average actual growth rate (AAGR) exceeds the average sustainable growth rate (ASGR). If there is negative slack, it implies that the average actual sales growth rate (AAGR) is less than the average sustainable growth rate (ASGR). Positive slack implies a lack of value for shareholders, whereas negative slack suggests excess cash, which permits the corporation to enhance dividends, acquire stock returns, or make new business investments. Table 4.8 shows the summary of the Slack profiles of financial sector companies in the Sri Lankan context**.**

Table 4.8: Summary of Slack Profiles of Financial Sector Companies

Slack	Percentage Number of Companies	Number of companies
Positive Slack (AAGR > ASGR)	34.29%	12
Negatives Slack (AAGR < ASGR)	65.71%	23
Total Companies		35

Note: AAGR and ASGR are acronyms for average actual sales growth rate and average sustainable growth rate, respectively

Source: Survey data

As mentioned above, the researcher concludes that 34.29% of Sri Lankan financial sector companies have indicated a lack of value for shareholders as their average actual sales growth rate (AAGR) exceeds the average sustainable growth rate (ASGR). In contrast, 65.71% of these companies have faced excess cash as their average actual sales growth rate (AAGR) and is less than the average sustainable growth rate (ASGR) which permits the corporation to enhance dividends, acquire stock returns, or make new business investments.

5. Conclusion

The company's operating performance indicators and financial policy indicators positively and significantly impact the sustainable growth rate of financial sector firms in Sri Lanka. Moreover, the results of this investigation demonstrate that the effect of operating components highly impacts the sustainable growth rate rather than the financial policy indicators in financial sector businesses. It suggests that, in the Sri Lankan context, establishing the company's operating performance and profitability development strategies may significantly boost sustainable growth. The study discovered that financial liquidity had an insignificant negative impact on the sustainable growth rate in the context of Sri Lankan listed financial sector firms, whereas the control variable of firm size (LNFS) has an insignificant positive impact on the sustainable growth rate (SGR).

As a result, the study can conclude that the company's overall performance has significantly boosted the sustainable growth of financial sector companies listed on the CSE. Furthermore, the study shows that the PRAT model components act as significant indicators of sustainable growth in listed financial sector companies.

A sustainable growth rate is a useful financial instrument, especially for managers and financial professionals who are frequently exposed to assessing financial and operational decisions to sustain, improve, or reduce (Altahtamouni, et al., 2022). Moreover, this study recommends sustainable growth frameworks that would assess the various aspects of sustainable growth in Sri Lankan listed financial companies, which may be useful in

evaluating the level of sustainable growth in financial companies as well as formulating long-term plans. The tendency of financial sector organizations to achieve sustainable growth rates appears to be more driven by the company's profitability and asset productivity, which are prioritized differently due to different alignments with its objectives and constraints. Profit margin (P) and asset turnover (A) have a greater impact than financial policy indicators. The implications suggest that financial institutions and policymakers should prioritize operational needs while considering financial policies in financial planning to ensure the financial sector's long-term viability. Specifically, companies in the financial sector have greater flexibility in implementing diversification plans to increase the retention rate of the company or utilize greater financial leverage to achieve long-term sustainable growth. The findings help current and potential investors make decisions on which fundamental aspects of sustainable growth to consider while investing in the Sri Lankan listed financial sector companies. Future scholars may focus on analyzing other key operating and financial policy indicators that indicate company performance. Additionally, future research can be carried out utilizing various proxies, such as when determining a company's profitability. Other metrics like return on assets (ROA) and return on equity (ROE) can be used (Brealey, Myers, & Allen, 2020).

Numerous sustainable growth models can be found in the previous literature. This study focused exclusively on the Higgins sustainable growth model. Future scholars can explore the influence of company performance by comparing it to other sustainable growth models, such as Van Horne's and Zakon's models.

The current study concentrated on the financial sector, which is the key engine of the Sri Lankan economy. Future scholars can choose from a variety of industries that have had a significant effect on the growth of the Sri Lankan economy.

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CHAPTER THREE

Green Banking Practices and Sustainability Performance of Commercial Banks in Rathnapura District in Sri Lanka

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Abstract

The objective of this paper is to examine the impact of green banking practices on the sustainability performance of commercial banks in Rathnapura district, Sri Lanka. To achieve this objective, primary data were collected from 180 employees of domestic commercial banks using a structured questionnaire. The stratified random sampling method was used to ensure the representation of employees belonging to different grades in the selected banks. The data were analyzed using a multiple regression analysis. The finding of the study revealed that green banking practices have a positive and significant impact on a bank's sustainability performance in overall. It also found that employee-related practices, daily operation-related practices, and bank policy-related practices were found to have positive and significant impacts on the bank's sustainability performance. However, customer-related practice was not a significant predictor of the bank' sustainability performance. The current study will be vital in understanding the empirical knowledge regarding the impact of green banking practices on bank's sustainability performance.

Keywords: *Commercial Banks, Green Banking Practices, Sustainability Performance.*

1. Introduction

Over recent decades, global awareness of environmental issues has surged, engaging governments, advocacy groups, and businesses. The 21st century is marked by IT-driven industrialization contributing to environmental problems in all sectors. Companies now adapt to identify causes and combat environmental damage. Environmental concerns have broadened from households to businesses, adding value and pride for investors and shareholders (Wheeler et al 2018; Gunathilaka et al., 2015).

Global challenges like global warming, ozone depletion, and pollution demand attention. Regulatory bodies and customers emphasize environmental performance. Environmental

Protection Licenses (EPL) are now mandatory (Wheeler et al., 2018). Green banking has emerged as a sustainable banking approach. It focuses on reducing carbon emissions and footprints by financing technology and pollution-reduction projects (Bahl, 2012; Wiernik et al., 2018).

Green banking operates through technological and behavioral innovations in banking sector. Online banking, energy-saving, waste reduction, and support for green projects are examples (Shaumya & Arulrajah, 2016). Organizations voluntarily implement Environmental Management Systems (EMS) to control their environmental impact, reducing pollution, waste, and energy consumption while enhancing their image (Bansal & Hunter, 2003). EMS improves competitiveness and goodwill (Hart, 1995; Porter & Linde, 1995).

Banks have recognized their impact on environmental issues and aim to encourage environmentally accountable investments. Financing polluting industries contributes to environmental degradation, while obliging industries to invest in environmental management can promote eco-friendliness (Thombre, 2011; Goyal & Joshi, 2011). In developing nations, environmental concerns are critical due to natural resource dependence (Stockholm Environment Institute Report, 2013).

Though the banks have initiated some green banking practices, they use it for their marketing purposes. Therefore, commercial banks are in an internal competition to adopt green practices. The shift towards green banking contributes to reducing carbon footprints and supporting renewable and clean energy technologies (Sahoo & Nayak, 2007). Green banking's vision aligns with eco-friendly sustainability. Sri Lankan Commercial Banks invest in green technology for sustainable development, minimizing negative environmental impacts (Masukujjaman & Aktar, 2013). Green banking promotes environmental performance, aligning with the "Go Green" movement. This proactive approach aims to achieve sustainable banking performance.

Green banking encourages environmentally friendly practices within banking and considers environmental factors in funding projects. It's crucial for banks to integrate green practices into operations, buildings, and investments, reducing their environmental impact (Kiernan, 2001; Mckenzie & Wolfe, 2004).

Despite growing global awareness of environmental issues and the emergence of green banking as a sustainable approach, the effective implementation of green banking practices in Sri Lanka, particularly within the Rathnapura District, remains underexplored. While commercial banks have initiated some green banking practices, these efforts are often driven by marketing objectives rather than a genuine commitment to environmental sustainability.

This raises concerns about the true impact of these practices on the sustainability performance of banks.

The core objective of this study is to investigate the relationship between green banking practices and the sustainability performance of banks in the Rathnapura District of Sri Lanka. The study aims to assess how well these banks are integrating environmentally friendly practices into their operations, investments, and overall strategy, and to determine whether these practices contribute to economic, environmental, and social sustainability. By examining this relationship, the study seeks to provide insights into the effectiveness of green banking initiatives in promoting sustainable development within the Sri Lankan banking sector.

Green banking plays a vital role in promoting environmental sustainability. It involves adopting eco-friendly practices and considering environmental aspects in funding. This study addresses the relationship between green banking practices and bank sustainability performance, encompassing economic, environmental, and social dimensions, particularly in the context of Sri Lankan commercial banks.

2. Previous Literature

Green banking is a crucial subset of sustainable banking that aims to promote environmentally friendly practices to reduce carbon emissions and minimize environmental impact. While sustainable development encompasses economic and social concerns alongside environmental issues, green banking is specifically focused on environmental responsibility.

The term "Green" in Green Banking highlights the environmental accountability and performance of banks in their day-to-day operations (Shaumya & Arulrajah, 2016). Green banking has been defined as "banking business conducted in such areas and in such a manner that helps the overall reduction of external carbon emissions and internal carbon footprint" (Bahl, 2012; Masud, et al., 2018). It involves efforts to reduce a bank's direct and indirect environmental impacts through two primary strategies. Firstly, it emphasizes the transformation of a bank's internal operations to be more environmentally friendly, including the use of renewable energy sources, automation, and pollution prevention measures to minimize carbon emissions from banking operations. Secondly, banks focus on environmentally responsible financing, which involves evaluating the environmental risks of projects before providing funding and promoting green initiatives and projects (Islam & Das, 2013).

2.1. Theoretical Review

The theoretical framework underpinning this study is based on Institutional theory. According to this theory, external environmental pressures force organizations to change their policies, procedures, or structure to gain specific resources or achieve economic and social legitimacy. Institutional theory has been widely applied to various environmental management practices in various industries, especially in situations marked by high uncertainty and external pressures (Hoejmose, et al., 2014; Pleasant, et al., 2014; Lee, et al., 2013; Lin & Sheu, 2012). In the banking industry, a high degree of isomorphism exists due to extensive regulations, competition, and customer expectations (Idroes, 2015). Globally, the banking sector is facing substantial stakeholder pressure to adopt environmentally friendly practices (Pleasant, et al., 2014). In some countries, banks have been penalized for disregarding environmental guidelines, with significant remediation costs resulting from their clients' environmental pollution (Bose, et al., 2017). Green banking is thus becoming increasingly important as banks respond to these external and institutional factors to prioritize sustainability.

2.2. Empirical Review

Green Banking

Green banking, a concept rooted in environmental sustainability within the banking sector, had its beginnings in 1980 with the Dutch Triodos Bank, which prioritized environmental responsibility from its inception (Dash, 2008). In 1990, Triodos Bank launched the "green fund" to support eco-friendly projects, setting a trend for other banks to follow. The first green bank opened its doors in Mt. Dora, Florida, United States, in 2009.

The term "green" in green banking underscores the environmental accountability and performance of banks in their business operations (Bai, 2011). Green banking is essentially ethical banking with a strong emphasis on Corporate Social Responsibility (CSR) (Benedikter, 2011). It involves conducting banking in a manner and in selected areas that reduce both internal carbon footprints and external carbon emissions (Bahl, 2012). Banks can achieve this by adopting various measures such as paperless banking, energy conservation, promoting the use of mass transportation, green building practices, and employing solar and wind energy (Chaurasia, 2014). The core intention of green banking is to prioritize resource utilization, waste reduction, and environmental and societal well-being (Habib, 2010).

