DETERMINANTS OF FINANCIAL ADEQUACY: EVIDENCE FROM MALAYSIAN TAMIL SCHOOLS

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ABSTRACT

Financial provision in education is one of the key factors contributing to the successful implementation of education programs in school. Financial management includes efficient management of school financial resources. However, the lack of financial resources affects students' achievement. Schools often encounter problems in providing the facilities needed by students. Schools receive financial resources in terms of per capita grants, public contributions and other government assisted funds such as scholarships and food supplements. The purpose of this study is to determine the adequacy of financial resources assigned to the National Type Tamil schools which are based on enrolment. This study was conducted in 30 National Type Government Tamil Schools and 16 National Type Government Assisted Tamil Schools in the State of Perak, Malaysia. A total of 276 respondents were involved in this survey. A logistic regression test was used to analyse factors contributing to the adequacy of financial provision for subjects, library, guidance and counselling and recurring expenditures. The findings indicate that policy makers should consider other factors such as socio-economic status and the type of schools in determining school funding allocation. Thus, the funding formula should not just be based on student enrolment.

Keywords: **Adequacy, School Finance, Education, Malaysia.**

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INTRODUCTION

School finance can be defined as a concept that involves management procedures that influence planning, administrating, instructing, and combining all the resources and segregation of duties and organisations based on the rules that have been predetermined (Baharin & Abdul Kadir, 2013). School financial management aims at improving the situation of schools including teachers' performance, students' academic performance, social and physical environment of schools. Financial management should be handled systematically since it is very important and needed to be given attention to. This is because efficient financial management will ensure the highest return in education.

Financial management is an important component in any organization (Siraj et al., 2008). Financial management in government primary schools includes budget and expenditures, asset management, usage and acceptance of financial resources, budget and expenditures (Baharin & Abdul Kadir, 2013).

According to Akmaliah (2001), the principal as the school administrator is fully responsible in ensuring efficient school financial management. Some of the school programs such as enrichment activities or remedial programs are not being conducted because of insufficient funding. But, whether the budget has been planned efficiently depends on the competency of school leaders in ensuring efficient resource allocation. For the highest returns to education principals should cut down wastage or resource misuse (Hussian & Mohd Tahir, 2012).

Human capital development has been the priority of the Malaysian government. According to the Malaysian Ministry of Finance (2015), the government has allocated RM 56 billion for the education sector. Federal Budget allocation for education has increased from RM 29.3 billion in 2011 to RM50.2 billion in 2012. The annual budget for a school is allocated by the State Education Department or the Head of the Malaysian Ministry of Education. Educational expenditure increases annually due to two main factors. The first is the expansion of current policies, maintenance of expenditures, increase in expenditure due to inflation, equipment being disposed and increase in student enrolment. The second factor is the increase in educational needs motivated by development such as educational infrastructure and new policies.

Since independence, the Malaysian government has consistently allocated higher percentages of the budget to the education sector (Kenayathulla, 2014). Investment in human capital has been the Malaysian government priority. In order to achieve Vision 2020, Malaysia needs educated citizens who can contribute to the economy. According to the human capital theory, education equips an individual with knowledge and skills that enhances productivity.

An adequate educational budget is needed to ensure schools are able to implement various educational programs. However, the current funding mechanism is based according to the number of students, not based on school needs. According to the Financial Circular 8, school finance is allocated based on per capita grant and students' enrolment (MOE, 2012). Everyone regardless of ethnicity, gender and social class should be given equal opportunity in gaining quality education. An adequate budget is essential to ensure access to quality education.

In Malaysia, Tamil schools consist of National Tamil Schools and National Type Tamil Schools. Both schools are located in rural areas with lower number of students. These schools are given allocations based on per capita grant and number of students. Most of these children are from low income families. The government allocation is often inadequate to provide a convenient learning environment for the rural students. Additional enrichment and remedial activities was not able to be carried out due to insufficient funding. Inadequate school funding makes it difficult for the principal to manage school finances.

According to Ramloo (2000), in the research on school finance in Rawang, the school in the research encountered insufficient per capita allocation to support school expenditure. According to Mat Saad, Nik Yusoff and Mohammad Yassin (2011), financial allocation is needed to improve student performance. Additional funding is needed to improve and upgrade the learning facilities. Most of the primary schools in rural areas have fewer students compared to urban schools. This situation applies also to Tamil schools in rural areas. Primary schools in rural areas are also known as schools with fewer students (Abu Bakar & Haji Buang, 2010).

