Determinants of Human Capital Investment among the Government and International School Teachers in Sri Lanka (With special reference to Western Province – Kaluthara District) <sup>1</sup> Department of Economics and Statistics, Sabaragamuwa University of Sri Lanka.

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# **Abstract**

Productivity of a worker is manly determined by the Human Capital Investment (HCI) and the importance of firm-specific human capital for organizational performances was studied previously by many researchers. The purpose of this study is to conduct a comparative study of HCI between teachers in government and international schools. Two specific objectives of the study are to identify the factors affected on HCI between teachers in government and international schools and to analysis the impact of HCI on earnings of each group comparatively. Questionnaire method was used to collect primary data for this study conducted in selected government school and international school in Kalutara district. 75 government schoolteachers and 64 international schoolteachers were selected for the sample using stratified random sampling method. Binary logistic regression model was used for the analysis of the determinants while earning function was used to see the impact of HCI on earnings. The study has found that having lower years of experiences, being a rural resident, having welfare facilities from school, tendency to follow online education programmes and reimbursement of the human capital investment by the government have positive relationship with HCI in last five years while being a teacher of a government school have significant negative relationships with HCI. Considering the impact of human capital investment, that has significant positive relationship with the rate of return of the teachers in international schools while that is insignificant for the teachers in government schools. The study concluded that the teachers in international schools are more active in investing human capital and they are also remunerated attractively for their performances, based on their human capital investment as an incentive from the human resource management.

**Keywords:** Human Capital Investment, Teachers, Government Schools, International Schools

#### 1. Introduction

Human capital is defined as an individual's cumulative abilities, knowledge and skills developed through formal and informal education and experience (Becker, 1975). Human capital has been playing a central role in individual and organizational

performance. Education and training are the two forms of human capital investment. Human capital has its direct benefits in the form of superior performance, productivity and career advancement of workers.

Moreover, the future requirements of the labour market are very complex than the past. Although job searching and employment is not a big issue for a person in the past, the future labour market would be more competitive. (Chang and Wang, 1996).

As an example, more qualifications should have been had to be a teacher today than past. A teacher should have been had minimum qualification as passed Advanced level examination and studied in a teacher's training school or a university is another qualification.

According to the Economic and social statistics report of Sri Lanka in 2014 states that there are 86,762 graduate teachers (38% from total teachers) and 128,149 trained teachers (57% from total teachers) in government schools. In consideration to the past years, there were significant improvement of human capital investment among government teachers. However, there are no records on the education status of international schoolteachers in Economic and social statistics reports in past few years (2016).

HCI is not only visible in the service sector. It is an important criterion in the recruitment process of employees in production and manufacturing sector. Every institute or firm tries to get the best employees with the highest productivity and it leads to create a big competition of increasing their value by human capital investment among every person. Not only before but also after recruitment, the employees try to invest in human capital more (Chang and Wang, 1996). There are two key aspects of human capital investment of workers. They are increasing salary and get promotions. Higher studies are chosen by them to invest human capital as the solution for their new aspects. (Jones and Long, 1979) (Blundell, Dearden, Meghir and Sianesi, 1999).

In the service sector the teaching professional is one sector that is much keen in investing in Human capital. This is one of the reasons why human capital investment is high among teaching professionals. School teachers are one of the most important groups dealing with human capital development of future generation. (Hargreaves and Fullan, 2012) According to Gold (2003), organizations zealous on invest in their employees for enthusiastic employees such as staff appraisal programmes, staff welfare programmes for teachers. Investment on teachers promotes the quality of whole school system. (The Alberta Teachers' association, 2010)

# 2. Literature review

The human capital investment concept was not a new topic. This idea came from 1950's or 1960's. This idea increases by the attention of major two economists named Theodore Schultz and Gary Becker who studied in University of Chicago. Their researches, analysis and findings show the path for new generation and encourage other economists to do further researches. The relationship between human capital and economic growth was examined by Schultz through using the notion of human

capital. The rate of return of human capital investments of people, who increased their own skills and efficiency through education and training were calculated by Becker. Before that time period, nation's stock of human capital had been estimated by another economist named Sir William Petty in 1667 for his publication named "Political Arithmetic".

"Inquiry into the Nature and Causes of the Wealth of Nations" was published by Adam Smith in 1776. For that publication, human capital stock which helps to raise productivity of human beings had been highlighted as important part than physical capital. Smith believed the education and training as fruitful ways for increasing the productivity of human resources.

