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## **Government Support for Education Sector in Sri Lanka: Provincial Level Analysis**

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### **A B S T R A C T**

Sri Lanka declares to have higher literacy rates with the best primary and secondary education. Yet, concerns have been raised that there is a noteworthy regional disparity in terms of provincial level in Sri Lanka. Rural schools have been surpassed by urban schools as the majority of the national schools with quality and adequate educational resources are located in urban areas such as the Western province whereas the majority of the schools located in rural areas such as Eastern province are under the government of provincial authorities. This problem has worsened the regional disparity in terms of education in Sri Lanka. The present study aims to analyze the adequacy of the support extended by the government for the education sector in Sri Lanka to alleviate the regional disparity in terms of education and inflate the socio and economic wellbeing of the people in all provinces of Sri Lanka. In order to derive the findings, the study uses quantitative analysis in which panel data of nine provinces in Sri Lanka is used and performs LM tests such as Breusch- Pagan test and Hausman test and then corroborates the applicability of the two-way random effect model to arrive at the findings and conclusions. Findings reveal that there is a negative relationship between prosperity index and budget allocation for education, provision of electricity, and availability of public transport services, whereas there is a positive provision of telecommunication services and prosperity index. Further, it was revealed that there is a positive and significant relationship between the prosperity index and provincial share of GDP in Sri Lanka.

**Keywords:** Distribution of educational rest, Education sector, Government support, Regional disparity, Prosperity index

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## **1. Introduction**

Rural schools of Sri Lanka are still in infancy due to inadequate access to educational resources whereas urban schools pursue to outperform. There's a resolute perception that centrally managed schools receive adequate and quality educational resources relative to schools under the control of provincial authorities. The regional disparity in terms of educational resources in Sri Lanka is considerably high across the provinces where the Western province claims to be the highest while the Eastern province claims to be the lowest in terms of availability of educational resources (Chandrakumara, 2015). Furthermore, the share of students qualifying for the collegiate level is 30% higher in national schools than that of provincial schools (UNICEF, 2019) which leads to escalating regional disparity, given the fact that the majority of the national schools have been established in urban areas. For an instance, as per (Department of Census and Statistics, 2020), there are 74 national schools established in the Western province whereas only 15 national schools are located in North Central province.

In the bargain, even though there is an oversupply of teachers in Sri Lanka (The average student – teacher ratio is 18:1), rural schools have been understaffed with teachers due to a lack of robust recruitment and deployment policies and excessive flexibility provided to the teachers to move between schools (UNICEF, 2019). A huge variation in student/graduate–teacher ratio and student/trained-teacher ratio among the provinces can be observed, where Southern province has the best ratio whereas Eastern province has the worst ratio. Also, the quality of school buildings and other complementary resources in government schools is relatively high in Western province (Chandrakumara, 2015). According to the CBSL annual report published in 2008, the government expenditure on education had been at a persistent rate of 10% as a percentage of total expenditure and 3% as a percentage of GDP (Chandrakumara, 2015). Thus, the aim of this study is to analyze the adequacy of the support extended by the government for the education sector in Sri Lanka to alleviate the regional disparity in terms of education and inflate the socio and economic well-being of the people in all provinces of Sri Lanka.

## **2. Literature review**

### **2.1 Education system in Sri Lanka**

Sri Lanka has been renowned as the best performer in basic education in the South Asian region while marking significantly high literacy rates, yet a quite low proportion of the population entering higher education. The free education policy was introduced to Sri Lanka in 1947 in which every child received the privilege to access school education free of charge in state schools (Liyanagunawardena, 2014). Nevertheless, with respect to tertiary education, state universities offer approximately 22,000 new placements per year which are merely 3% of the school leaving age cohort, because of which there is intense competition in the G.C.E Advanced Level examination in Sri Lanka which is the evaluation point of university entrance (Liyanagunawardena, 2014). The eligibility for university entrance is decided through Z-score which is a statistical method used to standardize Advanced Level examination results. The University Grants Commission (UGC) has placed stern policies to ensure that students in all districts get an opportunity to enter university. Special quotas have been placed for primitive districts due to the relatively low amount of educational resources in such districts.