Thus, the financial allocation provided by the government is according to the number of students in school. Additionally, the total allocation given to a school is based on the school size. Most of the Vernacular Tamil schools will receive less allocation since these schools have fewer students (Marzuki, 2005; Kenayathulla, 2015). This research aims at identifying factors that determine the adequacy of school finance in Tamil schools in Perak. The findings of this research are expected to provide insights to policy makers on the appropriate policy intervention needed to improve the adequacy of school finance especially in Tamil schools. This research also serves as guidance for other countries that has used the school funding formula.

Educational Production Function

The theoretical framework for this study is based on Education Production Function. Among the pioneer of Education Production Function, Hanushek (2010) described it as a function that analyses the relationship between inputs and outputs. In this context, education production function is usually used to determine the relationship between school level factors that determine students' performance. School level inputs can be class size, teacher quality, school resources such as library, computer, teaching and learning materials. The commonly used output is students' achievement (Pigott, Williams, Pollanin & Wu-Bohanan, 2012). Financial allocation is one of the important inputs of education. Production function studies attempt to derive a model of the relation between educational inputs and outcomes. The goal of such studies is to develop quantitative models that allow one to predict the effect on student outcomes of a given change in resources. For example, a production function could predict how much the mean achievement on a standardized test would change if per pupil expenditures were increased by $100. Similarly, it might enable identification of the most cost-effective means to improve public education (Hedges, Laine & Greenwald, 1994).

Financial Adequacy and Tamil Schools

According to Kenayathulla (2015), Tamil schools encounter problems in managing school finance. The amount allocated is inadequate for preparing conducive teaching and learning environments. Most schools situated in the rubber estates and oil palm fields lack basic facilities such as a library, tables and chairs. Additionally, Ramloo (2000) noted that in a Tamil school in Rawang, the amount allocated by the government for annually recurring costs was insufficient for paying utility bills, telephone, student's transportation, printing and purchasing of teaching materials. This means the Tamil school principals need to find contribution from PIBG or other contributions to cover school related expenditures. Additionally, Tamil schools are not entitled for counselling teachers since the allocation of counselling teachers is based on school size. Thus, there are no facilities such as rooms, services or books for guidance and counselling (Ahmad, 2002).

Financial Adequacy and Students Achievement

Most Tamil schools are facing problems in terms of students' achievement due to the lack of learning facilities, school environment, and inability of students to master the Malay language alongside the lack of teachers. School environment, physical facilities, teachers and leadership becomes less of a motivating factor for students' performance in Tamil schools.

According to Mat Saad, Nik Yusoff and Mohammad Yassin (2011), the lack of learning facilities will hinder student performance. Lack of basic facilities results in lower performance of SJK Tamil school students compared to SJK Chinese school students (SJKC) and national schools (Rengasamy, 2007).

According to Mat Saad, Nik Yusoff and Mohammad Yassin (2011), the classroom environment plays an important role in providing a convenient and conducive learning environment. Small classrooms with overcrowded students and inadequate facilities make it difficult for the learning process (Mat Saad, Nik Yusoff, & Mohammad Yassin, 2011; Tanner & Lackney, 2006). According to Abu Bakar and Haridas (2011) in their research on National Type Tamil Schools which have fewer students in the district of Kota Tinggi, Johor, there are several factors influencing the gap in academic achievement. Among others are school infrastructure facilities, teaching and learning facilities, and the quality of teaching. Although there are enough teachers, the classroom size is not adequate for an effective teaching and learning process. Teachers will use laptops in class since there are no computers available in class. Additionally, the available resource centre is small. Thus, the library is used only for borrowing and reading books. Other activities could not be conducted because of lack of school funding (Abu Bakar & Haridas, 2011). This shows that the National Type Tamil School still face problems in financial allocations.

Meanwhile, financial allocation also influences teacher professional development since it involves directly with student achievement. Previous studies consistently show effective teachers are important for students' achievement (Mat Saad, Nik Yusoff & Mohammad Yassin (2011), According to Cooper and Schindler (2006), teachers should consistently improve knowledge and pedagogical skills from time to time through continuous professional development. Inadequate allocations result in continuous professional development conducted in schools by one of the school teacher based on prior knowledge they have. Thus, there is an inadequate financial allocation to hire experts to teach the relevant pedagogical and leadership related skills.