A book named "Cost Value of Human Beings" was published by Ernst Engel in 1883. He considered investing in a man as a productive factor. An article on "The Living Capital of the United Kingdom" was published by Joseph Nicholson in 1891. The cost of educating was considered as the major cost of investment method in human productivity by Nicholson. Two capitals introduced by Him as "personal" capital and "material" capital. Personal capital investment method was recognized by Nicholson as parents paying and caring for the education of their children. An article named "Capital Concept Applied to Man" published by John Raymond Walsh (Capital Concept Applied to Man, in Machlup, 2011).

According to Gardener's view of human capital, there are many measurements and types of skills. Emphasis to mental and physical abilities as different skills was introduced by this approach. (http://econ.lse.ac.uk)

The values in a person were recognized as human capital because that person cannot separate with his talents, knowledge, healthiness, wellbeing and values. Therefore the expenditure on education, training and health care are human capital investment methods (Becker, 1964).

According to the Bowles-Gintis view "human capital" is the capacitance for work in organizations. According to this view, the main role of schools is to encourage individuals for the "proper" ideological and admittance towards the life (http://econ.lse.ac.uk).

Moreover, a major character is played by human capital in endogenous economic growth. According to the Romer (1990) a major role is contributed by human capital in the research sector which produces new ideas, innovations and technologies. Usually, the countries with a higher level of qualified human capital show a rapid rate of innovations and a rapid rate of economic growth (Barro, 1991).

According to Nelson and Phelps in Human capital and Technology Diffusion (2012), a larger stock of human capital in one country has a greater aptitude to absorb and soak up a new product or idea that discovered by another country. A follower country with higher stock of human capital tends to catch up more rapidly and grow faster with following others technologies (Barro, 2011).

The human capital investment process is based on three arguments.

- i. The new generation must be given the suitable parts of the knowledge which has already been accumulated by before generations.
- ii. The new generation should be known how existing knowledge should be used to expand new products, to establish new processes, production methods and social services.
- iii. The people must be promoted to expand new ideas, products, processes and methods through creative approaches (Babalola, 2003).

Human capital theory based on the assumption that the formal education is assists on improving the production capacity of population (Schultz, 1972), (Sakamota and Powers, 1995), (Psacharopoulos and Woodhall, 1997).

There is a higher relationship between human capital investment and wage level. (Finnie and Meng, 2002) There is a diffusion of income distribution among labours, regions, countries according to the variations of the quality of human capital of employees (Nickell, 2004).

A higher human capital stock guides an economy to higher growth and lower fertility. The reason for that is higher human capital stock help to increase the ratio of physical investment to GDP (Romer, I990).

Human capital can be picking out as a mediator of a development in a country. The most important ways of improving the quality of human resources are provide education and health services (Asian economic and financial review, 2013).

Especially in education sector training programs there are personal development programs and soft skill development programs as instruments for expand skills and knowledge of employees.

Training programs help to convert employer's negative attitudes as positive attitudes. It helps employees to do their job efficiency and effectively. As a result, it develops employees' productivity very fast (http://stats.oecd.org).

"Training tools are often secured via the lowest-cost provider method with minimal consideration given to which provider would be most effective" (Sullivan, 2011).

Labor costs can reduce through a good sound scheduling and improving employee productivity. An employer can increase productivity through training. (Pavesic) Onthe job training is dealt so highly with human capital investment than other kinds of investment in human capital (Becker, 1975).

When people spent time and money on education, it can build human capital. As well as the Higher education can consider as investment in human capital. By using this process people can estimate the rate of return on their human capital investment. For

measure the rate of return of a person's education costs can recognize as direct spending on education like fees paid and the opportunity costs of student time. As well as the benefits can recognize as individual productivity. As well as there are so many gathered future benefits as superior productivity, higher wages and other nonmonetary benefits to the individual, business sector and the whole society (Backer, 1975).

As well as, the quality of education effects on further benefits to the individual and the society (Psacharopoulos and Patrinos, 2004).

According to the Levy and Murnane (1992) highly developed schooling level is associated with advanced individual earnings.

According to the Human Development Report (2010) more educated people earn higher wages and have better jobs than the less educated people. Investments in schooling have greater returns in the labor market for women (Miguel and Kremer, 2004). A successive generation is created by education (Benabou, 1994).