Due to the severe competition that prevails in the G.C.E Advanced Level examination, there has been a growing demand for private higher educational institutes in Sri Lanka which has also been caused by various socioeconomic factors such as religion, education, social status, family background, etc. This has caused issues in university education in terms of increasing

cost, social conflict, and deteriorating quality in state degree programs in Sri Lanka (Gunarathna). In addition to that, students in underdeveloped districts are unable to afford private degree programs which leads to the loss of benefits of the free education system as education would turn into a commodity (Jayawardena, 2018). In spite of that, students who are not eligible for state universities have been facilitated to seek higher education through the Open University of Sri Lanka and external degrees offered by state universities (Liyanagunawardena, 2014). However, all the courses offered by state universities as well as private universities are conducted in English whereas primary and secondary education are conducted in Sinhala or Tamil.

## **2.2. Regional disparity in Sri Lanka in terms of education**

Sri Lanka has been considered one of the countries to have the highest recorded inequality in respect of regional development in the South Asian region (Ranjith, 2019). As per Milton Friedmann, regional development can be defined as an amalgamation of economic activities taking place in distinct locations that navigate by numerous inter-related economic, social and political processes within that spatial framework. Sri Lanka has the highest levels of regional disparity in South Asia. A distinct regional disparity can be observed in the Western province which is led by an outspread margin of share of income (Ranjith, 2019). The regional disparity in terms of educational resources in Sri Lanka is considerably high across the provinces where Western province claims to be the highest while Eastern province claims to be the lowest in terms of availability of educational resources. More than 90% of the students solely depend on public schools and 65% of national schools have been centered into 4 provinces, specifically, Western, Southern, Central, and North-Western (Chandrakumara, 2015).

In the bargain, despite the fact that almost all courses in higher education are conducted in English, approximately half of the English medium schools have been situated in Western and Central provinces which is another indicator of regional disparity. Furthermore, there is a huge variation in student/graduate–teacher ratio and student/trained-teacher ratio among the provinces, where Southern province has the best ratio whereas Eastern province has the worst ratio. Also, the quality of school buildings and other complementary resources in government schools are relatively high in the Western province (Chandrakumara, 2015).

## **2.3. Regional disparity in socio and economic wellbeing in Sri Lanka**

There is a significant level of income inequalities and disparities in human wellbeing have been observed in Sri Lanka. The major cause of regional disparity in the socio and economic well-being of people is the urban-centered development projects and welfare policies implemented by the government. For an instance, Western province claims to have an average infrastructure index of 1.77 whereas other provinces' average infrastructure index is well below 1.00 (Sakalasooriya, 2021). One of the measures used in measuring socio and economic well-being is the Legatum Prosperity Index which includes parameters such as education, healthcare, environment, and management (Kahramanoğlu, 2019).

In accordance with the (Central Bank of Sri Lanka, 2019), Sri Lanka Prosperity Index (SLPI) recorded 0.802 which is a 0.01 marginal reduction when compared to 2018 due to the marginal reduction that occurred in the Economy, and Business Climate, and Socio-Economic Infrastructure sub-indices. In respect of provincial prosperity in Sri Lanka, the Western province has the highest value of the provincial prosperity index while on the contrary, Uva and Eastern provinces recorded the lowest value of the provincial prosperity index. However, Eastern, North Central, Northern and Uva provinces recorded an improvement in the Economy and Business Climate sub-index due to the increased wages and employment opportunities in

the informal sector (Central Bank of Sri Lanka, 2019). The well-being of the people sub-index improved in all provinces except the Southern province due to the refinements in healthcare, education, the wealth of the people in terms of owning vehicles and increased access to supermarkets. Socio-Economic infrastructure sub-index was improved in Southern and Western provinces due to the enhanced road networks and increased availability of electricity, while on the contrary, Uva recorded a huge decline in the Socio-Economic infrastructure sub-index due to lack of transportation services and lack of access to clean water (Central Bank of Sri Lanka, 2019).