Green banking offers numerous advantages, including reducing paperwork through online transactions and creating awareness among business owners about environmental and social responsibility (Ragupathi & Sujatha, 2015). Banks can encourage eco-friendly business practices by following environmental lending standards, launching new banking products that

promote sustainability, and restructuring their back-office operations for ecological friendliness (Ginovsky, 2009).

Two strategies for banks to adopt green banking include implementing paperless banking to reduce carbon footprints and save costs (1), and promoting Green Street lending, which offers low-interest rates for consumers and businesses to install solar energy systems and energy-saving equipment (2).

Green banking's core objective is to halt environmental degradation and promote environmentally friendly practices, thereby reducing carbon footprints through various environmentally responsible actions (Azam, 2012). It also emphasizes the importance of social responsibility, where banks consider a project's environmental impact before providing financing (Bihari, 2011). Green banking plays a significant role in fostering environmentally responsible industries and preserving the natural environment (Bhardwaj & Maholtra, 2013). Mitigating credit risk, legal risk, and reputation risk is a key aspect of green banking (Dharwal & Agarwal, 2013). To address these risks, strategies such as engaging in carbon credit businesses, offering green financial products and mortgages, reducing carbon footprints, promoting energy conservation, constructing green buildings, and providing social responsibility services are suggested. Green banking is defined as an environmentally oriented banking practice that safeguards the environment and helps banks achieve their environmental goals through actions like environmental training, energy-efficient equipment usage, and green building construction.

While green banking has gained momentum in various countries, further research is needed to determine its applicability in other global contexts. The practices associated with green banking illustrate the banking sector's commitment to reducing carbon footprints and energy consumption (Shakil, et al., 2014).

Sustainable Performance

Sustainable Performance, encompassing economic, environmental, and social dimensions, involves an entity's ability to maintain well-being over the long term. The economic dimension focuses on profitability and growth, including investments in human capital, research and development, and community development. The environmental dimension goes beyond regulatory compliance, aiming to meet society's environmental expectations, covering resource usage and environmental impacts. The assessment of environmental performance often neglects long-term environmental impacts. Social performance involves a business organization's principles of social responsibility, social responsiveness, and policies related to its societal relationships, including employee relations, health and safety, remuneration, non-discrimination, and more (Kestane, et al., 2019).

Green Banking and Bank's Environmental Performance

Green banking is a globally recognized concept aimed at preventing environmental degradation and promoting environmentally friendly practices in the banking sector. While banking is not typically seen as a polluting industry, the increasing scale of banking operations has led to a significant carbon footprint due to energy usage, paper wastage, and the lack of green infrastructure (e.g., buildings). Green banking is seen as an environmentally responsible practice that reduces negative environmental impacts, considering the environmental implications of financing projects and fostering social responsibility. It aims to make industries more environmentally friendly and restore the natural environment, contributing to the banking business while considering the social and environmental impacts of its activities (Bihari, 2011; Bhardwaj & Maholtra, 2013).

Green banking focuses on environmentally friendly banking practices and reflects environmental performance by reducing negative environmental impact (e.g., paper usage, energy consumption, fuel consumption, emissions) and enhancing positive environmental impact (e.g., environmental training, green building construction, solar and wind energy usage). These practices contribute to improved environmental performance, leading to a more sustainable banking sector.

However, the literature has gaps, especially in the Sri Lankan context, regarding the impact of green banking on Sustainability Performance. This study aims to fill this gap and analyze the impact of green banking practices on a bank's Sustainability Performance in Sri Lanka. It seeks to understand how green banking initiatives can influence and enhance a bank's overall sustainability efforts in the Sri Lankan context.

3. Methodology

3.1. Conceptualization

A graphical representation or structural diagram regarding research is the conceptual framework. The relation between independent and dependent variables is indicated. And also, it gives the imagination of research question before understanding the study based on the variables of research.

This study is carried out to examine the relationship in between green banking practices and sustainability performance. Employee related practice, daily operation related practice, customer related practice and bank's policy related practice have been acknowledged as the independent variable and sustainability performance as the dependent variable based on the available literature.

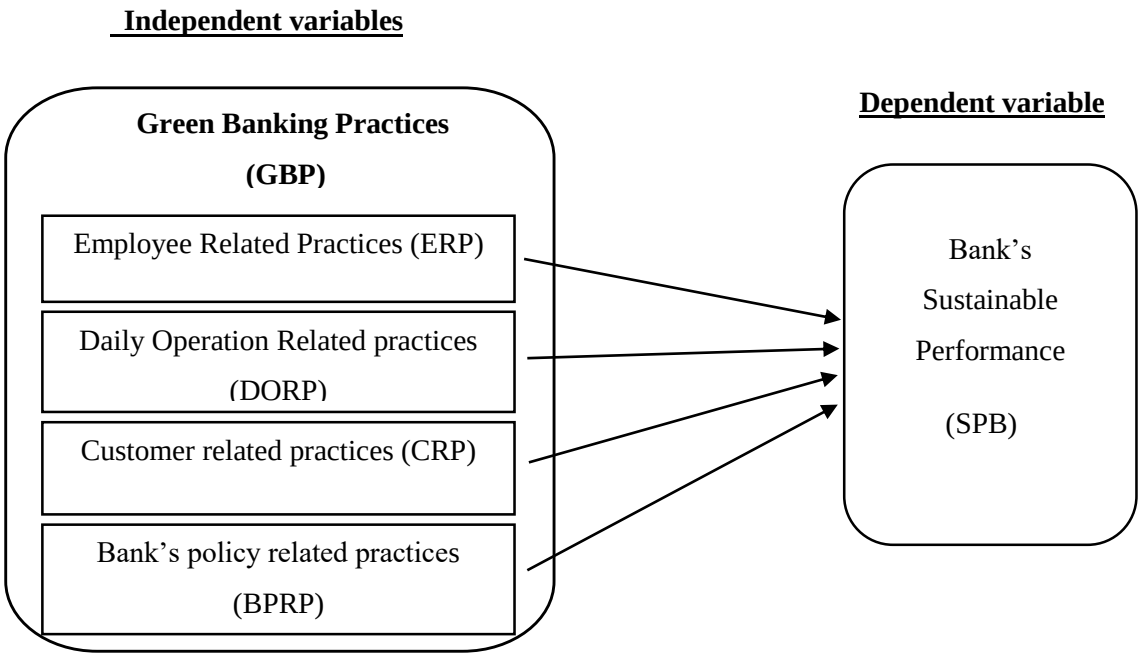

Figure 3.1: Conceptual Model

Source: Developed by researcher after referring literature

Independent Variables

Employee Related Practices (ERP)

Employee related practice was measured by three items such as environmental training and education, green performance evaluation and green reward system.

Daily Operation Related Practice (DORP)

Daily operation related practice was measured by using four items such as reduce paper usage, energy efficient equipment, e-waste management and eco-friendly banking practices.

Customer Related Practice (CRP)

Customer related practice was measured by four items such as green loan, green projects, facilitate green enterprises and green credit evaluation.

Bank's Policy Related Practice (BPRP)

Bank's policy related practice was measured using five items such as green branches, green policy, green partnership, green strategic planning and green procurement.

Dependent Variable

Sustainability Performance (SPB)

Sustainability Performance addresses the economic performance, social performance, and environmental performance.

3.2. Research Approach and Design

This study is used a quantitative research approach because the numerical data is used in this study. Quantitative research is an approach to testing objective theories through the examination of the relationship between variables. In turn, these variables can be measured, typically on systems, so that numerated data can be analysed using statistical procedures.

Shaumya and Arulrajah, (2016) used 16 dimensions with four key variables to measure the green banking. This tested instrument was used in this study. Data were collected from the questionnaires. Relationship between green banking practices and sustainability performance was measured through multiple linear regression model.

According to the financial system in Sri Lanka, the banking sector consists of lot of banks including local banks, foreign banks and other financial institutions. This study focused on the domestic commercial banks in Rathnapura district, Sri Lanka as the sample. The survey has been conducted among the banking employees in above banks. Stratified sampling technique was used to assure representation of employees belonging to different grades in the selected banks. Then, a well-structured questionnaire has been distributed to employees in the selected banks. 180 duly filled and submitted questionnaires were used for the analysis of this study.

The structured questionnaire used for this study consists of three parts. Part I: employee profile, Part II: green banking practices, and Part III: sustainability performance of their banks. Five-point Likert scale was assigned to measure the variables of the study and all are closed questions.

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive analysis is the first step in the analysis section. It will help to described and provide detailed information about each relevant variable. Mean, Maximum, Minimum, Standard deviation are the forms of descriptive statistics. In relevant to this research study descriptive statistics are calculating for Employee related practice, daily operation related practice, customer related practice, Bank's policy related practice and Sustainability performance. Since descriptive statistics describes the basic features of the data set, it is vital to look at the descriptive statistics before going for further modelling tools and analysis.

Table 4.1: Descriptive Statistics of all selected variables

	N	Minimum	Maximum	Mean	Std. Deviation
ERP	180	1.33	5.00	4.1167	0.69357
DORP	180	1.25	5.00	4.4194	0.61729
CRP	180	1.75	5.00	3.8556	0.58420
BPRP	180	1.40	5.00	4.1422	0.68225
SPB	180	1.67	5.00	4.4370	0.61463

Source: SPSS output

As Table 4.1 depicts, mean, standard deviation, minimum and maximum values were obtained for all the independent and dependant variables. When considering the mean values of the variables, customer related practice possesses the lowest mean value whereas the highest mean value is possessed by sustainability performance. Higher the mean value implies higher usage of green banking practices and vice versa. Interestingly, the mean values of all the variables are higher than 3.5 emphasizing a good level of usage of green banking practices. When it comes to the standard deviation, customer related practice shows the lowest standard deviation among variables whereas employee related practice depicts the highest standard deviation value among variables.

4.2. Reliability Test Using Cronbach's Alpha

The coefficient alpha is an appropriate measure of internal reliability. The following score was obtained in terms of the internal reliability of the collected data. The internal reliability of the instrument was appropriate, when Cronbach's alpha ≥ 0.7. Cronbach's alpha of 0.7 was the benchmark of deciding whether or not the instrument was reliable.

Table 4.2: Summary of Cronbach's Alpha Reliability Coefficient

Cronbach's Alpha	N of Items
0.907	5

Source: Researcher developed based on SPSS output

According to the results of reliability test, Cronbach's Alpha was 0.907. So, the internal consistency was excellent and the research tool was reliable and will give creditable results. Further, researcher test the scores of the independent variables and dependant variable on the Cronbach's Alpha Reliability Statistics coefficient which is presented below.

Table 4.1: Summary of Cronbach's Alpha Reliability Coefficients

Variable	Cronbach's Alpha
Employee related practices (ERP)	0.759
Daily operation related practices (DORP)	0.840

Customer related practices (CRP)	0.806
Bank's policy related practices (BPRP)	0.851
Sustainability performances (SPB)	0.797

Source: Researcher developed based on SPSS output

According to the results of reliability test, the survey data demonstrates an acceptable level of reliability for Employee related practice (ERP), Daily operation related practice (DORP), Customer related practice (CRP), Banks 'policy related practice (BORP) and Sustainability performance (SPB).