Production possibility, labour market productivity and lower production cost are improved by benefits of education. As well as there are many social benefits as private returns for person, longer life expectancy, less criminal behaviour, stronger social structure, better living condition and better political contribution. The educated group can do a good job and earn higher income. Therefore, they can be seen low depend on subsidies and reduces costs for tax-payers (Vila, 2000). As well as some macroeconomists have drawn attention to the productivity spill overs as an important determinant of economic growth and increasing cumulative human capital. This situation effects on aggregate productivity. They recognized the importance of individual's education on productivity (Moretti, 2005).

The higher level of education can benefit the overall society including social groups, communities and countries. There are so many positive externalities origin from education process. They are higher expected production, private returns of educated workers, lower the production cost, stronger social decisions, grater political participation, higher life expectancy, less criminal behaviour and better living condition (Vila, 2000).

The education as a foundation of human capital is affected on the contrasts in labour productivity and the contrasts in overall levels of technology (Robert, 1991). An economy can reach the internationalism by improving the quality of education (OECD, 1997).

There are three types of returns of education. They are private return, social return and labour productivity return. There are so many statistical methods for measure returns of education in the world (Blundell, Dearden&Sianesi, 2011).

# 3. Research Methodology

The study was conducted using data collected from western province, Kaluthara district. The population under study were the teachers of the government and

international schools in the western province Kaluthara district. According to the Economic and Social Statistics of Sri Lanka (2016), the Western province shows the highest number of teachers and Kaluthara district comprises of urban, rural and estate schools' proportions.

Stratified Random Sampling method was used to select 5% of schools from both government and international schools. Random table was used to identify schools of each district and simple random sampling method was utilized to select <sup>3</sup>/<sub>4</sub> of teachers from each school. Accordingly, 139 school teachers were selected as the sample.

# 4. Econometric methodology

Binary logistic function is used to measure the factors that effect on human capital investment within five years

In 
$$\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 D_1 + \beta_2 X_2 + \beta_3 D_3 + \beta_4 X_4 + \beta_5 D_5 + \beta_6 D_6$$

Dependent variable (Y)

 $Y_1$  = invest in last five years (1),  $Y_2$  = not invest in last five years (0)

### Independent variables (D – dummy variables, X – continuous variables)

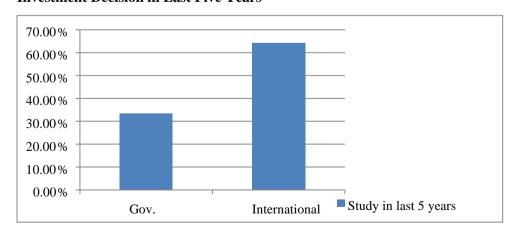
 $D_1$  = Being female (1-Male, 0-Female),  $X_2$  = age,  $D_3$  = Being government teacher (1-government,0-International,  $X_4$  = Family income

 $D_5$  = having secondary job (1-having secondary job, 0- not having secondary job),

 $D_6$  = being permanent (1- Permeant, 0 – not permanent)

### 5. Results

Figure 1: The Relationship between Type of School and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

According to the figure 1, human capital investment in last five years is higher for international school teachers than the government school teachers. The reason is the government school teachers have same pattern in human capital investment. They all try to invest in post graduate and do not engage in Human Capital investment. But international school teachers do not try to invest in post graduate rather they invest more in various English diplomas, IT diplomas and teaching diplomas.

**Table 1: Personal Characteristics of the Sample** 

	School teachers		Government school teachers		International school teachers		
Sample characteristics	NO	%	NO	%	NO	%	
Residential sector							
Rural	58	41.7	43	57.3	15	23.4	
Urban	81	58.3	32	42.7	49	76.6	
Family Type							
Nuclear	98	70.5	57	76	41	64.1	
Extended	41	29.5	18	24	23	35.9	
Life cycle stage							
Unmarried with	32	23	7	9.3	25	39.1	
Parents							
Unmarried (Single)	7	5	3	4	4	6.3	
Married no children	24	17.3	9	12	15	23.4	
Married with children	68	48.9	51	68	17	26.6	
Widowed/ divorced with children	5	3.6	2	2.7	3	4.7	
Widowed/ divorced without children	3	2.2	2	4	0		
Relationship to the household head							
Household Head	32	23	18	24	14	21.9	
wife/husband	75	54	50	66.7	25	39.1	
son/daughter	31	22.3	7	9.3	24	37.5	
other relatives	1	0.7	0	0	1	1.6	
Gender							
Male	29	20.9	13	17.3	16	25	
Female	110	79.1	62	82.7	48	75	