#### **2.4. Measures taken by the government for the education sector**

In accordance with the constitutional amendment carried out in 1987, the responsibility for the provision of education lies with the central government as well as the provincial councils. According to the (Ministry of Education Sri Lanka, 2013), the ministry of education introduced “the education sector development framework program” under 4 main themes namely, promotion of equitable access to basic education and secondary education, improvement of the quality of primary and secondary education, enhancement of economic efficiency and equity of resource allocation and strengthening education governance and service delivery. The prime objective of this program was to create a knowledge-based economy which is caused by building a well-grounded foundation of human capital (Ministry of Education Sri Lanka, 2013). Under this framework, a network of good-quality schools was planned to expand further in rural areas in order to minimize the regional disparity in terms of education. Furthermore, subsidized public transportation systems were introduced in rural areas. Public expenditure and quality education tracking system (PEQETS) was introduced in order to increase transparency in distributing educational resources among the regions.

Apart from those measures, the Sri Lankan government has taken initiatives to expand vocational training through foreign and industry partnerships. The Vocational Training Authority of Sri Lanka, Sri Lanka Institute of Advanced Technological Education, NGOs and other private operators have been offering vocational training programs in order to strengthen the education sector in Sri Lanka (Oxford Business Group, n.d.). With respect to sector spending, the budget spending has been diverted towards improving educational infrastructure facilities, provision of electricity, water and sanitization. Also, the government has taken initiatives to build the smart class concept by introducing the latest technological transformations.

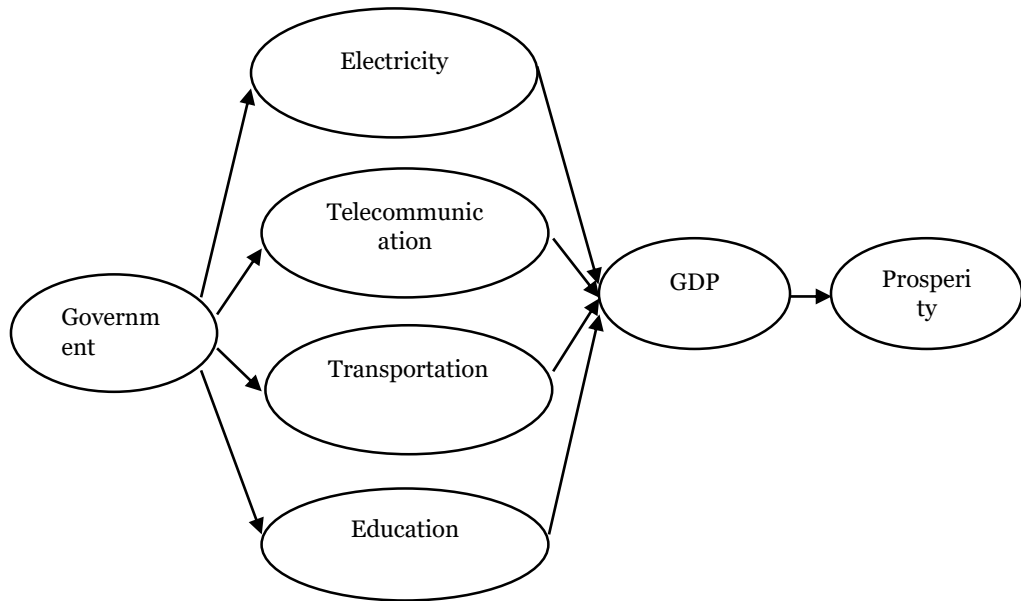
In a nutshell, even though Sri Lanka claims to possess a higher literacy rate, there is a notable regional disparity in terms of education. Even though the government has taken various measures such as improving the quality of education, provision of public transportation services, provision of electricity, water and sanitization, due to the lack of attention of policymakers and authorities, Sri Lankan current situation is detrimental to future economic developments, precisely at local levels (Thilanka). Expanding regional disparity leads to economic inefficiency which in turn leads to deteriorating social and economic well-being of people. Therefore, the objective of this study is to analyze the adequacy of the support extended by the government for the education sector in Sri Lanka to mitigate regional disparity and uplift the socio and economic well-being of the people in all provinces of Sri Lanka.