4.3. Validity Test Using KMO and Bartlett Test

KMO and Bartlett's test of sphericity value should be greater than 0.5. This is the test of adequacy of the sample. If this sample adequacy is not satisfied you should collect more data from the sample again.

Table 4.4: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.935
Bartlett's Test of Sphericity	Approx. Chi-Square	1994.127
	Df	171
	Sig.	0.000

Source: SPSS output

According to the results of validity test, the survey data demonstrates 0.935. It is greater than 0.5. That means sample is adequate for investigation.

4.4. Correlation Analysis

To identify the relationship between independent and dependent variable, correlation analysis technique was used. The Pearson Correlation Coefficient measure the strength and direction of the linear relationship between two variables. Therefore, correlation test is conducted to determine the relationship between green baking practices and sustainability performance.

If correlation between two variables is established, this means that when there is a systemic change in one variable, there is often a systematic change in the other. The variables change for a certain period of time together. If correlation is identified, this can be either positive or negative depending on the calculated numerical values.

Table 4.2: Results of Correlation Analysis

		DORP	CRP	BPRP	SPB
ERP	**r**	0.706	0.621	0.694	0.749
	p	0.000	0.000	0.000	0.000
DORP	**r**		0.533	0.646	0.677
	p		0.000	0.000	0.000
CRP	**r**			0.673	0.561
	p			0.000	0.000
BPRP	**r**				0.745
	p				0.000

Source: SPSS output

Table 4.5 shows the relationship between green banking practices and sustainability performance whereby the number of respondents is 180 and the significant level is 0.05. All four variables selected for green banking practices possessed significant higher positive correlation with the sustainability performance of the banks in Rathnapura District, Sri Lanka.

4.5. Multicollinearity Test

Before proceeding the regression analysis, it is required to do a multicollinearity diagnostic test. When presenting an acceptable model, multicollinearity should be tested to ensure whether there is a correlation between independent variable. Multicollinearity means, there is high degree of correlation (linear dependency) between two or more independent variables. It generally occurs when a large number of independent variables are incorporated in a regression model. It can be occurred since some of them measure the same concepts or phenomena. Multicollinearity problem can be detected through VIF (Variance Inflation Factor) value in regression analysis. The numerical value for VIF estimates how much the variance of a regression coefficient is inflated due to multicollinearity in the model.

Table 4.6: Collinearity Statistics

Model		**Collinearity Statistics**	
		Tolerance	**VIF**
1	ERP	0.381	2.624
	DORP	0.454	2.205
	CRP	0.501	1.997
	BPRP	0.394	2.537

a. Dependent Variable: SPB

Source: SPSS output

By comparing Tolerance values and Variance Inflation Factors it was found that the Tolerance values are higher than 0.2 and VIF values are less than 5. Therefore, the Tolerance values and VIF values are within the expected range that prevents the multicollinearity. Hence, the multiple regression analysis can be carried out.

4.6. Regression Analysis

Multiple regression method was performed to identify basically the nature and strength of the influence of predictor variables (Employee related practice, daily operation related practice, customer related practice and bank's policy related practice) on sustainability performance. Multiple regression analysis is applied where there is more than one independent variable. The benefit of regression analysis is that it helps to decide which variables are most relevant, which can be ignored and how those variables relate to each other.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.821	0.674	0.666	0.355	1.667

Source: SPSS output

Table 4.7 presents a summary of the model and the R square statistic (0.674) suggests that, 67.4% of the variability in the sustainability performance (SPB) was predicted from the selected green banking practices (GBP). The Durbin Watson statistic (1.667) is in between +1 and +3 indicating the independence of the observations.

Table 4.8: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.556	4	11.389	90.330	0.000
	Residual	22.064	175	0.126		
	Total	67.620	179			

a. Dependent Variable: SPB

b. Predictors: (Constant), BPRP, DORP, CRP, ERP

Source: SPSS output

F ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. Table 4.8 shows that the independent variables (Green banking practices) statistically significantly predict the dependent variable (Sustainability performance), $F(4,175) = 90.330$, $P < .05$. That is the regression model is a good fit for the data.

Table 4.9: Coefficient Table

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.954	0.211		4.522	0.000
	ERP	0.324	0.062	0.366	5.232	0.000
	DORP	0.178	0.064	0.179	2.790	0.006
	CRP	-0.028	0.064	-0.026	-0.431	0.667
	BPRP	0.354	0.062	0.393	5.719	0.000

a. Dependent Variable: SPB

Source: SPSS output

According to Table 4.9, the B value of the employee-related practice is 0.324 which is statistically significant since its p value is less than 0.05. It indicated that employee related practices have a positive impact to the sustainability performance of the banks.

Beta value of the daily operation related practices is 0.178 which is also statistically significant because its p value is less than 0.05. That indicated the daily operation related practice statistically predicts the sustainability performance.

According to table 4.9, the significance value of the customer related practice is 0.667 which is greater than 0.05 which indicated that customer related practice statistically not predict the sustainability performance.

The significance value of the B value of bank's policy related practices is 0.000 which is less than 0.05 which indicated that bank's policies related practices have significant positive impact for the sustainability performances of banks.

A multiple regression model was developed to measure the impact of green banking practices on sustainability performance of selected banks. Green banking is recognized in four different components such as employee related practice, daily operation related practice, customer related practice and bank's policy related practice. The combination of all these four generates the green banking practices. Thus, the basic research model is;

$$\mathbf{SPB = \beta_0 + \beta_1 ERP + \beta_2 DORP + \beta_3 CRP + \beta_4 BPRP + \epsilon}$$

Where, Y is Sustainability Performance of Banks, X_1 denotes Employee related practice, X_2 represents Daily operation related practice, X_3 for Customer related practice and X_4 is the Bank's policy related practice. According to the results obtained from the multiple regression model, following equation can be developed for the said relationship.

$$\mathbf{SPB = 0.954 + 0.324\ ERP + 0.178\ DORP + 0.354\ BPRP + \epsilon}$$

Licensed domestic commercial banks in Rathnapura district, Sri Lanka effectively use green banking practices by closely bank provides training and education to the staff on environmental protection, energy saving, and etc., the bank has environmental (green) performance evaluation practices, the bank implements environmental (green) reward system in the branches who support the green banking initiatives

An effective daily operation related practice in the banking sector in Sri Lanka is also very significant. The research revealed that the bank has initiatives to reduce paper usage and other wastage of materials, the bank has introduced energy efficient equipment, system solutions and practices, e-waste management practices, the bank has environmentally friendly banking practices.

However, customer related practices exist in the banking sector in Sri Lanka are not significant. The research revealed that the bank provides loan to environmental protection and energy saving related projects, bank implements certain independent and unique green initiatives, projects, and etc., bank promotes and facilitates environmental oriented enterprises through special grants, loans and guidance. But they are not impacted to the sustainability performance of the bank.

The banking sector has effective bank's policy related practice, the bank involves in setting up green branches, the bank has environmental (green) policy, bank has environmental related agreements with relevant parties/stakeholders the bank uses e-waste management practices, bank, head office level or top management involves in environmental protection related planning and implementation, bank purchases its stationeries, equipment and other items from environmentally friendly companies. The model was found to be statistically significant and variation in the elements of green banking practice affected the variation of sustainability performance by 64% as indicated by Adjusted R square 0.64. This showed the model has good predictors.

5. Conclusion

The study on "Green Banking Practices and Sustainability Performance of Banks in Sri Lanka: Evidence from Rathnapura District" aimed to assess the relationship between green banking practices and the sustainability performance of banks. The research employed a quantitative approach, analyzing data collected from 180 banking employees in Rathnapura District's commercial banks.

Descriptive statistics revealed a high level of adoption of green banking practices, with sustainability performance showing the highest mean value. Reliability and validity tests confirmed the robustness of the research instrument. The correlation analysis demonstrated a

significant positive relationship between most green banking practices and sustainability performance.

The regression analysis identified that employee-related practices, daily operation-related practices, and bank's policy-related practices have a significant positive impact on sustainability performance, while customer-related practices did not significantly influence sustainability performance. The model explained 67.4% of the variability in sustainability performance, highlighting the importance of green banking practices in achieving sustainable outcomes.

In conclusion, the study confirms that green banking practices, particularly those related to employee engagement, daily operations, and policy frameworks, are crucial for enhancing the sustainability performance of banks in Sri Lanka. However, the role of customer-related practices in influencing sustainability remains unclear and warrants further exploration. The findings underscore the need for banks to integrate comprehensive green strategies across all operational levels to achieve long-term sustainability goals. The study's insights contribute to the growing discourse on sustainable banking practices and provide a foundation for future research and policy-making in this area.

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CHAPTER FOUR

Impact of Loan Portfolio Diversification on Financial Stability of Commercial Banks in Sri Lanka

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Abstract

This study examines the impact of loan portfolio diversification (LPD) on the financial stability of licensed commercial banks in Sri Lanka. The researchers considered the secondary data for the study, which was obtained from the annual reports from 2010 to 2019 of six purposively selected commercial banks in Sri Lanka. Descriptive and inferential statistics, such as correlation and panel data regression analysis, were considered using a random effect model. The findings revealed a positive impact of loan portfolio diversification on financial stability. A positive effect of liquidity on financial stability was identified. Furthermore, the effects of the control variables, such as bank size, non-interest income share, liquidity, and annual GDP growth, were negligible. The findings will contribute to the existing literature on the Sri Lankan context. This paper recommends that commercial banks increase their LPD to become more stable and use the right strategies to boost their loan portfolio. Ultimately, reaching every niche by giving higher priorities to some is possible, which can lead to a higher volume of lending and competitive advantage. Thus, banks should refrain from adverse selection and information asymmetry while extending loans, formulate measures for extending the lending criteria, and not compromise customer relationships. Accordingly, minimising nonperforming loans is crucial as it targets avoiding credit risk.

Keywords: *Commercial banks, financial stability, loan portfolio diversification, Sri Lanka.*

1. Introduction

Credit risk is a significant challenge for banks since those institutions engage in lending on a massive scale as their core activity. Commercial banks diversify their loan portfolio to mitigate credit risks and enhance performance. Providing loans to different sectors without concentrating on one particular industry can be known as Loan Portfolio Diversification (LPD), which can be used to reduce credit risk in loan portfolios. Hence, the loan portfolio is

a significant aspect of the banks. Therefore, banks' call manufacturers should properly manage loan portfolios through numerous methods like diversification and concentration.

Banks may be exposed to operational, liquidity, market, and credit risks when lending. Of the above-mentioned, credit risk can be considered the most significant. Default of payments can be known as a credit risk. Freitakas (2013) has stated that the increase in default payments can lead to a rise in nonperforming loans and loan loss provisions, as well as reduce the profitability of financial institutions. Apart from that, Adina (2015) stated that a negative relationship exists between risk and financial institutions' performance. Hence, the credit risk should be as low as possible to increase organisations' economic performance.