Sinhala         131         94.2         73         97.3         58         90.6           Sri Lankan Tamil         2         1.4         2         2.7         0         0           Islam         6         4.3         0         0         6         9.4           Religion         Buddhist         106         76.3         69         92         37         57.8           Hindu         2         1.4         2         2.7         0         0           Islam         6         4.3         0         0         6         9.4           Roman Catholic or other         25         18         4         5.3         21         32.8           Christian         Marital status           Never married         37         26.6         9         12         28         43.8           Married         93         66.9         60         80         33         51.6
Islam       6       4.3       0       0       6       9.4         Religion       Buddhist       106       76.3       69       92       37       57.8         Hindu       2       1.4       2       2.7       0       0         Islam       6       4.3       0       0       6       9.4         Roman Catholic or other 25       18       4       5.3       21       32.8         Christian       Marital status         Never married       37       26.6       9       12       28       43.8
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Roman Catholic or Other 251845.32132.8ChristianMarital statusNever married3726.69122843.8
ChristianMarital statusNever married37 26.6 9 12 28 43.8
<b>Never married</b> 37 26.6 9 12 28 43.8
Married 93 66 9 60 80 33 51 6
75 00.7 00 00 35 31.0
<b>Widowed</b> 6 4.3 3 4 3 4.7
<b>Divorced</b> 3 2.2 3 4 0 0
Household size
1 to 2 35 25.2 19 25.3 16 25
<b>3 to 4</b> 78 56.1 42 56 36 56.3
5 to 6 23 16.5 12 16 11 17.2
7 to 8 3 2.2 2 2.7 1 1.6
Age
<b>20 – 29</b> 24 17.3 3 4 21 32.8
<b>30 – 39</b> 51 36.7 24 32 27 42.2
<b>40 – 49</b> 38 27.3 29 38.7 9 14.1
<b>50 - 59</b> 22 15.8 19 25.3 3 4.7
<b>60 - 69</b> 4 2.9 4 6.3
Distance from house to school
1km to 15km 126 90.6 67 89.3 59 92.2
<b>16km to 30km</b> 11 7.9 7 9.3 4 6.3
31km to 45km 1 0.7 1 1.3 0 0
<b>46km to 50km</b> 1 0.7 1 1.6
young children in family (below 18)
<b>0</b> 81 58.3 31 41.3 50 78.1

1	31	22.3	22	29.3	9	14.1	
2	23	16.5	18	24	5	7.8	
3	4	2.9	4	5.3	0	0	
Economic inactive family members (18-55)							
0	118	84.9	65	86.7	53	82.8	
1	20	14.4	10	13.3	10	15.6	
2	1	0.7	0	0	1	1.6	
Elder family members (above 55)							
0	95	68.3	55	73.3	40	62.5	
1	27	19.4	13	17.3	14	21.9	
2	17	12.2	7	9.3	10	15.6	
<b>Total Personal Earning</b>							
10000 - 30000	32	23	14	18.7	18	28.1	
30001 - 60000	78	56.1	43	57.3	35	54.7	
60001 - 100000	21	15.1	14	18.7	7	10.9	
100001 - 14000	8	5.8	4	5.3	4	6.3	

The percentage of rural teachers are higher in government schools while the percentage of urban teachers are higher in international schools. There are higher percentage of teachers who live in nuclear families in the sample. The percentage of unmarried teachers are higher in international schools. However, the percentage of married teachers are higher in government schools. There is a higher percentage of female teachers in the sample. The percentage of female teachers are higher for government school teachers than international school teachers.

In consideration of the ethnicity of teachers, there is a higher percentage of Sinhala teachers in the sample. The percentage of Sinhala teachers are higher in government schools. There is a higher percentage of Buddhist teachers in the sample. In consideration of the household size of teachers, there is a higher percentage of 3 to 4 family members. Teachers who are being in 20-29 age level is higher for international school teachers. Teachers who are being in 40-49 age level is higher for government school teachers. Higher percentage of teachers live in 1 km - 15 km distance from house to school. The composition of family members, the percentage of having a young child (below 18) is higher for government school teachers. The percentage of having an elder family member is higher for international school teachers.