### **3. Methodology**

#### **3.1 Conceptual framework and model specification**

In this model, the term “prosperity” is referred to as “educational prosperity”. Theoretically, educational prosperity means that public institutions are enabling children to develop

academic, social, economic, physical and spiritual wellbeing (UNESCO, 2018). As discussed in literature review, the government has taken measures to improve the prosperity in each province in terms of education, electricity, telecommunication and transportation with the motive of increasing provincial GDP, which in turn leads to the improvement in economic and social well-being.



**Figure 1: Conceptual Framework**

*Dependent Variable:* Prosperity Index for each province

*Independent Variables:* Government Budget allocation on education sector (provincial level), Provincial GDP, Electricity Service (% of consumer accounts), Telecommunication (Wireless Local Loop & CDMA), Transportation Services (Operated KM of Regional Bus Companies).

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon_t$$

Y = Prosperity Index of all provinces in Sri Lanka

$\beta_0$  = The constant term

$X_1$  = Budget allocation for education

$X_2$  = Provincial GDP (% of share)

$X_3$  = Electricity Service (% of Consumer Accounts)

$X_4$  = Telecommunication (Wireless Local Loop & CDMA)

$X_5$  = Transportation Services (Operated KM of Regional Bus Companies (Mn))

$\epsilon_t$  = The random error term which is assumed to be normally distributed.

In order to attain the objective of the study, the quantitative analysis is used in which panel data for the period of 2014 to 2017 for 9 provinces will be used. Secondary data sources such as reports of the Central Bank of Sri Lanka, World Bank, UNICEF, Department of Census and Statistics are used in order to derive the research outcomes which in turn will aid in attaining the research objective.

As the first step of the quantitative analysis, the Breusch-Pagan test is performed in order to mark out the cross-section effects. Pooled OLS model will not be applicable for the study in case of the existence of the random effect. Then Hausman test which is also known as the Hausman specification test is performed to select the appropriate model where in case the respective p-value of the Hausman test is greater than 5 percent, the random effect model is considered as the appropriate model for the study. In case the respective p-value of the Hausman test is not greater than 5 percent, the fixed effect model is considered the appropriate model for the study.

In case the fixed effect model appeared to be the applicable model for the study, Breusch-Pagan LM, Pesaran scaled LM and Bias-corrected scaled LM tests should be performed as the fixed effect model does not provide unbiased results if there exists contemporaneous correlation in residuals, the term known as cross-sectional dependence.

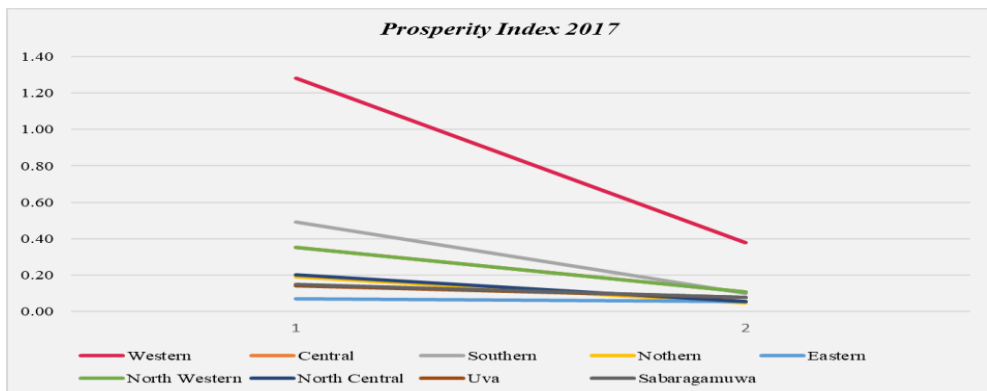
In case of the existence of contemporaneous correlation in residuals, then we finalize the Panel Corrected Standard Error (PCSE) model to get unbiased coefficients of the estimators. Hypotheses are as follows.