Financial inadequacy becomes one of the main contributors for the achievement gap for SJK Tamil. Inadequate financial allocation results in inability of the school principals to prepare the facilities at the school level to improve the performance of students. The school administrator is not able to prepare facilities that are needed by the school to increase students' achievement. Students in urban areas are able to perform compared to students in rural areas due to better facilities and learning resources (Yee, 2005; Marzuki, 2008). In addition, schools in rural areas encounter inadequate resources in terms of equipment, basic facilities, infrastructure, teachers and parental support (Siraj et al., 2008).
There are also socio-economic differences between students in urban and rural areas. According to Kling et al. (2007), most students are from lower socio-economic background and those who are residing in rural areas perform less than those in urban areas. According to Ramloo (2000), most parents that send their kids to Tamil school are from middle and lower socio-economic group. Research consistently showed that students from higher socio-economic background have positive impact on students' performance (Johari, 2002).

Issues in the School Financial Management

Most Tamil schools in Malaysia are non-responsibility centre management schools. Thus, these schools do not have autonomy in determining the school expenditure. Additionally, most parents in these schools are from lower socio-economic background and work as rubber tappers, thus they are not able to provide additional funding for the schools (Nor Eazrin, 2004; Subathirah, 2000). Adequate financial allocation becomes an important factor that determines students' achievement in SJK Tamil. According to Rawls's fair equality of opportunity, any policies that help to reduce the economic burden of schooling for households with lesser means, including provision of a more conductive learning environment for children in need are acceptable.

Sources of School Finance

Financial allocation can be defined as the money that is spent to get other materials such as physical source, human and time, teacher's teaching materials, physical resource for building, materials, books and any programs for professional development of teachers (Anderson et al., 2001).

Malaysian government provides per capita grant for academic subjects and non-academic subjects. According to Abu Bakar (2010), school has three main sources of funding such as SUWA (public donation) fund, government funding, and residential funding. Financial Circular No. 8 explained that funding will be provided by the Malaysian government for operational expenditures for both government school and government aided schools (MOE, 2012). School related expenditures are provided to ensure effective implementation of the programs (Abu Bakar, 2010). All Tamil schools will receive per capita funding from the government. Additional contribution usually comes from Parents and Teachers Associations (MOE, 2012).

Financial Management in Developed and Developing Nation

Financial management influences overall school management. According to Vasquez, Williams, and Jez (2010), sources of finance determines the success and students' achievement. Both developing and developed countries have their own financial management system. The amount of fund allocated for educational expenditures depend on each country.

According to Johnstone (2004), cost sharing for education is a way of transferring the responsibility from the government to parents. Cost sharing has been the trend in many European countries. Government has introduced educational fees, food expenses and accommodation and scholarships for students. In developed countries, state level government and local government also plays an important role in financing education. Bruce and David (2002) stated that sources of educational funding in the USA are mainly from state and local government but half of the funding comes from local tax. The disparities in educational funding across states and local government resulted in differences in the quality of school buildings and other infrastructure facilities. According to Heather Rose and Margaret (2013), in Western California, the disadvantaged students from lower socio-economic status received about 36 percent more educational allocations than others. Thus, the transition that occurred in school finance from equity to adequacy ensures that students receive adequate level of education.

In Australia, since 2009, the government funding for schools is provided under the national school's specific purpose payment (National Schools SPP), which has two components, one for government schools and one for non-government schools. Additional funding is also provided through National Partnerships (NPs) and annual appropriations (Harrington, 2011).

In Sweden, all the education in the public-school system is free of charge for pupils and is funded entirely by the public authorities. Funding is provided through resources contributed by municipalities out of local tax revenues plus a general government grant to municipalities, which is linked to a special equalization system intended to create equal financial conditions for all municipalities and country councils. This is to ensure that all municipalities are able to deliver equal levels of service irrespective of the income of the residents. Income equalization and cost equalization are two of the methods commonly used to equalize the disparities across municipalities. The income equalization grant is calculated on the basis of the differences between taxable income and tax equalization base. Municipalities whose taxable income exceeds the tax equalization base will pay a fee. On the other hand, municipalities whose taxable income is less than the tax equalization base will receive a grant. The same principal applies to equalization of cost. Those municipalities with a less advantaged cost structure will receive a grant from the state and those having a favourable cost structure will pay a charge to the state.

Schools might cost more in rural areas since there are higher percentages of students with a foreign background. Additionally, targeted grants are also provided by the state government (Sweden Ministry of Education and Research, 2008).

The need to upgrade the educational quality becomes the big challenge for policy makers in developing countries where education takes a large portion of the government budget. The focus of many developing countries is to overcome equity issues in educational funding (Kenayathulla & Ibrahim, 2013). In developed countries, the government is able to fully fund education due to strong economic growth. In Indonesia, the state and district have problems such as limited funding, lack of infrastructure and lack of text books (Ahmad et al., 2013).