Loan portfolio diversification can be categorised under currency, product, and industry. Currency-wise categorisation can be explained as credit given using different varieties of currencies. The product-wise categorisation can be depicted as leasing, credit cards, housing loans, overdrafts, and term loans. Industry-wise categorisation can be shown concerning different sectors such as construction, tourism, banking and finance, and production. At the same time, loan portfolio concentration (LPC) suggests that financial institutions should pay attention to specialisation when providing loans. Arnegard and Sigve (2017) have stated that the loan portfolio and loan portfolio concentration are more important for financial organisations to ensure economic stability. In some cases, it is noticed that loan portfolio diversification helps to boost a bank’s steadiness, whereas others believe LPC helps boost money stability. The additional mixed proof is seen between these two extremes.

Hayden and Porath (2007) stated that financial institutions should diversify to maintain their economic stability without being set to bankruptcy. Even the same insight has been highlighted in the financial intermediation theory, which says that diversification supports organisations in better screening their borrowers to achieve credibility. However, at times of crisis, it raised the variance. Therefore, banks should focus more on traditional intermediation functions rather than on loans and deposits and diversify their investments and activities.

Moreover, the majority of authorities across the globe advocate for diversification to lower bank risk. The danger of financial instability may be exacerbated or increased by bank diversification. When idiosyncratic occurrences like economic crises happen, the markets crash, as Kim et al. (2020) explained. Freitakas (2013) states that when it comes to commercial bank assets, loan portfolios account for approximately 70% to 80% of the total. Hence, making better decisions concerning loan portfolios is vital to enhance and maintain the bank's financial stability.

The existing body of scholarly research presents conflicting perspectives regarding the influence of loan portfolio diversification on performance and stability. Hence, the primary

objective of this research was to ascertain the impact of loan portfolio diversification on the stability of commercial banks operating in Sri Lanka.

2. Previous Literature

The theoretical and empirical insights concerning loan portfolio diversification and financial stability are shown below.

2.1. Loan Portfolio Diversification

LPD is a system utilised by banks to moderate credit risk. While some banks tend to concentrate their loan portfolios, others diversify them. This is treated as a significant credit portfolio system, which catches the risk of the interrelationship of individual credits as a portfolio. According to the definition provided by the Basel Committee on Bank Supervision in 1991, diversifying risk exposures is the guiding principle in the banking industry. The portfolio hypothesis, the customary financial hypothesis, expresses that broadening can lessen the risk by limiting the expense of observing. Checking expenses can be diminished by alleviating the issues between bank proprietors and lenders. According to portfolio theory, LPD improves a bank's financial position by lowering credit risk and increasing incentives for monitoring.

Avisha and Das (2016) documented that LPD decreases the probability of an organisation's financial performance. As per Maina (2013), LPD assists with improving financial performance and is utilised as a system to make up for lost time to better execution levels. David & Dionne (2005) highlighted that differentiating the advanced portfolio assists with lessening portfolio risk. Further, Russell and Tao (2014) stated that a more concentrated loan portfolio may yield a lower return while increasing credit risk. In contrast, according to Constantinos et al. (2014), concentration risk increases bank credit loss due to the probability of payment defaults in specialised sectors. Arnegrd and Sigve (2017) also mentioned that diversification improves performance. Besides, Eduardas (2013) states that Lithuanian banks' arrangement for terrible advances has expanded because of concentrated credits.

Hayden et al. (2007) express that loan portfolio diversification further develops banks' financial performance at risk levels that are just under average. Banks ought to assess the hazards of the choices while expanding the modern, area-wise, or geological LPD. As per the empirical findings, banks with diversified portfolios can generate funds internally and allocate them appropriately. Basel Board of Trustees on Financial Oversight (2006) referenced that LPC is the primary driver of bank portfolio losses. Avila et al. (2013) express that concentrated credits produce misfortunes in the credit portfolio because a solitary portfolio influences raised fixation risk even though LPC somewhat assists with evaluating capital

sufficiency. Those give LPD a superior approach to diminishing credit risk. Thorsten and De Jonghe (2013) state that systematic risk is strongly linked to loan concentration. As a result, the minor correlated assets provide the advantage of LPD because the objective is to reduce portfolio asset correlation.

2.2. Loan Portfolio Concentration (LPC)

According to Kurincheedaran (2015), LPC focuses only on a few industries where banks have a competitive advantage. The Corporate Money concept upholds this. Most researchers emphasise that concentration reduces firm value and mitigates agency issues. As indicated by Kurincheedaran (2015), expanding LPD prompts the dispensing of assets to wasteful divisions. As a result, poor investment decisions result in lower company value (Shroff et al., 2024). Banks need to accumulate adequate data concerning borrowers so that they can perform loaning exercises straightforwardly.

LPD counters this assertion because it is essential to gather trustworthy information about potential borrowers. Because it is possible to screen borrowers, LPC follows this fact. Data concepts feature the requirement for information about clients. The "know your customer" principle was also introduced by the Basel Committee on Banking Supervision. LPC backs all of these claims. Corporate Money theory recommends that firms should relate to fixation to upgrade benefits and decrease credit risk. Specific banks can get the upper hand by gathering data on that area to turn out to be more learned. This would bring about a decrease in the expense of data deviation through better screening of the credit risk of a specific area. As indicated by Acharya et al. (2006), modern and area-wise LPD impact diminishes return and, at the same time, increments firm risk. LPC prompts upgrading the bank's exhibition. Chen et al. (2013) have chosen mining, fabricating, creation, development, and transport area-wise. According to Chen et al. (2013), LPD may decrease risk and return simultaneously. Even so, the discoveries of nations like Italy, Germany, Brazil, and Argentina should update this. Furthermore, Freitakas (2013) states that LPD negatively impacts asset yield. Essentially, more is expected to diminish the bank risk.

2.3. Bank Stability

Financial stability has received much attention in the finance literature over the years. According to Mishkin (1992), financial stability is the financial system's capacity to control risks, increase and aid in economic operations, and continuously cushion shocks without interruption. Financial distress was characterised (Harlan & Platt, 2002) as the period of declining financial circumstances that would occur before there would be bankruptcy (Harlan & Platt, 2002).

Income diversification is widely used as a predictor to capture the financial stability of banks, as supported by empirical findings (Gupta & Kashiramka, 2020). Other predictors include leverage (Ramzan et al., 2021), bank size (Gupta & Kashiramka, 2020), capital (Bourkhis & Nabi, 2013), profitability (Martynova, 2015), asset quality (Hassan et al., 2019), liquidity (Gupta & Kashiramka, 2020), interest margin (Abbas et al., 2019), and bank age (Ramzan et al., 2021).

Brauers et al. (2014) state that researchers have been interested in evaluating commercial banks' financial health for over a century since the financial crisis. Current strategies range from oversimplifying risk-return relationships to including numerous economic variables at the micro- and macro-economic levels. Kim et al. (2020) investigated the connection between bank diversity and financial stability and discovered that it is significantly nonlinear. These results imply that average-level bank diversification enhances bank stability but that excessive diversification is harmful. We also find that this association has a temporal component.

Deregulation and delicate competition have forced banks to diversify their revenue streams by attempting to engage in new business ventures, including the underwriting and trading of securities, investments, and other ventures that yield income in addition to interest. As a result, numerous studies have examined the effects of banking diversification in developed nations (Mensi & Labidi, 2015).

2.4. Loan Portfolio Diversification Decision on Bank Stability

This study investigates whether market concentration and bank loan diversification choices relate to a bank's financial stability and explores how the degree of banking market concentration or competition affects the impact of loan diversification on bank stability. The study hypothesised that, in line with the "concentration-stability" theory, market concentration is adversely correlated with bank insolvency risk. The findings using interaction terms between market concentration and loan portfolio diversification show that banks that operate in highly concentrated areas are more financially stable than those that operate in less concentrated markets.

On the other hand, the relationship between size and market risk is inverted U-shaped in contrast to its negative impact on market risk, asset tangibility benefits credit risk (Duh et al., 2021). While diversified and profitable MFIs tend to invest more in government assets, high profitability improves credit risk management, resulting in more minor loan losses.

According to Kurincheedaran (2015), Sri Lanka's domestic Licensed Commercial Banks need better performance sector-by-sector due to LPD. Since LPD lessens return and increases risk, the return through LPC should be improved. Behr and Guettler's (2007) discoveries align

more with this end. Kamp et al. (2007) indicate that banks focusing on extraordinary aptitude regions have more significant yields than enhanced banks. Additionally, loan loss provisions and nonperforming loan rates at specialised banks are lower than at diversified banks. Similarly, concentration reduces default risk while increasing return (Tah et al., 2016).

This research extends and complements earlier empirical investigations by examining the impact of banking system features in determining the relationship between loan portfolio diversity and bank stability. Further, this study considers the market concentration level as a potentially important aspect of the banking sector. The relationship between market concentration and bank stability is predicted by many theoretical models in conflicting ways. It is explained that a financial system with high concentrations is more stable than one with low concentrations. Banks have better prospects for profit in less competitive circumstances, and higher charter values brought about by significant earnings lessen the incentives for banks to take unwarranted risks. According to the opposing theory, market concentration and bank instability correlate positively (Shim, 2019).

Larger banks in highly concentrated market structures will likely get more help from the government safety nets when they run into financial trouble. This protective measure would increase the Bank's incentives to take risks and cause moral hazard issues, weakening the economic system. Even though the theoretical literature on this subject has considerably influenced bank regulators and policymakers, there is little empirical data on the banking market concentration and financial stability indicators, and there is no universal agreement on these indicators (Beck et al., 2006).

2.5. Literature Gap of the Study

Although numerous researches exploring the topic of loan portfolio diversification and loan portfolio concentration and, in turn, the stability of credit organisations as well as the interconnection between them have been done across the world, it is still possible to identify a lack of essential research oriented to different market conditions and regulations. In particular, the literature review establishes that a paucity of studies investigated the phenomenon within the Sri Lankan context. Hence, a significant contextual gap exists in the literature. The unique market dynamics and regulatory framework in Sri Lanka offer a distinct environment for studying these aspects, yet this area still needs to be explored. Addressing this gap could provide valuable insights into how loan portfolio strategies impact bank stability within diverse economic settings. Further, the contradictory findings of previous studies highlight a significant gap in the literature, motivating this study.

3. Methodology

To examine the impact of loan portfolio diversification on the financial stability of commercial banks in Sri Lanka, the researchers have adopted the deductive approach (Dewasiri et al., 2018). Loan portfolio diversification is considered the independent variable, and financial stability is the dependent variable. Moreover, some of the bank-specific macroeconomic variables, such as bank size, non-interest income share, liquidity, and annual GDP growth, have been considered control variables for the study. The researchers used secondary data from the annual reports from 2010 to 2019 and considered 06 licensed commercial banks in Sri Lanka as the sample to proceed with. The study data were analysed through quantitative techniques. Therefore, this study used descriptive statistics, correlation analyses, and panel regression using the fixed effect model for analysis.