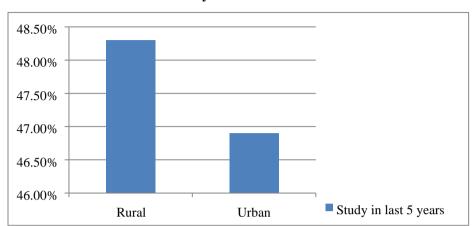


Figure 2: The relationship between residential sector and human capital investment decision in last five years

According to the figure 2, human capital investment in last five years is higher for rural teachers than the urban teachers. The reason for that is most of rural teachers tries to get high qualifications by investing in human capital investment and try to get a transfer to schools which have more facilities.

120.00% 100.00% 80.00% 60.00% 40.00% 20.00% 0.00% Household Wife/ Son / Other ■ Study in last 5 years Head Husband Daughter Relatives

Figure 3: The relationship between the household head and human capital investment decision in last five years

Source: Sample survey, 2018

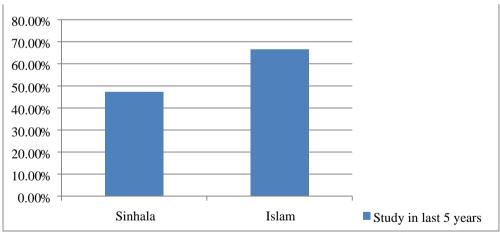
According to the figure 3, human capital investment in last five years is higher for teachers who live in an extended family. The reason for that is, people who live in homes comprising of extended families do not have much pressure on family responsibilities.

48.40% 48.20% 48.00% 47.80% 47.40% 47.20% 47.00% 46.80% Male Female Study in last 5 years

Figure 4: The Relationship between Gender and Human Capital Investment decision in Last Five Years

According to the figure 4, human capital investment in last five years is higher for male teachers than female teachers. The reason for that is female teachers have high family responsibilities and non-paid work than male. Roy model also found this result in 1951. According to the Roy model, men have a comparative advantage in human capital investment.

Figure 5: The Relationship between Ethnic Group and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

According to the figure 5, human capital investment in last five years is higher for Islam teachers than others. Most of the Islamic teachers are teachers from international schools. They have a trend in invest more in various English diplomas, IT diplomas and teaching diplomas.

80.00%
70.00%
60.00%
50.00%
40.00%
20.00%
10.00%
Buddhist Islam Catholic or other Cristian Study in last 5 years

Figure 6: The Relationship between Religion and Human Capital Investment Decision in Last Five Years

According to the figure 6, human capital investment in last five years is higher for Islam and Catholic teachers than Buddhist and Hindu teachers. The most Islamic and Catholic teachers are teaching in international schools. They have a trend in invest more in various English diplomas, IT diplomas and teaching diplomas.

80.00% 70.00% 60.00% 50.00% 40.00% 20.00% 10.00% Never Married Married Divorced

Figure 7: The Relationship between Marital Status and Human Capital Investment Decision in Last Five Years

Source: Sample survey, 2018

According to the figure 7, human capital investment in last five years is higher for never married teachers and divorced teachers than married teachers. The reason for that is they have fewer family responsibilities than married teachers.

Study in last 5 years

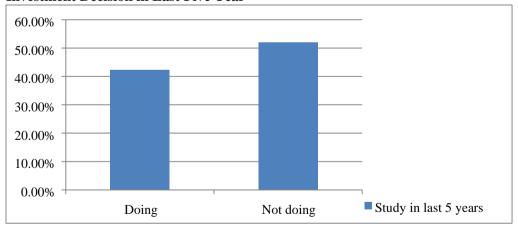
**Table 2: Characteristics in the Secondary Job of the Sample** 

Secondary job	Total		Gove	ernment	International		
			school	teachers	school teachers		
	NO	%	NO	%	NO	%	
Doing a Secondary job	64	46	37	49.3	27	42.2	
Tution	46	71.9	27	73	19	70.4	
other	18	28.1	10	27	8	29.6	
Time intensive	55	85.9	35	94.6	20	74.1	
Not time intensive	9	14.1	2	5.4	7	25.9	
Not doing a Secondary job	75	54	38	50.7	37	57.8	
Secondary job Hours							
0 to 10	36	56.3	16	43.2	20	74.1	
11 to 20	14	21.9	10	27	4	14.8	
21 to 30	10	15.6	9	24.3	1	3.7	
31 to 40	4	6.3	2	5.4	2	7.4	

**Source**: Sample survey, 2018

Most of teachers engage in tuition rather than other secondary job. Majority of teachers devote 0-10 hours for their secondary job.