School Financial Management in Malaysia

Financial management is a process where financial allocation is managed by the government through certain approaches where sources of public funding are obtained, spent and accounted. The Malaysian federal government has been the main financier for education in Malaysia. The federal government allocates a substantial amount of money for education ranging from 8% to 30 % from the total federal allocations. However, the local and state government did not play the main role in financing education (A. Ghani et al., 2013). The Malaysian government emphasizes on educational investments since human capital development is a key factor for economic growth (Siraj et al., 2008). Education helps to develop and enhance the needed skills for the workforce (Marzuki, 2005).

The school funding formula in Malaysia is based on the number of students and this is consistent with other countries in the world (Marzuki, 2005). Per capita grant is provided for academic subjects and non-academic such as library, guidance and counselling services. Additionally, poor students are also entitled for food supplementary programmes and KWAMP (Trust fund for students from lower income families). The purpose of KWAMP is to reduce the burden of lower income families for educational related expenses for their children and also to encourage parents to send their children to school. In addition, there are one-off payments amount up to RM200 for poor students to purchase uniforms and school supplies (MOE, 2013). However, such allocation is not enough to accommodate the needs of less fortunate students.

In Malaysia, the principal are responsible in planning, monitoring and making adjustments on school finance. The principals are responsible for handling and managing money based on their experience and are assisted by the financial clerks. The budget will be prepared by the principal to ensure effective school financial management (Marzuki, 2005). There are two types of schools in Malaysia: responsibility centre and non-responsibility centre schools. Principals in responsibility centre schools have more freedom to finance the budget. Financial management of school should follow the educational regulations 2002 under the Education Act 1996. According to the circular, schools should prepare financial statements not later than 31 March every year. According to the financial circular, Ministry of Education No. 4. (1988), schools should submit their financial statements earlier on 28/29 February to ensure adjustments can be made and the principal can manage the school finances to be consistent with the guidelines stated in the financial guidelines of the school, treasury directions and circular distributed to financial division, education ministry and state education department.

Other than the Ministry of Education, the Parent Teacher Association (PTA) and Non-governmental organizations (NGOs) also play an important role in school finance. The PIBG plays a greater role in school finance. PIBG will discuss with the school regarding the appropriate activities to raise fund for the schools (Mohamed, 2010).

RESEARCH METHODOLOGY

Research Design

Research design involves planning on how the study will be carried out and data will be collected (Bogdan & Biklen, 2003; Copper & Schindler, 2006). Research design is important to ensure the research can be conducted smoothly and findings can be presented in order. In this study, quantitative research was applied and questionnaires were distributed. Quantitative research design is appropriate when the analysis requires response from larger sample (Idris, 2010).

Population and Sampling

The population for this study consisted of National Type Tamil schools and government-aided National Type Tamil schools in Perak, a total of 696 respondents. The samples were chosen from school management teams comprising of headmasters, deputy headmasters for academic, student affairs and co-curriculum and heads for subjects. These samples were management teams who are directly involved in the management of school finance. The chosen samples was adequate to represent the population. Uma (2003) noted that the sample size which is between 30-500 people is enough for exploratory research. Minimum sample that has been suggested by Krejcie and Morgan (1970) is 269. The researcher has distributed 276 questionnaires to ensure that the total sample fulfil the needs of the research and that the sample that is chosen is bigger than the sample suggested by Krejcie and Morgan (1970).

Table 1
Population and sample of the research

Schools according to region in Perak	Population size	Sample size
Hulu Perak	47	18
Larut Matang Selama	80	30
Hilir Perak	65	30
Kuala Kangsar	74	30
Kerian	55	30
Manjung	85	30
Batang Padang	70	30
Perak Tengah	33	18
Kinta Utara	98	30
Kinta Selatan	72	30
Total	679	276

Source: Malaysian Ministry of Education, 2015.

In this context, stratified sampling has been used to select the samples. Five schools were chosen from each district except for District of Hulu Perak and Perak Tengah since these districts only have three Tamil schools. From each school, six senior management staff were chosen totalling to 276 samples from all the schools selected.

Table 2

Number of Fully aided National Type Tamil Schools and partially aided National Type Tamil Schools for every district.