3.1. Variable Selection and Operationalization

The study's variables have been selected based on empirical findings. The researchers have considered loan portfolio diversification as the independent variable and financial stability as the dependent variable. Moreover, bank size, non-interest income share, liquidity, and annual GDP growth have been considered the control variables.

Loan portfolio diversification can be defined as the varieties or types of credits that will make up the lending portfolio of an organisation. Financial stability is a bank's economic health in meeting its obligations. Total assets, deposits, or other accepted measures can be used to measure the bank's size. At the same time, all the different incomes that could be generated apart from the interest income can be considered non-interest income shares. Liquidity is the measure that can be used to convert assets into cash quickly.

Moreover, annual GPP growth can be based on the changes that could occur in a country's gross domestic production. The equations and the mechanisms used to measure the variables can be shown per the tabling. Table 3.1 shows the operationalisation of the variables selected for this study.

Table 3.1: Operationalization of the Variables

Variable	Calculation
Bank's financial stability (Ln Z-score)	$Ln\left(\frac{ROAit + CARit}{SDROAip}\right)$
Loan diversification (LPD)	1 – loan HHI
Bank size (Size)	Total Asset

Non-interest income shares	$\frac{Non\ Interest\ Income}{Gross\ Income}$
Liquidity	$\frac{Cash + \text{Marketable securities}}{Total\ Asset}$
Annual GDP Growth (GDP Growth)	GDP Growth Rate

Source: Authors' own

4. Results and Discussion

The unit root tests confirmed that the series is integrated or stationary, thus satisfying the initial assumption for dynamic panel regression. The researcher tested the stationary panel using a unit root test in this study. If the p-value is less than 0.5, the null hypothesis can be rejected, and the alternative hypothesis can be accepted.

Table 4.1 shows the stationary level of the panels. According to the results, all panels are stationary at level series. Then, the researcher tested the research objective by using special analytical tools.

Table 4.1: Unit root results of the Levin-Lin-Chu test

Variable name	P Values	Stationary
Banks stability	0.0023	level
Loan diversification	0.0000	level
Bank size	0.0000	level
Non-interest income share	0.0004	level
Liquidity	0.0000	level
GDP	0.0044	level

Source: Authors' own

The Descriptive statistics in Table 4.2 show information relating to the Bank's activities. The above statistics give a general idea concerning the behaviour of commercial banks in the selected industry.

Table 4.2: Summary of the descriptive statistics

Variable	Mean	Std. Dev	Maximum	Minimum	Obs
Banks stability	57.35375	19.06791	102.3135	36.31524	60
Loan diversification	5094.567	999.6353	6988.000	2398	60
Bank size	5.790411	0.291507	6.382938	5.175155	60
Non–interest income share	0.341492	0.248807	1.227292	0.078832	60
Liquidity	4.264758	0.335433	5.149151	3.338461	60

GDP	5.260000	2.291709	9.100000	2.300000	60

Source: Authors' own

As indicated in Table 4.3, a correlation analysis was used to determine the correlation between the dependent and the independent variables. This analysis can determine the strength of the relationship between the variables. A correlation analysis has been done to recognise the connection between credit portfolio enhancement and a bank's financial steadiness. In this instance, the Z–score is a proxy measure of a bank's economic stability. The Z-score of each Bank is estimated by the return on assets (ROA) in addition to the capital-to-asset ratio divided by the standard deviation of ROA. This determines the relationship between LPD, Bank Size, non–interest income share, liquidity GDP growth, and bank stability. Table 4.3 shows that non–interest income share and GDP growth are negatively associated with bank stability in commercial banks. Pearson's correlation shows the values as (-0.109) and (-0.063). It proved that there is a low degree of negative relationship between the non–interest income shares and financial stability in commercial banks of Sri Lanka, and there is a low degree of negative relationship between GDP growth and economic stability in commercial banks in Sri Lanka. All other three variables are positively related to the Bank's stability. LPD, Bank Size, and liquidity have shown values (0.170), (0.425), and (0.265), respectively. Among them, LPD, Bank size, and liquidity have a low degree of a positive relationship with the financial stability of commercial banks in Sri Lanka.

Table 4.3: Summary of the correlation analysis

Correlation probability	**Stability**	**Div**	**Size**	**Non-ints**	**Liq**	**GDP**
Stability	1.000					
Div	0.880030	1.00000				
Size	0.425821	0.478643	1.00000			
Non-ints	-0.109198	-0.044717	-0.603425	1.00000		
Liq	0.265826	0.187194	0.678580	-0.491115	1.00000	
GDP	-0.063691	-0.097836	-0.572683	0.427493	-0.198915	1.00000

Source: Authors' calculations

The panel data regression analysis has been used to identify the impact of loan portfolio diversification on bank stability in commercial banks in Sri Lanka. Ordinary least squares, fixed effects, and random effects models are tested to find the most appropriate model for the estimate and represent this study's results. To select the most suitable method for the study, the researcher used the Housman Test, the Redundant Fixed Effect Test, and the Lagrange

multiplier (LM) Test. The regression analysis has been adapted to measure the relationship between dependent and independent variables. Therefore, this test can be used to measure the impact of loan portfolio diversification on the financial stability of commercial banks in Sri Lanka. The most appropriate and fitted model was found after conducting all other tests using the Housman test. As per the Tao selection, the probability value is considered to select the best model out of the two methods: random and fixed effect models. According to the results of this Housman test, the probability value is 0.328. As a result, the p-value is more significant than 0.05. Therefore, the study used a random effect model as the most appropriate model to measure the impact of loan portfolio diversification on bank financial stability in commercial banks in Sri Lanka.

Table 4.4: Results of the random effect model

Variable	Coefficient	Prob.
C	28.84195	0.4981
DIV	0.012897	0.0000
SIZE	-12.58620	0.1005
NON_INTS	-2.894094	0.5453
LIQ	9.209254	0.0161
GDP	-0.493968	0.4073

Source: Authors' own

According to the Findings of the random effect model, as stated in Table 4.4, loan portfolio diversification has a significant positive impact on the financial stability of commercial banks in Sri Lanka. It shows that loan portfolio diversification significantly affects the Bank's economic stability. Because its coefficient was 0.012, and the probability value showed 0.000 for these variables. This means that if LPD increases by one, it will increase the Bank's financial stability before it can be concluded that LPD is statistically significant.

The co-efficient values of control variables of bank size, non–interest share, and GDP show values of -12.586, -2.894, and -0.493, respectively. When considering the P values, it can be concluded that these three variables are not statistically significant. Another control variable is liquidity, which positively impacts the Bank's financial stability. That means liquidity increases by one per cent, increasing the Bank's stability by 9.209 per cent. The p-value of this same variable shows 0.0161. Hence, the variable is statistically significant.

5. Conclusion

The study's results suggest that having a diversified loan portfolio can support banks or any other financial institution in being financially stable even in a kind of economic downturn.

The most recent studies by Sharma et al. (2023) and Chen et al. (2022) support this insight and confirm that loan portfolio diversification can lead to reduced credit risk. Moreover, the findings revealed a significant impact of loan portfolio diversification on the Bank's financial stability. It also suggests a positive effect of liquidity on the financial stability of the banks. Furthermore, the results indicate no positive impact between bank size and financial stability, non–interest income shares, and bank financial stability regarding GDP growth and financial stability.

Moreover, it is revealed that liquidity is more important to maintain the financial stability of banks when the market is shaky and the economy is not stable. The studies which have conducted by Li et al. (2024) and Wang et al. (2023) highlighted the importance of managing the liquidity of banks and financial institutions. The study's findings also highlight the importance of liquidity.

The literature showed a noticeable connection between bank size and financial stability. For instance, studies conducted by Zhang et al. (2024) and Jiang et al. (2022) highlight that larger-scale banks have many more issues concerning financial stability than small-scale banks. On the other hand, having many more ways to make money, such as non-interest income shares, does not mean that a bank or any financial institution can be more stable, as highlighted in recent studies such as Guo et al. (2023) and Liu et al. (2022).

When considering the connection between economic growth and financial stability, the study's results go against the social normality of thinking that better economies can lead to more financial stability within the countries. Even the empirical findings of Wu et al. (2024) and Zhou et al. (2023) suggest that there is no significant relationship between economic growth and financial stability. Moreover, they highlight that it will depend on several factors, such as monetary policies and market behaviours. Most empirical studies in other countries have concluded that LPD positively affects bank stability. The findings also indicate a positive effect between LPD and bank stability. The Basel Committee on Banking Supervision about credit risk through LPD is more parallel with the findings of this study. Further, Maina (2013) and Tah et al. (2016) suggest the same finding in their studies. However, Kurincheedaran (2015) has found contradictory insights compared to this study’s results.

Commercial banks should raise their LPD to a suitable level to improve their stability. Hence, commercial bank management must employ suitable tactics to enhance their loan portfolio position. Therefore, banks can strengthen their client base by growing their lending activities while retaining their current clientele. Moreover, banks should prioritise sectors outside

lending to specific regions. The emphasis should be placed on certain market segments to maximise lending and gain a competitive edge.

Commercial banks must elevate their LPD to a suitable extent to bolster their stability. Consequently, commercial bank management must employ suitable tactics to boost their loan portfolio standing. This will enable banks to broaden their lending activities, thus attracting a more extensive clientele while maintaining their current customer base. Moreover, banks should prioritise lending across diverse niches rather than confining themselves to limited sectors. By focusing on niche markets, banks can maximise their competitive edge.

According to the results, banks must avoid adverse selection and information asymmetry when providing loans to customers. Banks must implement new policy programs to expand lending regulations and obtain more facts about the customers without harming customer relationships. Moreover, commercial banks should focus on reducing nonperforming loans because there is a high credit risk when concentrating on a loan portfolio. Therefore, bank management should pay more attention to those nonperforming loans and take immediate action to reduce the level of credit risk.

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CHAPTER FIVE

Corporate Diversification and Firm Financial Performance: A Comparison between Diversified and Non-Diversified Companies Listed in Colombo Stock Exchange

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Abstract

The firm's diversification decision significantly impacts its performance. Identifying performance disparities between diversified and non-diversified groups is vital for enhancing financial outcomes. This study compares diversified and non-diversified companies listed in the Colombo Stock Exchange from 2016 to 2021 in Sri Lanka's Hotels, Restaurants & Leisure sub-industry. Secondary data were sourced from the Colombo Stock Exchange and conducted an independent sample t-test to measure performance differences. Additionally, panel data regression was performed to assess the relationship between diversification and financial performance. Return on Assets and Return on Capital Employed served as proxies for financial performance, while the Herfindahl–Hirschman index represented total diversification. Results indicate a performance gap between diversified and non-diversified hotel companies, with diversification negatively impacting financial performance. Management needs to consider whether their long-term goals align with their diversification decisions by examining external analyses, such as PESTLE, and internal factors, like those identified in the Five Forces framework.

Keywords: *Diversification, Herfindahl–Hirschman index, Return on Assets, Return on Equity.*

1. Introduction

Diversification means the extent to which the companies operate in many other businesses. The primary goal of the diversification plan of a company is to enhance performance and revenue from the products. In the broadest sense, corporate diversification is the key to an established business into a startup that includes new products & markets (Brost & Kleiner, 1995). Diversification could be further classified as horizontal diversification, vertical diversification, conglomerate diversification, concentric diversification, and corporate

diversification. Diversification has also been classified into different sectors based on multiple parameters; the outcome of diversification is to expand the organization outside of its local boundaries to another sector, a sub-sector in the same sector, or some other geographic region (Sun & Govind, 2017).