**H<sub>0</sub>:** There is no significant relationship between the dependent variable and independent variables.

**H<sub>1</sub>:** There is a significant relationship between the dependent variable and independent variables.

## 4. Findings and analysis

### 4.1. Descriptive analysis



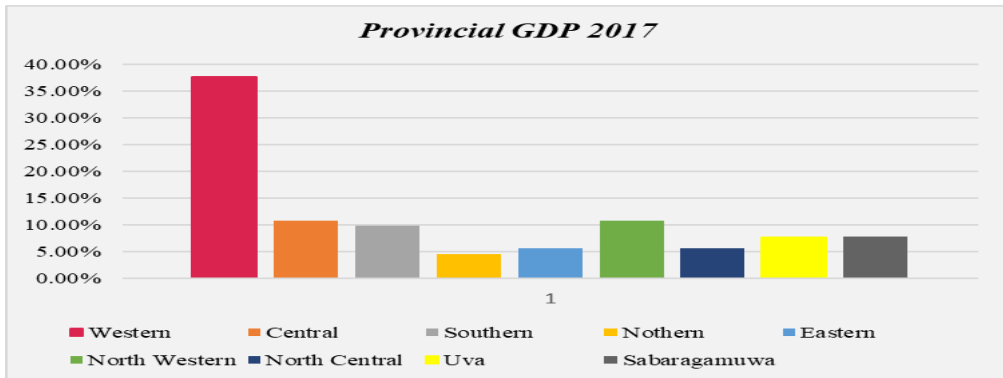
**Figure 2: Prosperity Index-2017**

As shown in

Figure 2, there is a considerable variation in the level of prosperity in all provinces in Sri Lanka. The western province claims to have the highest level of prosperity whereas the Eastern province claims to have the lowest level of prosperity. Improvements in the share of provincial GDP

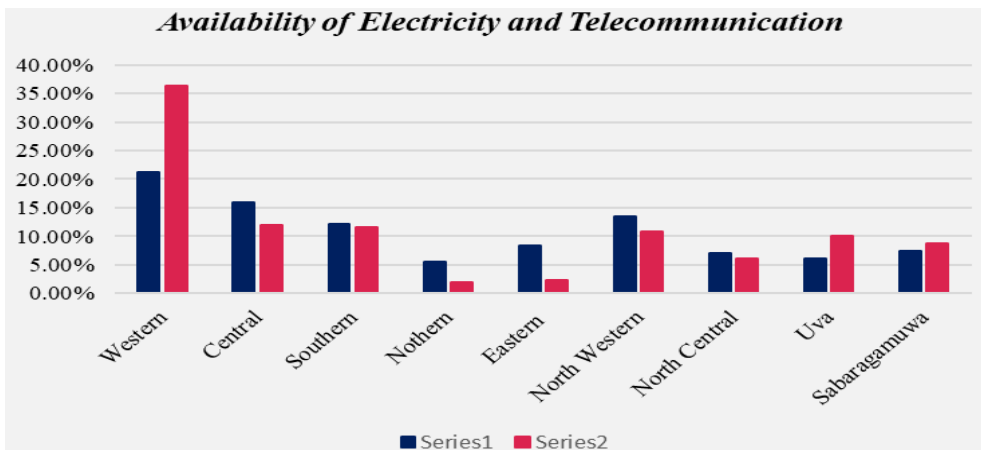
Figure 3, high employment rates, high wages in the informal sector, and improvements in road development with the construction of the Central expressway project and Rajagiriya,

Ganemulla and Polgahawela flyover projects have been the causes behind high levels of prosperity in the Western province (Central Bank of Sri Lanka , 2017).