Districts	Total SJK(T) in each district	Total school involved in the sample		Total
		SJK(T) partially aided	SJK(T) government	
Kuala Kangsar	12	4	1	5 (41.6%)
Kerian	14	3	2	5 (35.7%)
Manjung	15	3	2	5 (33.3%)
Batang Padang	19	3	2	5 (26.3%)
Perak Tengah	3	3	-	3 (100%)
Kinta Utara	14	3	2	5 (35.7%)
Kinta Selatan	9	3	2	5 (55.5%)
Hilir Perak	28	3	2	5(17.8%)
Hulu Perak	3	2	1	3 (100%)
Larut Matang Selama	17	3	2	5 (29.4%)
Total	134	30	16	46 (34.3%)

Instruments

Questionnaires are a commonly used method to get a response from wider participants. According to Mat Talib et al. (2011), formal questionnaire is a tool used to obtain information directly from the respondent on the matter studied by the researcher. Quantitative data can be viewed as public opinion, as well as the impact of the system being used. Apart from that, the presented questions must be direct. If not, it leads to multiple answers and makes it difficult to analyse (Hassan & Arifin, 2011).

The questionnaire items were developed based on the school audit report, Financial Circular 2012, National Educational Blueprint 2013-2025 and the module and school financial management notes. There are 7 sections in the questionnaires: Section A consisted of 8 items on the demographic information of the respondents. Section B consisted of 13 items on the demographic information of the school. Section C consisted of 18 items on the financial allocation given to schools. Section D consisted of 14 items on the financial adequacy for school infrastructure and activities. Section E consisted of 18 items on the impact of inadequate funding on teaching and learning. Section F consisted of 12 items on the financial management knowledge among the senior management team. Section G consisted of 21 items on the challenges faced in the financial management and lastly Section H consisted of 14 strategies to overcome the financial management issues.

For section A and B, the questions were in terms of check list, semi-structured and open ended. For Section C, D, E and G, 5 points Likert scale has been used in the questionnaires: Strongly agree, agree, quite agree, disagree, and strongly disagree. For Section F: the 5 points Likert scale consisted of highly competent, moderate competent, lack of competency, not competent, highly not competent.

Validity and Reliability

The questionnaires were validated by two content experts in the field of school finance. To ensure its reliability for use with the sample, a pilot study was tested among 30 senior management staff of the school. The questionnaire used in this research is reliable in the sense that the results will be replicable when the research would be conducted again with the similar sample, keeping in mind that all the factors have to be kept the same. In this research, the reliability was tested by using SPSS version 20. The Cronbach alpha for all the items is more than 0.7. Thus, the instrument is proven to be reliable.

Data Analysis

Data for this study has been analysed using descriptive statistics such as mean and standard deviation. Additionally, inferential statistics such as binary logistic regression was used to determine the factors that contribute to financial adequacy. According to Palaniappan (2007), SPSS is a powerful data analysis software that is easy to use, especially for the social sciences. The software is not only used in the field of education but also used in business and medicine.

Descriptive Statistics and Inferential Statistics

Creswell (2005) stated that descriptive statistics were used to answer when research questions require seeing the difference between variables and the relationships between variables. The descriptive analysis using frequency, percentage, mean and standard deviation is suitable for researchers to get a more extensive and comprehensive, detailed and accurate analysis as required in the research objectives. According to Pallant (2001), the survey must correspond to the study objectives in order to be more accurate, comprehensive and meaningful. Inferential statistics is used to describe the relationship between variables. It is used to describe the characteristic of the chosen sample. The sample must represent the population. Logistic regression analysis is used to analyse the relationship between binary or dichotomic variables (Hosmer & Lemeshow, 1989). Binary variables have only two responses (Y=1) or (Y=0). According to Hosmer, Lemeshow, and Sturdivant (2013), logistic regression is used when the dependent variables are dichotomy variables. This means when the dependent variable has two values (Y=1) or (Y=0). Unlike ordinary regression analysis, logistic regression did not assume linear relationship between dependent and independent variables (Hosmer et al., 2013).

In this research, researchers were able to determine whether GPS, UPSR, average family income, number of teachers, students, and school financial staff, school location, number of students, and type of school which influenced the adequacy of financial allocation for Tamil schools. The dependent variables in research are dichotomy variables that are whether financial allocation is adequate (Y=1) or not adequate for financial allocation in Tamil schools (Y=0).

$$\text{Adequacy of allocation} = \text{In [Probability (adequate)]}$$
$$= b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$$

When, $b0$ is a constant logistic regression and $b1, b2, b3, b4, b5$ are logistic coefficient for every predictor variable.