For the past half-century, corporate diversification has remained a significant strategy for several firms around the world and is still a major phenomenon in today's business world (Cernas-Ortiz, 2011). Corporate diversification is sometimes described as entering an established business into something like new business activities that include new market opportunities (Brost & Kleiner, 1995). It is more than just a trend; it is also based on rational reasons and far more than a trending pattern; it is also based on logical reasons. Such rationale includes high profits, reduced risk, greater market share, growing debt capacity, faster growth, longer business life cycles, as well as fruitful utilization of human resources and finances. Diversification, which overtook strategies in developed economies from 1950 to 1980, has given way to refocus. However, large conglomerates continue to control the economic environment in emerging markets; it has been shown that up to 80% of total private market sales and assets in some countries (Purkayastha et al., 2011). Due to the contradictory evidence that has emerged from these studies, the multiple attempts to show the impacts of diversification on performance have been inconclusive. Most of the studies that have been done thus far are formulated based on businesses in industrial diversification.

According to the 2021 edition of the World Tourism Barometer, the travel and tourism industry has experienced an unheard-of crisis due to COVID-19's rapid advances and palpable effects and the Ester attack. Due to extensive travel restrictions and a sharp decline in demand, foreign tourist arrivals decreased by -74 percent from the previous year. With 100 to 120 million direct tourism jobs at risk, the estimated loss of global tourism receipts was USD 1.3 trillion. Even though travel & tourism have historically proven to be flexible industries, the effects of such a pandemic were much more severe than those of the SARS outbreak in 2003, which reduced people arriving by 0.4 percent, and the global financial crisis caused them to drop by 4 percent. The Asia and Pacific region, which was the first to experience the effects of a rare pandemic, reported the largest reduction in arrivals (84 percent). In Sri Lanka, tourism, which held the third spot as one of the sectors with the greatest foreign exchange earnings in 2019, experienced an abrupt decline and now holds the seventh spot. As a result, the sector's share of overall foreign exchange earnings from within the tourism sector dropped from 13.7 percent to 3.3 percent, down from 13.7 percent the year prior. The estimated official revenue for 2020 was Rs. 124,189 million, down 80.8 percent from Rs. 646,362 million in 2019. The daily tourist receipts per person totalled 158.1 US dollars, a

decline of 12.7% from the US$ 181 in 2019 (Sri Lanka Tourism Development Authority, 2020).

1.1. Problem Statement

In the Sri Lankan context, many of the Sri Lankan conglomerates consistently rank among the highest-performing organizations since the colonial era. These diverse organizations have evolved over the years to meet the needs of the market despite difficulties. Tourism is one of the main industries in Sri Lankan businesses that have concentrated on when considering corporate diversification. Leading hotels and resorts in Sri Lanka possess conglomerate businesses like Hayleys, LOLC Holdings, John Keels Holdings, etc. The tourism sector has experienced rapid growth in Sri Lanka, with continuous tourist receipts (in US dollars) from 2001 to 2016. The tourist revenue then experienced considerable fluctuations from 2016 to 2020. The tourism sector has grown significantly since 2000, but in 2017, there was a slight fall in income, which was greater than the previous year. Additionally, the hotel companies are crucial to the hotel/leisure industry and recorded the highest percentage of foreign exchange earnings within the sector, rising to Rs. 338,015.4 mn in 2016 after a 28.6 percent increase in 2015 (Sri Lanka Tourism Development Authority, 2020).

Most of the empirical research on diversification and its effects on firm value or performance has already been done in developed economies, and the findings of these studies depend on a variety of market factors, like market turbulence (Sun & Govind, 2017). According to a study based on data from nine emerging markets, corporate diversification boosts company value more than single-segment benchmarks (Selcuk, 2015). With the guidance of data from earlier studies, it is possible to conclude that developing markets have not been the focus of most research on diversification and firm value. Additionally, a few earlier studies were carried out using an industry basis. The above-mentioned facts had a direct impact on the Sri Lankan tourism sector; also, for the period of 2016/21, the hotel industry in Sri Lanka had experienced shifts due to changing consumer preferences, economic conditions, or regulatory changes. Diversification strategies could be a response to these dynamics, and understanding their impact on performance could provide valuable insights. However, there is a question about whether there are any performance differences between diversified and non-diversified hotel companies in Sri Lanka (Sri Lanka Tourism Development Authority, 2020). So the problem can be identified as follows: “What is the performance difference between diversified and non-diversified hotel companies in Sri Lanka?”

1.2. Research Objectives

The main purpose of this study is to determine whether diversified and non-diversified firms perform differently in terms of financial performance. So, In this context, “non-diversified companies” refer to the independent hotel companies listed on the Colombo Stock Exchange, and the term "diversified company" refers to diversified conglomerates with at least one hotel on their list of subsidiaries.

1. To study the performance difference between diversified and non-diversified hotel companies in Sri Lanka.
2. To identify the type of relationship between diversification and firm financial performance in Sri Lanka.

Many businesses adopted the diversification strategy over the last few decades, and as a result, many successful and unsuccessful businesses benefited from diversification internationally and locally. However, the partners or management of the firm must make an important decision regarding diversification. A diversification decision has a variety of effects, both merits and demerits. Additionally, diversification affects business operations and values more significantly. However, it is still unclear how diversification affects the value of the company and how exactly it relates to the firm's value. Diversification may be crucial to the company strategically but may not have any effect on the value of the company in some cases (Bhatia & Thakur, 2018). These circumstances are not covered by the study, which focuses solely on how diversification affects the value of a company. Hotel companies are one of the major earning industries in Sri Lanka, and they make a significant contribution to the GDP. So, this research continues to be studied in the hotel/leisure industry, and it may help to understand how diversification affects firm performance by considering leverage, profitability, and company size

2. Previous Literature

This section provides a theoretical and detailed review of prior research on the relationship between diversification and firm financial performance, organized according to the different headings: firm value, corporate diversification (unrelated diversification), Other factors affecting diversification, the relationship between corporate diversification and firm value, benefits of diversification, drawbacks of diversification, and finally, research gaps will be identified.

2.1. Theoretical Review

The existing literature has a variety of theories, such as Resource-Based View (RBV), Market Power Theory, Agency Theory, and Financial Synergies Theory that explain why diversified

and nondiversified organizations are valued differently. From those theories, the theory covered by this research is the modern portfolio theory. Harry Markowitz (1992), an American economist, created the "portfolio choice" idea in the 1950s, allowing investors to evaluate risk in relation to the expected return. The Modern Portfolio Theory is the modern name for Markowitz's theory (MPT). The MPT is an investment theory that makes specific considerations about the ratios of various assets to maximize portfolio expected return for a specific amount of portfolio risk or minimize risk for a specific level of expected return. The valuation of a group of assets or the effects of product diversification on business growth and profitability are two common applications of portfolio theory (Montgomery, 1994). Systematic risk, or market risk, and unsystematic risk, or individual security risk, are the two fundamental components of the portfolio theory, which seeks to lower risk by distributing assets over a variety of securities (Vricella, 2005). The portfolio's unsystematic risk is decreased if the number of individual securities is raised. It follows the same principle: "don't put all your eggs in one basket." The risk would be spread among more assets if investors diversified their portfolios further into the global market (Lee et al., 2004). Furthermore, Modern Portfolio Theory (MPT) was also established to select and create the most effective diversified portfolio and significantly lower risk. Using MPT, investors can get advice on the predicted risk and returns of their investments. At its most basic level, the theory suggests that investors should diversify their holdings across several portfolios rather than relying just on one, allowing them to benefit from lower risk due to portfolio diversification.

2.2. Empirical Review

The theoretical reasoning outlined above does not distinguish diversification into related and unrelated markets. However, many studies argue that diverse enterprises with related businesses do better than conglomerates. Corporate diversification is a combination of business units that operate in various industries under the common management of a single company (Martin & Sayrak, 2003). The degree of diversification was assessed using the Herfindahl and Entropy indices. Although unrelated diversification primarily focuses on product diversification, scholars of international management have been investigating the challenging effects of global diversification for decades (Hitt et al., 1977). Diversification has evolved into a distinct strategic choice that all businesses should consider to create and sustain a competitive advantage over domestic and global markets due to the dynamic competition and globalization of markets within the current economy (Delbufalo et al., 2016).

The financial performance of a company can be viewed as an economic metric that reflects the company's operational outcomes. As a result, throughout the existence of a business organization, the company's financial success can be understood as a reflection of the firm's

effectiveness in the market. To assess the financial performance of a company, diversification theorists frequently use the return on sales (ROS), return on assets (ROA), and return on equity (ROE) ratios (Tallman & Li, 2017; Jung, 2003; Afza et al., 2008). According to Adam and Goyal (2002), Tobin's Q beats all other proxy variables and provides the highest information about investment prospects. Size, growth, and leverage are all positively correlated with the performance of the company, indicating that larger companies, those with more investment, those with high growth, and those with high leverage are all more likely to have a better level of performance (Siagian, 2013). It shows how a company's financial performance will improve as it grows and expands. Many companies measure financial performance in relation to unrelated diversification (Rocca & Staglian, 2012; Bettis, 1981). Further, measures of a company's financial performance include return on total assets (ROTA), return on capital employed (ROCE), and profit margin (PM) (Dinushika et al., 2008).

Kim et al. (2023) and Wu et al. (2022) discovered evidence that market structure disparities between the industries in which the businesses competed were partly responsible for performance discrepancies among diversified enterprises. As a result, several control variables may be found under this. It is important in a way that it explains the experience of the firm in its operations. Muritala (2012), Hunjra et al. (2014), and Lazar (2016) discover that the financial performance of businesses is positively impacted by firm age and expansion. Pervan et al. (2017) provide a theoretical analysis of the effects of age, both good and bad, on financial success. Older companies have more skills, experience, advanced technology, experienced workers, and a supportive atmosphere for learning, all of which allow them to improve financial performance. On the other hand, older businesses experience a decrease in flexibility, the capacity to make quick judgments, and the capacity to make quick changes. Businesses are likewise reluctant to take risks as age increases. Santarelli and Tran (2016) studied the profitability and diversification efforts of businesses in Vietnam. This study demonstrated that diversification reduces performance while having a curvilinear impact on profitability.

Diversification undoubtedly has costs and benefits, but empirical data reveals that such costs and benefits vary widely across different organizations. When the advantages of diversification are taken into consideration, a premium for diversification results is shown (Williamson 1975, cited in Selcuk 2015). Diversification is indeed a value-maximizing technique, according to a variety of theoretical studies. For instance, Fluck and Lynch (1999) demonstrate how diversification can be used to finance initiatives that would not otherwise be able to be supported by external financial markets acting independently.

The organizations may suffer certain costs because of diversification. For instance, Jara et al. (2015) stated that operational inefficiencies that can result from a firm's complexity, as well as the diversification discount, which also results from ineffective resource allocation towards higher-income product groups, are the two main drawbacks of diversification.