**Figure 3: Provincial GDP 2017**

In addition to that, as shown in Figure 4, the availability of telecommunication facilities and electricity has been another cause of increasing prosperity levels in the Western province. On the contrary, there is a low level of prosperity in Eastern, North Central, North Western, and Northern provinces as shown in Figure 2, which has been caused by high levels of provincial inflation rates, increasing unemployment rates, and deteriorating banking and industry density (Central Bank of Sri Lanka , 2017).



**Figure 4: Electricity and Telecommunication 2017**

## 4.2. Econometric analysis

Initially, as shown in Figure 5, pooled OLS regression has been run and we performed the Breusch Pagan test as shown to discern the applicability of pooled OLS model for the study.

Dependent Variable: PROSPERITY_INDEX				
Method: Panel Least Squares				
Date: 01/18/22 Time: 13:02				
Sample: 1 36				
Periods included: 9				
Cross-sections included: 4				
Total panel (balanced) observations: 36				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.009693	0.085056	0.113962	0.9100
BUDGET_ALLOCATION_FOR_EDUCA...	-0.323555	0.663813	-0.487419	0.6295
ELECTRICITY_SERVICE_OF_CON...	0.182349	0.718035	0.253956	0.8013
TELECOMMUNICATION_WIRELESS...	0.370181	0.586404	0.631273	0.5326
TRANSPORTATION_SERVICES_OP...	-0.001272	0.003567	-0.356587	0.7239
PROVINCIAL_GDP_OF_SHARE_	3.082133	0.810983	3.800490	0.0007
R-squared	0.912030	Mean dependent var		0.313333
Adjusted R-squared	0.897369	S.D. dependent var		0.343786
S.E. of regression	0.110136	Akaike info criterion		-1.423196
Sum squared resid	0.363896	Schwarz criterion		-1.159276
Log likelihood	31.61753	Hannan-Quinn criter.		-1.331081
F-statistic	62.20524	Durbin-Watson stat		2.444886
Prob(F-statistic)	0.000000			

**Figure 5: Pooled OLS Regression**

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	6.185255 (0.0129)	7.708469 (0.0055)	13.89372 (0.0002)

**Figure 6: Breusch Pagan Test**

As per the results of the Breusch Pagan test shown in Figure 6, the value for the cross-section factor and time factor is significant as it is not greater than 0.05. Therefore, we reject the null hypothesis, thereby corroborating that pooled OLS model is not applicable for the study. Therefore, two-way random effect model has been performed as shown in Figure 7.



Dependent Variable: PROSPERTY\_INDEX  
Method: Panel EGLS (Two-way random effects)  
Date: 01/18/22 Time: 13:44  
Sample: 1 36  
Periods included: 9  
Cross-sections included: 4  
Total panel (balanced) observations: 36  
Wallace and Hussain estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.124029	0.144544	0.858068	0.3977
BUDGET_ALLOCATION_FOR_EDUCA...	-0.697008	0.601160	-1.159440	0.2554
ELECTRICITY_SERVICE___OF_CON...	-0.203477	1.262833	-0.161127	0.8731
TELECOMMUNICATION_WIRELESS_...	0.546110	0.333106	1.639448	0.1116
TRANSPORTATION_SERVICES_OP...	-0.003115	0.003037	-1.025601	0.3133
PROVINCIAL_GDP___OF_SHARE_	3.445041	0.978440	3.520951	0.0014
Effects Specification				
			S.D.	Rho
Cross-section random			0.073360	0.3062
Period random			0.102323	0.5956
Idiosyncratic random			0.041551	0.0982
Weighted Statistics				
R-squared	0.695956	Mean dependent var	0.042914	
Adjusted R-squared	0.645282	S.D. dependent var	0.081379	
S.E. of regression	0.048468	Sum squared resid	0.070474	
F-statistic	13.73401	Durbin-Watson stat	2.245269	
Prob(F-statistic)	0.000001			
Unweighted Statistics				
R-squared	0.906303	Mean dependent var	0.313333	
Sum squared resid	0.387589	Durbin-Watson stat	2.173587	