FINDINGS AND DISCUSSIONS

A total of 318 questionnaires were distributed to 46 Tamil schools in Perak with only 276 questionnaires were returned representing 86.79% response. Meanwhile, 42 questionnaires were not returned (13.20%). Therefore, 276 respondents were involved in this study (α = 276). The study involved 70 male respondents (25.4%) and 206 female respondents (74.6%). According to Table 3, most of the respondents (46 percent) were between 25 to 35 years.

Table 3
Age of respondents

Age	Mode	Percentage %
25-35 years	127	46.0
36-45 years	74	26.8
46-56 years	66	23.9
Over 56 years	9	3.3
Total	276	100.0

Table 4
School Location

Location of School	Mode	Percentage (%)
Urban areas	8	17.4
Rural areas	38	82.6
Total	46	100.0

Table 4 showed that the majority of the schools involved in this study were located in rural areas (82.6 percent) while 17.4 percent were located in urban areas. According to Table 5, 65.2% of the schools were partially aided schools. Meanwhile, 16 schools were fully aided national type Tamil schools (34.8%). Band is the ranking used to indicate student performance. According to Table 5, result of the study shows that 32 of 46 schools (69.6 percent) involved in this study were ranked Band 3. Meanwhile, another 12 schools ranked Band 2 (26.1%) and only 2 schools were ranked Band 3 (4.3%).

Table 5
School Ranking

Ranking of school	Mode	Percentage (%)
Band 1	0	0
Band 2	12	26.1
Band 3	32	69.6
Band 4	2	4.3
Band 5	0	0
Band 6	0	0
Total	46	100.0

Primary School Achievement Test (UPSR)

One of factors affecting the ranking of schools is the students' academic achievement. Average School Grade (GPS) (UPSR) 2014 was used as the factor for school ranking. In Table 6, 38 schools (about 82.6 percent) achieved GPS UPSR at the range of 2.01 to 3.00. Meanwhile, 4 schools reached GPS UPSR between 3.01 to 4.00 and 1.00 to 2.00 respectively. This amount represents 8.7% of total. However, there is no school at the range of 4.01 to 5.00 for GPS UPSR.

Table 6
GPS UPSR 2014

GPS UPSR	Mode	Percentage (%)
4.01-5.00	0	0
3.01-4.00	4	8.7
2.01-3.00	38	82.6
1.00-2.00	4	8.7
Total	46	100.0

The numbers of students and teachers are important elements in school financial management as they contribute to the allocation of the school budget because the allocation received by the school is based on number of students who takes subjects or per capita grant (PCG) and the program carried out. This means that the greater the number of students, the greater the amount of allowance granted to the schools. This allocation provides an opportunity for schools to implement more school activities to benefit students. However, most of the Tamil schools involved in this study have a student population of less than 500 pupils.

Table 7
Number of students

Number of students	Mode	Percentage (%)
less 20 pupils	7	15.2
20-50 pupils	16	34.8
50-100 pupils	10	21.7
100-150 pupils	6	10.9
200-300 pupils	4	8.7
400-500 pupils	2	4.3
more 500 pupils	2	4.3
Total	46	100.0

Based on Table 7, 16 schools have between 20 to 50 pupils (34.8%). Meanwhile 10 schools have between 50 to 100 pupils (21.7%) and 7 schools have less than 20 pupils (15.2%). However, 6 schools have from 100 to 150 pupils (10.9%). Furthermore, 4 schools have between 200 to 300 pupils and 2 schools have between 400 to 500 pupils and more than 500 pupils respectively. This represents 8.7% and 4.3% respectively.

The Average Family Income

Table 8 showed an average family income for students at the schools involved. In this study, most of the students are from lower socio-economic backgrounds since the average family income is RM1000 and below.

Table 8
Average family income

Average income (RM)	Mode	Percentage (%)
less 400	4	8.7
401-500	9	19.6
501-600	11	23.9
700-1,000	21	45.7
More than ,1500	1	2.2
Total	46	100.0

Number of Teachers and Staff

The number of staff and teachers also impact the school's financial management. The more numbers of staff and teachers in a particular school, the more budget will be allocated to those schools in terms of emolument such as wages and allowance, claim, bonus and so forth. Table 9 showed the number of teachers in the sampled schools. About 78.3% of the sampled schools have about 10-20 teachers.

Table 9
Number of teachers in sampled schools

Number of teachers	Number of schools	Percentage (%)
Less than 10 teachers	4	8.7
10-20 teachers	36	78.3
21-30 teachers	3	6.5
31-40 teachers	2	4.3
More than 40 teachers	1	2.2
Total	46	100.0

The Number of Support Staff to Assist in the School Financial Management

Support staff is needed for teachers to manage the school finances efficiently and effectively. However, the numbers of support staff in the school who help to manage school funding are still insufficient and unskilled.