This study quantifies the performance difference between diversified and non-diversified firms based on the tourism industry in Sri Lanka. During the past six years, the hotel industry has faced huge fluctuations. So, it is hard to find a study that has been done to identify the performance difference between both diversified and non-diversified hotel companies in Sri Lanka, especially from 2016 to 2021, considering the Easter attack and the COVID-19 impact as a dummy. According to the best of researcher's knowledge, a few number of studies have been conducted centered on the diversification of the Sri Lankan context especially based on the tourism industry during the crisis period. Therefore, the current study aims to bridge this gap by evaluating the performance difference between diversification and firm performance.

3. Methodology

3.1. Methodological Approach

Employing either a quantitative or a qualitative technique was the basic strategy for thesis work. Those two main theoretical methods differ from one another in respect to collecting and analyzing data (Kirk & Miller, 1986). Analysis of a relatively small sample is used to carry out a qualitative investigation that is challenging to quantify or mathematically generalize. It is useful for case studies, including analysis of specific behaviors (Holme & Solvang, 2001). A variety of techniques are included in quantitative research, which is concerned with employing statistical or numerical data to systematically examine social issues. As a result, quantitative research relies on measurement and assumes that the phenomena being studied can be quantified. It aims to analyze data for patterns and connections as well as to validate the measurements. This is accomplished by utilizing sophisticated computer software, which can do analyses that are far more complicated than would otherwise be possible (Watson, 2015)

So, the quantitative analysis used in this study was based on data collected over six years from 20 distinct firms in diversified and non-diversified groups, along with a few variables related to listed conglomerates and listed hotel companies in Sri Lanka.

3.2. Research Design

To gather the knowledge required for the study, a set of compelling, controlled, & methodical guidelines must be created. Descriptive analysis was used to give a basic understanding of the variables in both models as well as to draw attention to any potential relationships between

variables.. The design can help researchers answer their study questions in a way that is considerably more productive and efficient (Gill and Johnson, 2002). According to that, firstly, the researcher examines the performance difference between diversified and non-diversified hotel companies in Sri Lanka using the Independent Sample t-test method. Secondly, to identify what sort of relationship existed between unrelated diversification and the firm performance panel data regression analysis

Concerning the research questions of the study, the researcher employed the independent sample t-test and panel data regression. According to that, firstly, the researcher examines the performance difference between diversified and non-diversified hotel companies in Sri Lanka using the independent sample t-test method. Secondly, to identify the nature of the relationship between diversification and firm performance, a panel data regression analysis was conducted. This study has two main populations, and it proposes concentrating on one sector by using Colombo Stock Exchange GICS classification information to reduce the industry's 20 variations in statistical outcomes. As the concentration is on the listed conglomerates, it is focused only on the industrial sector in the GICS classification. The categorization shows that most listed diversified holdings are engaged in the hotel/leisure industry. The first population was taken from the industrial sector under the capital goods industry group, from the industrial conglomerates industry under the industrial conglomerates sub-industry, which consists of 34 companies. Since it was based on the conglomerate companies with at least one hotel company in their company portfolio, the second population was taken from 41 hotel companies listed on the Colombo Stock Exchange under the consumer Hotels, Resorts & Cruise Lines subindustry.The simple random sampling method was used as a sampling technique. The data was collected for the period from 2016 to 2021. The period was chosen to include the impact of COVID-19 as well. The study selected the 10 listed conglomerates as the first sample from the capital goods industry group, which is part of the industrial sector and contains 34 businesses according to the GICS classification. Similarly, each has 5 different companies, including a hotel. As the second sample, 10 stand-alone hotel companies were selected under the Hotels, Restaurants & Leisure sub-industry that had more than 8 hotels in each group, reporting revenue always from the hotel industry according to the GICS classification.

It is evident that when comparing diversification and non-diversification relationships to performance, most researchers have discovered a favorable association between related diversification and performance. Portfolio diversification involves putting money in a variety of asset classes and securities to reduce the total risk of the portfolio and maximize the expected return. So, considering the modern portfolio theory of diversification.

H_1: There is a performance difference between diversified firms and non-diversified hotel firms in Sri Lanka

H_{1a}: There is a performance difference between diversified and non-diversified hotel firms in terms of Return on Assets (ROA).

H_{1b}: There is a performance difference between diversified and non-diversified hotel firms in terms of Return on Capital Employed (ROCE).

H_2: There is a significant positive relationship between diversification and the firm financial performance.

H_{2a}: There is a significant positive relationship between diversification and Return on Assets (ROA).

H_{2b}: There is a significant positive relationship between diversification and Return on Capital Employed (ROCE).

3.3. Model Development

The basic regression models measure the relationships between diversification and firm financial performance based on ROA and ROCE. These models are run for a sample consisting of diversified conglomerates.

Model 1

$$ROA_{it} = \beta_0 + \beta_1 TD_{it} + \beta_2 SIZE_{it} + \beta_3 PROF_{it} + \beta_4 LEV_{it} + \beta_5 AGE_{it} + \beta_6 D1_{it} + \varepsilon_{it}$$

Model 2

$$ROCE_{it} = \beta_0 + \beta_1 TD_{it} + \beta_2 SIZE_{it} + \beta_3 PROF_{it} + \beta_4 LEV_{it} + \beta_5 AGE_{it} + \beta_6 D1_{it} + \varepsilon_{it}$$

Where ROA denotes return on total assets, ROCE denotes return on capital employed, TD denotes total diversification, SIZE denotes firm size, PROF denotes profitability, LEV denotes leverage, AGE denotes age, D1 denotes dummy variable for social effect (Easter Attack & COVID 19 impact), ε denotes unexplained variables or error term, β denotes parameter to be estimated, i denotes the i th firm, and t denotes the period of time measured in years. To achieve the objectives of the study, two main hypotheses have been used, employing ROA and ROCE as proxies for financial performance. Total diversification serves as an independent variable, with age, size, leverage, and profitability serving as control variables. Additionally, a dummy variable is used to represent the social impact. E-Views

Statistical software was used to select the best-fitted model, while IBM SPSS Statistical Software was utilized to measure performance difference.

4. Results and Discussion

This part focuses on the analysis and presentation of results to identify the performance difference between diversified and non-diversified firms in the tourism industry in Sri Lanka, utilizing t-statistics. Furthermore, panel data regression was employed to examine the type of relationship related to diversified conglomerates. The objective of this section is to summarize the collected data and validate the interpretation of the results obtained through analysis by utilizing tables. Accordingly, descriptive analysis, independent sample t-test, and panel regression are presented in this section.

4.1. Descriptive Analysis

Descriptive statistics for a sample of 10 divers conglomerates (which included hotel companies in their company list) and 10 Non-diversified hotel companies from 2016 to 2021 are shown in Table 4.1 and Table 4.2, and it has been presented the minimum, maximum, mean, and standard deviation related to the variables of this study.

Tables 4.1: Result of Descriptive Statistics for Diversified Conglomerates

Variables	N	Mean	Minimum	Maximum	Std. Dev.
ROA (%)	60	4.293	-5.500	13.552	4.386
ROCE (%)	60	5.304	-11.937	18.921	7.362
TD	60	0.687	0.394	0.892	0.121
SIZE	60	126665	7803	536794	111544.4
PROF (%)	60	9.161	-3.086	20.484	5.465
LEV (%)	60	19.240	0.579	40.328	10.182
AGE	60	88.700	25.000	155.000	47.109
D1	60	0.500	0.000	1.000	0.504

Note: ROA: Return on Assets; TD: Total Diversification; SIZE: Firm Size (‘000); PROF: Profitability; LEV: Leverage; AGE: Firm Age (Years); D1: Social Effect dummy

Source: E-views Output

Tables 4.2: Result of Descriptive Statistics for Non-Diversified Hotel Companies

Variables	N	Mean	Minimum	Maximum	Std. Dev.
ROA (%)	60	-0.483	-21.410	15.037	7.190
ROCE (%)	60	-1.568	-32.296	16.127	9.764
TD	60	0.000	0.000	0.000	0.000
SIZE	60	9520062	1165278	62475469	13796588

PROF (%)	60	-14.744	-398.000	52.579	67.831
LEV (%)	60	22.000	0.000	63.628	16.896
AGE	60	52.600	24.000	151.000	33.183
D1	60	0.500	0.000	1.000	0.504

Note: ROA: Return on Assets; TD: Total Diversification; SIZE: Firm Size (‘000); PROF: Profitability; LEV: Leverage; AGE: Firm Age (Years); D1: Social Effect dummy

Source: E-views Output

4.2. Performance Difference Between Diversified Firms and Non-Diversified Firms in Sri Lanka

Independent Sample t-test

The comparison of performance metrics between the diversified and non-diversified firms considered for the study is shown in the following table:

Tables 4.3: Result of Independent Sample t-test

ROA		**Sig.**	**Diversified Firms**	**Non-diversified Firms**
Observations			60	60
Mean			0.0409	-0.0048
Std. Deviation			0.0371	0.0379
Normality				
Kolmogorov-Smirnov		0.200		
Shapiro-Wilk		0.715		
Skewness	-0.295			
Kurtosis	-0.740			
Homogeneity				
based on mean		0.849		
Equality of Variance				
F	0.038			
Levene's Test		0.849		
Independent Sample Test				
df	18			
t	2.728			
2-tailed test		0.014		
Mean difference	0.04576			
95% Confidence Interval Difference				
lower	0.01052			
Upper	0.08100			

ROCE	**Sig.**	**Diversified Firms**	**Non-diversified Firms**
Observations		10	10
Mean		0.0530	-0.0160

Std. Deviation			0.0677	0.0547
Normality				
Kolmogorov-Smirnov		0.200		
Shapiro-Wilk		0.929		
Skewness	-0.205			
Kurtosis	-0.155			
Homogeneity				
based on mean	0.677			
Equality of Variance				
F	0.179			
Levene's Test		0.677		
Independent Sample Test				
df	18			
t	2.497			
2-tailed test		0.022		
Mean difference	0.06872			
95% Confidence Interval Difference				
lower	0.01089			
Upper	0.01070			

Source: SPSS Output

The diversified firms group (N=10) was distributed with the firm performance of M= 4.09 (SD= 3.705) in terms of Return on Assets (ROA) and of M= 0.053 (SD= 0.067) in terms of Return of Capital Employed (ROCE). By comparison, the non-diversified firms group (N=10) was associated with numerically smaller firm performance M= - 0.49 (SD= 3.805) in terms of ROA and M= -0.016 (SD= 0.055) in terms of ROCE. The Hypothesis Associated with this;

H_0: Diversified and non-diversified firms have equal performance (M1 = M2)

H_1: Diversified and non-diversified firms have performance differences (M1 ≠ M2)

An independent sample t-test was performed to test the hypothesis that diversified and non-diversified firms were associated with statistically significant different mean firm values (Table 4.3). According to ROA and ROCE, the test of normality in both performance measures shows that the values of Kolmogorov-Smirnov and Shapiro-Wilk were greater than its p value (ROA-0.2,0.715), (ROCE-0.2,0.929) respectively. Moreover, the Skewness for ROA is -0.295, ROCE is -0.205, the Kurtosis for ROA is -0.74, and ROCE is -0.155. That means both distributions were approximately normal.