Figure 8: The Relationship between the Secondary Job and Human Capital Investment Decision in Last Five Year

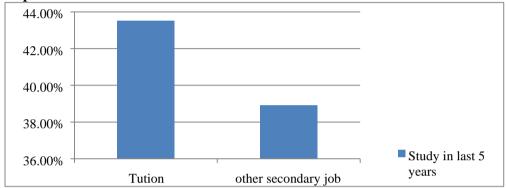


**Source**: Sample survey, 2018

According to figure 8 human capital investments in last five years is higher for teachers who are not engage in secondary job. When a teacher is engaged in a secondary job, his free time may be low. Low free time is a constraint for human capital investment

Moreover, a teacher study more, that is, invest in Human Capital Investment in order to increase their salary. However, they can earn higher income by engage in a secondary job. Higher secondary income encourages teachers to engage more in secondary job rather than spending time for education. If they invest in human capital, their secondary job time should devote for education. Their income is decrease at the time period of study. Therefore, their human capital investment decision is lower.

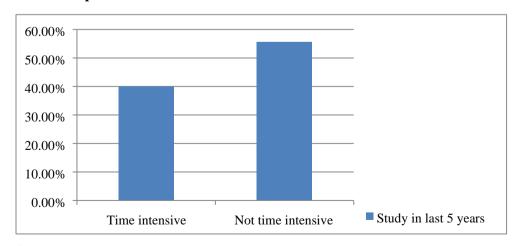
Figure 9: The Relationship between the Type of Secondary Job and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

According to figure 9 human capital investments in last five years is higher for teachers who engage in tuition than teachers who engage in other secondary job. If a person engages in same duty in primary job and secondary job he/she encourages investing in human capital towards his field.

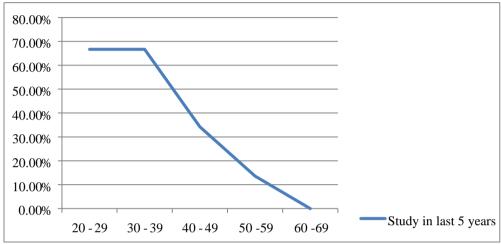
Figure 10: The Relationship between Spending Time on the Secondary Job and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

According to figure 10 human capital investments in last five years is lower for teachers who engage in time intensive secondary job. Free time is a good incentive for human capital investment. If there is not much free time he gets discouraged to study.

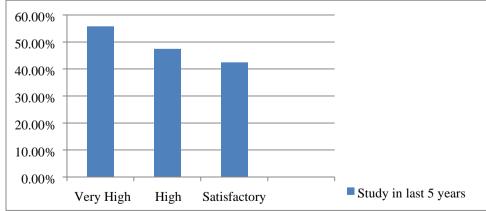
Figure 11: The Relationship between Age and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

According to the Ben-Porath model individuals make investment decisions based on maximizing the present value of lifetime earnings. Therefore, individuals decline the human capital investment with age that is, when they are getting older. Here, the teacher's human capital investment decline with the age.

Figure 12: The Relationship between Availability of IT Facilities for Teachers and Human Capital Investment Decision in Last Five Years



Source: Sample survey, 2018

There is a negative relationship between IT facilities and human capital investment in last five years. Usually, internet service facilitate to self-study. If there is internet facility, teachers can study course online without participating classes. Therefore, higher IT facilities encourage teachers to study.

60.00% 50.00% 40.00% 20.00% 10.00% Excellent Good Satisfactory Study in last 5 years

Figure 13: The Relationship between Skill of English Language and Human Capital Investment Decision in Last Five Years

Source: Sample survey, 2018

According to 4.13 figure, human capital investment in last five years is higher for teachers with excellent English skills. There is a positive relationship between skill of English language and human capital investment decision in last five years. The most of diplomas, higher diplomas, degrees are offer from English medium. Therefore, higher English skills encourage human capital investment.