According to Table 10, two schools have a chief administrative assistant. Meanwhile, all Tamil schools involved in this study only have an administrative assistant who was able to manage the financial of their school. There are 28 schools with Lower General Assistants but unfortunately, the schools with lower number of students was not entitled for such positions.

Table 10
The number of support staff to assist in the financial management at school

Position	Grade	Number
Chief Administrative Assistant	N22	2
Administrative Assistant	N17	46
Lower general assistant	N1	28

Factors Contributing To the Adequacy of the Financial Provision for National Type Tamil Schools in Perak

This part of the analysis concentrates on the factors that contribute to the adequacy of school finance in Perak. In this analysis, logistic regression was used to identify factors that determine financial adequacy. The dependent variable was dichotomous (binary). Table 11 showed the variables and categories.

Table 11
Variables and categories

Variables	Data Category	Data Category
Dependent Variable: Adequacy of provisions	Yes=1	No=0
Independent Variable:		
UPSR (GPS 2014) (1.00- 3.00)	Yes= UPSR (GPS 2014) (1.00 -3.00)	No=UPSR (GPS 2014) (4.00 - 5.00)
Ranking of School (4- 6)	Yes= Ranking of School (4 - 6)	No= Ranking of School (1 - 3)
Number of students (200 - > 500)	Yes= Number of students (200 - 500)	No= Number of students (< 20 – 150)
Average Family Income (RM 700 - > RM1500)	Yes= Average Family Income (RM 700 - > RM1500)	No= Average Family Income (< RM 400-RM600)
Number of Teachers (21 - >40)	Yes= Number of Teachers (21 - > 40)	No= Number of Teachers (< 10 - 20)
Number of Staff (3 - 4)	Yes=Number of Staff (3-4)	No= Number of Staff (1-2)
Urban areas	Yes= urban area	No= rural area
Public school	Yes=Public School	No= Govt-Aided school

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Table 12

Logistic regression for the adequacy of provisions for the subject, counselling, Library and recurring expenditures

Variables	Coef./SE Subjects	Coef./SE Counselling	Coef./SE Library	Coef./SE LPBT
UPSR (GPS 2014)	0.191**	0.028	0.182**	0.275**
(1.00- 3.00)	0.083	0.146	0.070	0.112
Ranking of school[1]	-0.084	0.253	-0.162	0.109
(4 -6)	0.216	0.218	0.148	0.254
Number of students	0.169	-0.215**	0.239	0.114
(200 - > 500)	0.131	0.085	0.163	0.147
Average family income	-0.150**	0.083	-0.102**	-0.023
(RM 700 - > RM1500)	0.072	0.076	0.069	0.080
Number of Teachers	0.151	0.835**	-0.054	0.437**
(21 - >40)	0.134	0.034	0.113	0.094
Number of staff	0.058	0.034	0.143	0.141
(3 - 4)	0.090	0.092	0.092	0.092
Urban area	-0.055	0.174	0.062	0.138
	0.097	0.090	0.080	0.106
Public school	-0.132	-0.137	-0.069	0.080**
	0.074	0.081	0.066	0.080

(*) die/dx is the discrete changes in dummy variable 0-1

** Significant at the 5 percent

Table 12 showed the determinants of financial adequacy for subjects, counselling, library and recurring services. In the first column, the marginal effect for UPSR is positive and significant. The results showed that the schools with a lower UPSR GPS (1.00 to 3.00) were 19 percent more likely to have financial adequacy in the allocation for subjects compared to schools with higher UPSR GPS, holding other variables constant.

The coefficient for schools with a higher average family income (RM700 to RM 1500) was negative and statistically significant. This showed that schools with a higher average family income were 14 percent less likely to have financial adequacy for subjects compared to schools with lower average family income, holding another variables constant. The study also revealed other factors such as school rankings; number of students, teachers, staff, school location and type of school were not statistically significant. The results indicated that these factors were not important determinants of financial adequacy for subjects.

The second column showed the financial adequacy for counselling subjects and its results showed that the coefficient for greater number of students is negative and statistically significant. The findings showed that schools with greater number of students (200 to 500) were 22 percent less likely to have financial adequacy in counselling than schools with less students.

http://mojem.um.edu.my   100

Meanwhile, the schools with the highest number of teachers (21 to 40) were more likely to have financial adequacy in guidance and counselling compared to schools with less teachers, holding other variables constant. The findings also indicated that other factors such as GPS UPSR 2014, ranking school, family income, staff, location of school and type of schools are not significant. Thus, these factors were not determinants of financial adequacy for counselling.