**Figure 7: Two-Way Random Effect Model**

As shown in **Figure 8**, the Hausman specification test has been performed to observe the applicability of the two-way random effect model to attain the objective of the study.

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section and period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	5	1.0000
Period random	1.339008	5	0.9309
Cross-section and period random	1.300276	5	0.9349

\* Cross-section test variance is invalid. Hausman statistic set to zero.

**Figure 8. Hausman Test**

As per the results of the Hausman test, p-value is greater than 0.05, therefore, we reject the null hypothesis and proceed with a two-way random effect model for the study.

Results of the two-way random effect model have been presented in Figure 7 through which the following econometric model could be derived.

$$Y = 0.124 - 0.697X_1 + 3.445X_2 - 0.203X_3 - 0.546X_4 - 0.003X_5 + \varepsilon_t$$

There is a positive and statistically significant relationship between the prosperity index and the share of provincial GDP. The prosperity index will rise by 3.44% with a 1% increment in the share of provincial GDP. There is a positive yet statistically insignificant relationship between the provision of telecommunication services and the prosperity index. The prosperity index will rise by 0.546% with a 1% increment in the share of provincial GDP. There is a negative and statistically insignificant relationship between the prosperity index and other

independent variables considered in the study where the prosperity index will decrease by 0.697%, 0.203%, and 0.003% with a 1% increment in budget allocation for education, provision of electricity and availability of public transport services respectively.

## 5. Discussion and conclusion

Sri Lanka has been considered as one of the countries which declares to have higher literacy rates with the best primary and secondary education. Yet, concerns have been raised that there is a noteworthy regional disparity in terms of provincial level in Sri Lanka. Rural schools have been surpassed by urban schools as the majority of the national schools with quality and adequate educational resources are located in urban areas such as Western province whereas the majority of the schools located in rural areas such as the Eastern province, are under the government of provincial authorities. This problem has worsened the regional disparity in terms of education in Sri Lanka.

Through our analysis, we identified that there is a negative relationship between the prosperity index and budget allocation for education, provision of electricity and availability of public transport services, whereas there is a positive provision of telecommunication services and prosperity index. With respect to the relationship between electricity and prosperity index, the negative relationship was further proven by (Kooimey, 2015). Kooimey (2015) noted that while the growth of electricity consumption led to an increment in GDP from 1973 to the mid-1990s, that linkage had been broken in the past two decades as higher energy consumption has led to significant environmental damage, causing sustainability issues. In our analysis, we observed that there is a positive and significant relationship between the prosperity index and provincial share of GDP. With respect to the relationship between prosperity index and budget allocation for education, the results are quite indistinguishable from the findings of (Lingle, 2003). As per (Lingle, 2003), formal education is not adequate for an individual or community to be prosperous. In fact, there is extensive negligence of the government on budget allocation in the provision of goods and services due to the excessive proposals in increasing public spending on the education sector. Even though the government exhilarates the budget allocation for education, if the amount is not spent effectively by the provincial authorities, it would not aid in gaining economic benefits which in turn lead to deteriorating social and economic wellbeing. Due to the reluctance of political authorities to carry out genuine educational reforms, the regional disparity in Sri Lanka widens which in turn led to poor prosperity (Hanushek, 2013). Mere allocations to the education sector will not enhance prosperity but better accountability of regulatory authorities, more choices of schools, market-based teacher compensation and retention policies, and more stern policy reforms on education will lead to economic growth which in turn leads to social and economic prosperity in Sri Lanka (Hanushek, 2013).

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