**Table 3: Descriptive statistics** 

Variable	T	otal	
	n = 139		
	Mean		Std Dev.
<b>Invested in HCI in last five years (Y)</b>		0.44	0.50
Being Female(D1)		0.76	0.43
Age (X2)	4	1.45	10.23
Being government teacher(D3)	(	0.82	0.39
Family Income (X4)	5670	1.60	39799.01
Having Secondary job(D5)	(	0.42	0.49
Being permanent (D6)		0.93	0.26

Source: Sample survey, 2018

According to descriptive statistics (table 3) 44% of school teachers invest in human capital in last five years. Being a female has an effect to investment in 76% and there is a high tendency among the government teacher's investment in human capital

comparing the international schoolteachers. The major barrier to invest in human capital is moonlighting among the school teachers. According to the labour force survey in 2019 in national level moonlighting rate is 6.5%. In here, moonlighting rate is 42%. This is, 7 times of the national rate. Therefore, comparing the other job holders' schoolteachers have less time to invest in human capital because of high moonlighting rate.

Job security highly impact to human capital investment. In here 93% of permanent school teachers invest in human capital.

Table 4: Marginal effects of logit model

Variable	Tota	ıl
	n = 13	34
	ME	Z
Being Female(D1)	0.029	0.610
Age (X2)	0.059	2.770
Being government teacher(D3)	0.153	1.530
Family Income (X4)	0.000	1.540
Having Secondary job(D5)	-0.129	-1.440
Being permanent (D6)	0.029	0.610

Source: Researcher's Sample survey, 2018

Considering the marginal effects of the model (table 3), the significant variables are being female, being government teacher, family income, having secondary job and being permanent. Considering the gender of the school teachers, when female school teachers' age increase by one year the probability of ever invest is 0.03. This states that, when the age of female teachers' increases there is a tendency to invest less in Human Capital than the male school teachers. This finding matches with the findings of Pitt, Rosenzweig and Hassan (2010). This research on Human Capital Investment and the Gender Division of Labor in a Brawn-Based Economy also stated that more tendency to invest in human capital by the female teachers can be observed.

Moonlighting has adverse effect to invest in human capital. According to the finding of the research.

#### 6. Conclusion

Objective of the study was to find the effects of factors to human capital investment among government and international school teachers. Research findings were summarized as follows.

Human capital investment in last five years is higher for international school teachers than the government school teachers. The education programmes are unequal which chosen by government and international schoolteachers. The government school teachers have a high trend to follow postgraduate studies. But international school teachers have a high trend to follow teachers training diplomas. But both of them spend an equal time duration for study. The study has found that having lower years

of experiences, being a rural resident, having welfare facilities from school, tendency to follow online education programmes and reimbursement of the human capital investment by the government have positive relationship with HCI in last five years while being a teacher of a government school have significant negative relationships with HCI. Considering the Human capital expenses, that has significant positive relationship with expend by themselves and receiving welfare from the school while has significant negative relationship with bad English skills. Considering the impact of human capital investment, that has significant positive relationship with the rate of return of the teachers in international schools while that is insignificant for the teachers in government schools.

#### 7. Recommendations

The government should introduce barriers of human capital investment for teachers and the facilities for education should be expanded more. Human capital investment in last five years is higher for male teachers than female teachers. Therefore, human capital investment of female teachers should be encouraged. Because of non-paid work load, female teachers discourage to study. A subsidy for caring children, build day care centres near the school, supply free education programmes during school time are some recommendations for encourage female teachers for invest in human capital. The human capital investment has a decreasing trend with the primary income. Therefore, the government should introduce new credit scheme which aims human capital investment for both government and international schoolteachers. There are no records on the education status of international school teachers in Economic and social statistics reports in past few years. Therefore, the government should prescribe international schools to publish the education status of their teachers. There is imperfect information problem among government school teachers. Some teachers have not information about the process of reimbursement of the education expenditure by the government. The government should supply perfect information for all teachers. If there are young children or economic inactive people in a family, teachers are discouraged in education. Therefore, government or school should introduce those families and give incentives.

# References

- Aghion, P., L. Boustan, C. Hoxby, and J. Vandenbussche, 2009. "Exploiting States' Mistakes to
- Identify the Causal Impact of Higher Education on Growth." NBER conference paper,
- http://www.nber.org/confer/2009/si2009/ed/hoxby.pdf. Revised version forthcoming in Brookings Papers on Economic Activity.
- Akresh, Richard; Bagby, Emilie; de Walque, Damien; Kazianga, Harounan. 2010. Child Abilit and Household Human Capital Investment Decisions in Burkina Faso. Policy Research working paper; no. WPS 5370. World Bank.