The third column shows the financial adequacy for library and resources. The results showed that the schools with lower UPSR GPS (1.00 to 3.00) were 18 percent more likely to have financial adequacy for a library than schools with higher UPSR GPS. Meanwhile, the school with a higher average family income (RM700 to RM 1500) is 10 per cent more likely to have financial adequacy for library and resources than schools with a lower average family income. The findings also revealed that other factors such as the ranking, number of students, teachers and staff, school location and type of school are not significant. Thus, these factors do not affect the adequacy of financial provision for library and counselling.

The fourth column showed the financial adequacy for recurring expenditures. The results show that the schools with lower GPS UPSR (1.00 to 3.00) were 27 percent more likely to have financial adequacy for recurring expenditures compared to schools with higher GPS UPSR. Meanwhile, schools with greater number of teachers (21 to 40) were 44 percent more likely to have financial adequacy for recurring expenditures compared to schools with lower number of teachers, holding another variables constant. In addition, fully funded national type Tamil schools are 7 percent more likely to have financial adequacy for LPBT compared to partially funded Tamil schools. The study also revealed that other factors such as schools ranking, number of students, staff, location and family income are not statistically significant. Thus, these factors do not affect the financial adequacy of other recurring expenditures.

Overall findings indicated that GPS for UPSR is an important determinant of financial adequacy for subjects, library, and recurring expenditures. Higher performing schools (lower GPS score) usually consisted of students who are financially better than lower performing schools (Higher GPS UPSR score). Thus, the parents are able to financially support for a better learning environment. Previous study indicated that Tamil schools have limited space for library. Thus, students only use library to borrow books and any programmes cannot be conducted in the library due to limited space. Some of these schools are also lacking in terms of basic facilities such as library, tables and chairs (Abu Bakar & Haridas, 2011, Kenayathulla, 2015). The findings also indicated that average family income is an important determinant of financial adequacy for subjects and library. According to Parcel & Dufur (2001), higher income parents are able to help students in terms of financial and social capital to ensure students perform better.

The results also showed that number of students is an important determinant of financial adequacy for counselling. Students need advice to solve their problems, either through personal or group discussions with the counsellor. The counsellor will discuss with the students to determine the best approach to solve the problems (Ahmad, 2002). However, schools that have lesser number of students are not allocated budget for a counsellor. The number of teachers is an important determinant of financial adequacy for counselling and other recurring expenditures.

Fully funded or partially funded Tamil schools also determine the financial adequacy for recurring expenditures. According to Subathirah Ramloo (2000), financial allocation for Tamil schools are inadequate in terms of the payment of utility bills, purchasing of school's equipment and teaching aids. Contribution from Parents Teachers Association plays an important role in determining the adequacy of school funding.

IMPLICATIONS AND CONCLUSION

Currently, the funding formula for school finance in Malaysia is based on the number of students. Indeed, the findings consistently show that the number of students is an important factor that determines financial adequacy. Results also indicate that other factors needed to be considered in determining financial adequacy. The findings suggested that the average family income is an important determinant of financial adequacy for academic subjects and library facilities. Thus, the schools with higher percentage of lower socio-economic students should be given extra funding so that the library facilities can be upgraded. Most often, the Parents Teachers Associations in these schools are not strong enough to sponsor and fund school activities. They depend on government allocation. Students from lower socio-economic backgrounds should be given extra allocation to upgrade the library services since some of them might not have a convenient learning environment at home. Thus, they have to depend on the library facilities and other school facilities for quality education. Thus, these students should be given equality of opportunity to seek quality education.

The number of teachers is also an important determinant of financial adequacy for counselling and other recurring expenditures. Schools with fewer teachers often encounter financial inadequacy and often have less funding for recurring expenditures such as utilities. Thus, additional funding is needed for these schools so that they can operate efficiently.

Fully funded or partially funded Tamil schools also determine the financial adequacy for recurring expenditures. Partially funded Tamil schools often face financial inadequacy. Thus, these schools need to be provided with additional funding so that they can upgrade the facilities and are able to cover infrastructure and recurring expenses.

Therefore, the school funding formulas for Tamil schools need to incorporate some other factors such as the average family income. This is consistent with the previous studies on school funding in the United States. The school funding formula in United States is adjusted for the number of students receiving free lunch, the number of Hispanic students and others. Thus, the policy makers in Malaysia need to take into consideration the necessary adjustments for the school funding formula.

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