Additionally, the assumption of homogeneity of variances was tested and the result shows that homogeneity based on the mean is greater than the 0.05 (p<0.849), (p< 0.677) in relation to ROA and ROCE respectively. In addition, satisfied via Levene's test of equal variance assumed, F (18) = 0.038, p=0.849 for ROA and F (18) = 0.179, p=0.677 for ROCE. According to both ROA and ROCE, the independent sample t-test was associated with a

statistically significant effect, t (18) =2.728, p=0.014, and t (18) =2.479, p=0.022. Thus, the diversified firms were associated with a statistically significantly larger mean firm value than the non-diversified firms in terms of ROA and ROCE. Hence, the null hypothesis (H_0: M1 = M2) of equal M s can be rejected, p<0.05. Therefore, the alternative hypothesis of unequal M s can be accepted, p<0.05. So, diversified and non-diversified firms do not have equal performance; they do have performance. That means, there is a performance difference between diversified firms (which include at least one hotel company in their company portfolio) and non- diversified hotel companies (Sri Lanka) in terms of ROA and ROCE.

4.3. The Impact of Diversification on Firm Financial Performance in Sri Lanka

Pearson Correlation Analysis

Table 4.4: Result of Pearson Correlation Analysis

Correlation	ROA	ROCE	TD	SIZE	PROF	LEV	AGE
ROCE	0.864						
TD	-0.042	0.223					
SIZE	-0.014	0.085	0.317				
PROF	0.379	0.473	-0.013	0.269			
LEV	-0.318	-0.285	0.310	0.365	-0.050		
AGE	0.399	0.214	-0.004	-0.125	-0.332	0.091	
D1	-0.323	-0.255	-0.056	0.090	-0.262	0.148	0.040
p	0.04*	0.02*	0.00*	0.01*	0.04*	0.00*	0.03*

Source: E-views output

According to the findings of the above table, profitability and Firm Age positively associate with Return on Assets (ROA) by showing low positive relationship, 0.379 and 0.399 respectively. Total diversification, Firm Size, Leverage, and social effect (D1) show a low negative relationship with ROA. The values of those variables are -0.042, -0.014, -0.318, and -0.323, respectively.

On the other hand, Total Diversification (TD), Firm Size, Profitability, and Age of the firm depict a low positive relationship with Return on Capital Employed (ROCE) by showing 0.223, 0.084, 0.473, and 0.214. Leverage and Social Effect (D1) shows a low negative relationship (-0.285 and -0.254) as previously. According to the Oyewobi et al. (2013), the findings of the investigated variables on correlation analysis showed that there are only weakly positive connections between geographic diversification (GD), product diversification (PD), and profit margin (PM). This demonstrates that the more diversified a company is, the larger its profit margin.

Diagnostics Test

The multicollinearity test is carried out to check out any potential association between independent variables, although none of the completed regressions were found to have multicollinearity. The study uses a micro panel only for a few periods of 10 years; hence, the serial correlation test is not run since macro panels with longer time series of 20–30 years are required (Baltagi, 2012). According to the Jarque-Bera statistic, it is statistically significant, and the findings show that the error series has a normal distribution. The p-value is higher than 0.05, indicating that it is statistically significant. Then, accept the null hypothesis by mentioning that residuals are normally distributed.

Panel Regression Method

The aim of the study is to analyse the performance difference between diversified and non-diversified firms in the hotel industry in Sri Lanka for the period from 2016 to 2021. The second objective is to determine whether a significant positive relationship exists between diversification and firm financial performance in Sri Lanka. The researcher has accomplished the two initial objectives based on the results of the independent sample t-test method, random effect model, and fixed effect of panel data regression analysis.

To achieve the first objective, an independent sample t-test was employed for ROA and ROCE separately. The results show a performance difference between diversified and non-diversified hotel firms in terms of ROA and ROCE, as shown in Table 4.3. Hence, the null hypothesis was rejected, and the alternative hypothesis (H_1: There is a performance difference between diversified firms and Non-diversified hotel firms in Sri Lanka) was accepted, consistent with Modern Portfolio Theory. This result affirms the findings of Dinusha et al. (2018). According to this existing literature, the significant values from the independent sample t-test for the performance metrics of ROA and ROCE are below 5%, further explaining that the financial performance of diversified and undiversified hotel firms differs significantly in Sri Lanka. However, some studies show contradictory results. For example, Luqman et al. (2013) found statistically insignificant results, supporting the research by Ibrahim et al. (2009) in the UK construction industry, which found no performance differences between the two groups.

Regarding the second objective, data from 10 selected conglomerates were analyzed for a period of six years, measuring firm financial performance based on ROA and ROCE. The random effect model was the best-fitted model for ROA, while the fixed effect model was best for ROCE (Table 4.5).

Table 4.5: Specification Tests

Model 1:ROA				
Specification Test	Statistics	p-value	Tested	Selection
F-Test	13.4055	0.0000	OLS/Fixed	Fixed
Breusch- Pagen	36.6067	0.0000	OLS/Random	Random
Hausman	9.6708	0.1392	Fixed/Random	**Random**
Model 2:ROCE				
Specification Test	Statistics	p-value	Tested	Selection
F-Test	14.6383	0.0000	OLS/Fixed	Fixed
Breusch- Pagen	13.4199	0.0002	OLS/Random	Random
Hausman	35.0197	0.0000	Fixed/Random	**Fixed**

Source: E-views output

Fisher (F)- Test Result

The F value is used to determine if there are any fixed effects in the residuals (Table 4.5) according to the F-tests of both regressions, which reject the null hypothesis in both models that the PLS model is accepted. The fixed effect model is preferable to the pooled OLS regression model because the Cross-section Chi-square value (0.0000) is less than 0.05.

Lagrange Multiplier (LM)-Test Results

The random effects model is preferred, and the obtained Lagrange Multiplier test statistics for Sri Lankan diversified conglomerates strongly reject the null hypothesis. Based on the output of the LM test, it can be concluded that the classical regression model (Pooled OLS) with a single constant term is not appropriate for these data because the Breusch-Pagan probability value is 0.0000 in model 1 and 0.0002 in model 2, respectively in Table 4.5.

Hausman Specification Test Results

Based on the results of the Hausman test performed above, the random firm effect model is the most suitable in the Sri Lankan context. Since the p value for the cross-section random is 0.1392, which is larger than 0.05, the RE model is chosen for model 1. Based on the results of the Hausman test performed above the cross-section random p value of 0.0000, which is less than 0.05, the fixed firm effects model would be a better option for model 2 than its random firm effect model for firm performance data in terms of ROCE. Model 2 of Table 4.5 illustrates the value of the Hausman-Statistic for random firm effect models. By referring to the above parameters of the panel regression model, it can be concluded that the fitted model examines the relationship between diversification and the firm value in terms of ROA in the

Random Effect (RE) model.On the other hand, to examine the relationship between diversification and the firm value in terms of ROCE is the Fixed Effect (FE) model.

Table 4.6: Regression Output according to ROA and ROCE

Variable	Coeff.	Model 1- ROA				Model 2 - ROCE				
		Std. Error	t-Stat	Prob.	VIF	Coeffic.	Std. Error	t-Stat	Prob.	VIF
TD	-0.116	0.052	-2.227	0.030	1.099	-0.332	0.115	-2.869	0.006	1.161
SIZE	0.006	0.004	1.569	0.123	1.104	0.005	0.007	0.658	0.514	1.161
PROF	0.409	0.068	6.010	0.000	1.346	0.413	0.129	3.190	0.003	1.573
LEV	0.045	0.051	0.895	0.375	1.287	0.109	0.104	1.044	0.302	1.512
AGE	0.097	0.036	2.689	0.009	1.056	-0.328	0.412	-0.796	0.430	2.585
D1	-0.022	0.005	-4.577	0.000	1.343	-0.027	0.011	-2.371	0.022	2.546
C	-0.142	0.084	-1.697	0.096	NA	0.815	0.799	1.019	0.313	NA

Source: E-views output

The results identified a negative relationship between diversification and firm financial performance in terms of ROA and ROCE. Hence, the alternative hypothesis (H_2: There is a significant positive relationship between diversification and firm Financial Performance) was rejected, and the null hypothesis was accepted. This result contradicts the Modern Portfolio Theory, rejecting the notion that diversification maximizes profit. It aligns with Oyewobi et al. (2013), showing weak negative correlations between performance indicators and diversification. It also supports Ofori & Swee (2000); Rocca & Staglianò (2012), which showed a detrimental effect of corporate diversification on financial performance. Contrary results were shown by Montgomery & Wilson (1986), suggesting that diversification into other industries is more advantageous.

Wald Test

Table 4.7: Result of Wald Test in both models

Test Statistics	Wald Test	
	Model 1 (Probability)	Model 2 (Probability)
F-statistics	0.0000	0.0000
Chi-square	0.0000	0.0000

Source: E-views output

According to Table 4.7, if the p-value is less than 0.05, the null hypothesis can be rejected, and the alternative hypothesis can be accepted. The researcher concluded that the model variables significantly contributed to both models.

5. Conclusion

One of the most dynamic sectors of the Sri Lankan economy is the hotel sector, and most of the listed hotel companies are conglomerate affiliates. Based on that perspective, the hotel industry has been considered to explore the study of corporate diversification and firm financial performance in relation to the hotel industry in Sri Lanka. To fulfill the research gap, the first hypothesis was developed, and to address the research hypothesis of the study, as mentioned above, two techniques were employed. To identify the performance difference, an independent t-test showed there is a performance difference between diversified firms and non-diversified firms in relation to the hotel industry in Sri Lanka, according to the ROA and ROCE for the time period of 2016–2021. According to the 2020 annual report of the Sri Lanka Tourism Development Authority, there has been a significant reduction in tourist receipts (US$) since 2016 compared to previous years. So, non-diversified hotel companies are highly affected by this because they earn revenue only in the tourism sector. Nevertheless, diversified conglomerates can earn profits from other sectors because of their diversification, and this will not directly affect their business; they can cover up the losses from other businesses' profits. Further, to address the second hypothesis, the study employs panel data regression and finds a negative relationship between diversified conglomerates in relation to ROA and ROCE. The reason that can be identified is the high cost associated with diversification.

The findings of the study show contradictory evidence for modern portfolio theory by proving that diversification has a significant negative relationship with firm value. So, it could be recommended that management be extra careful when making their diversification decisions in unrelated business segments. They must do some external analysis like those PESTLE or internal factors like those shown in the Five Forces. Moreover, management needs to consider whether their long-term goals are in line with their diversification decision or not. Otherwise, they must bear huge losses through diversification. Profitability must be a good reason to maximize firm value because it represents a significant positive impact. Management must be updated with the tax policies to maintain a healthy profitability ratio within firms. Overall, diversified non-diversified conglomerates have a performance difference according to the Sri Lankan hotel industry, and the performance (ROA, ROCE) of diversified conglomerates is negatively related to total diversification.

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