- Babalola J. (2003) Budget Preparation and Expenditure Control in Education. In Babalola J.B. (ed.) Basic Text in Educational Planning. Ibadan. Awemark Printers
- Bai, C.E., & Wang, Y., 2003. Uncertainty in Labor Productivity and Specific Human Capital Investment
- Barro, R.J., 1991. Economic growth in a Cross Section of countries, The Quaterly Journal of Economics, Vol 106, No 2 (May, 1991), 407-443.
- Becker, G. S., 1975. Investment in Human Capital: Effects on Earnings Carrol, C.D., 2014. The Lucas Growth Model
- Chang, C., & Wang, Y., 1996. Human Capital Investment under Asymmetric Information
- Cohany, S.R., Polivka, A.E., & Rothgeb, J.M., 1994. Revisions in the current population survey
- Dearden, L., Reed, H., & Reenen, J.V., The impact of training on productivity and wages
- Engel, E., 1883. Cost value of Human Beings, Der Werth des Menschen, Verlag von Leonhard Simion, Berlin
- Finnie, R., & Meng, R., 2002. Minorities, cognitive skills, and incomes of Canadians, Canada.
- Fitzsimons, P. 1999). Human Capital theory and education. The Encyclopedia of education. London: Macmillan
- Green, David A. & Craig Riddell, W., 2003. "Literacy and earnings: an investigation of the interaction of cognitive and unobserved skills in earnings generation," Labour Economics, Elsevier, vol. 10(2), pages 165-184, April.
- Kulik, J. A.1994. Meta-analytic studies of findings on computer-based instruction. In E. L. Baker & H. F. O'Neil, Jr. (Eds.), Technology assessment in education and training (pp. 9–33). Lawrence Erlbaum Associates, Inc.
- Kwon, Bong, D., 2009. The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development. Academy of Management Review, 24, 31-48.
- Levy, F., Murnane, R.J., 1992. U.S Earnings Levels and Earnings Inequality, US
- Lucas, R, 1988. On the Mechanics of Economic Development. Journal of Monetary Economics, 22(1), 3-42.
- Machin, S., Marie, O., & Vujic, S., 2010. The Crime Reducing Effect of Education, IZA Discussion Paper No.5000
- Machlup, Fritz, 1982. Issues in the theory of Human Capital. Education as Investment, The Pakistan Development Review, 21(1):1-14

- Nanayakkara, A. G. W., 2004. Employment and unemployment Insrilanka– trends, issues and options
- National Bureau of Economic Research, 1996, vol. 11
- Nelson, R.R., & Phelps, E.S., 1996. Investment in Humans, Technology Diffusion and Economic growth
- Nickell, S., 2004. Employment and taxes, Handbook of Labor Economics Vol 3 (Amsterdam: North Holland).
- Ogunade, Adeyemi O., "Human Capital Investment in the Developing World: An Analysis of Praxis", 2011. Seminar Research Paper Series. Paper 38. http://digitalcommons.uri.edu/lrc\_paper\_series/38http://digitalcommons.uri.edu/lrc\_paper\_series/38
- Olayemi, S.O., 2012. Human Capital Investment and Industrial Productivity in Nigeria
- Investment, International Journal of Humanities and Social Science Vol. 2 No. 16 [Special Issue August 2012]
- Patrignani, P., & Conlon, G., 2012. Estimating the Impact of Training on Productivity using Firm level Data
- Pil, F. K., & Leana, C., 2009. The effects of teacher human and social capital on student performance
- Piper, A. T., 2012. A Happiness Test of Human Capital Theory
- Romer, P., 1990. Endogenous Technological Change, SAARC journal Of Educational research. 2012. Vol.
- Snow, A., & Warren, R.S., 1990. University Human Capital Investment and Labor Supply under Uncertainty
- Solow. R.M., 1956. A contribution to the theory of Economic growth, The Quarterly Journal of Economics, Vol. 70, No. 1 (Feb., 1956), pp. 65-94
- Sorensen, P. B., 1993. Human Capital Investment, Government, and Endogenous Growth, Journal Volume 63, Issue 3, February 1997, Pages 311-329
- Sullivan, P., 2011. Teaching Mathematics: Using research informed strategies, Proceedings of the 29th annual conference of the Mathematics Education Research Group of Australasia (pp. 496–503). Sydney: MERGA.