Determinants of Quality Human Capital Development (The Case of Wolaita Sodo University (WSU) Main Campus)

Solomon Kebede Menza[1] (MSc in Economics)   Yoseph Abeto (BA in Economics)
Department of Economics, College of Business and Economics, Wolaita Sodo University
P.O Box 138, Wolaita Sodo University, Ethiopia

Abstract
Despite recent measures show that there is low quality in educational sector of Ethiopia. This study was attempted to address the determinants of quality human capital development, especially in WSU, main campus. The scope of the study is mainly in the main campus because of its connivance for the researcher. The researcher used 90 students as a sample by randomly selecting two colleges (college of natural and computational science and Business and economics). The study used CGPA as a proxy variable for quality human capital. The data was analyzed via both descriptive and econometric analysis. It explains the performance of students in terms of their grade scores. This study was undertaken by both primary and secondary data. The analysis indicates quality human capital is determined by sex, age, habits of drug specially chat, the choice of university and the like. The concerned bodies, like government, ministry of education and others, should give due attention for regular pocket money as income, policies related with chewing chat[2](khat), university assignment issue, and gender basis of students needs strict considerations.
Keywords: quality human capital development, WSU, main campus

1.1 Background of the study

To most people, capital means a bank account, a hundred shares of various big companies assembly lines, or huge buildings in different areas. These are forms of capital in the sense that they are assets that yield income and other useful outputs over long period of time (Becker, 2010).

But such tangible forms of capital are not the only types of capital. Schooling, a computer training course, expenditure on medical care, and lecture on the virtue of punctuality and honesty are also capital. That is because they raise earnings, improve health, or add to a person's good habits over much of his or her life time.(Becker , 2010).

Therefore economist regard expenditure on education, training, medical cares, etc as investments in human capital. They are called human capital because people cannot be separated from their knowledge, skills, health or values in the way can be separated from their financial and physical assets (en. Wikipedia.org/wiki/human capital).

Human capital is the sum total of a person productive knowledge, experience, and training. The acquires of human capital is what makes a person more productive. One of the most notable methods of stocking up on human capital is through formal education from grade school to advanced college degree (www. Business 2000.ie/resource /glossary .H. html)

In aggregate with the above definitions, more precisely, human capital is the term economist's use for education, health and other human capabilities that can raise productivity when increased. (Todaro ,2006). The outstanding economic records of Japan, Taiwan, and other Asian economies in recent decoder dramatically illustrate the importance of human capital to growth. Lacking natural resource they important almost all their energy, for example and facing discrimination angst their export by their west , there the so called Asian tigers grew rapidly by replaying on a well-trained, educated, hardworking and conscientious labor force that makes excellent use of modern technologies. China for example, is progressing rapidly by mainly relying on its abundant, hardworking and ambitions population (Becker, 2010).

According to united nation (un) report on the world social situation (2013) education is fundamental to enhancing the quality of human life and ensuring social and economic progress similarly, education is the key to creating and spreading knowledge (WB,2016) as cited in Todaro, 2006).

Formal education is not the only way to invest in human capital. Workers also learn and trained outside schools, especially on the job. Even college graduates do not get fully prepared for the labor market when they live school and must be fitted in to their jobs through formal and informal training programs (Jakob minser,20011).

Wolaita Sodo University is one of the recently established government higher educational institutions in Ethiopia, following the capacity building strategies under taken by the ministry of education in order to enhance

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[1] The author is currently persuading his PhD in Development Economics at Arba Minch University.
[2] It's a flowering plant native to the Horn of Africa. Khat ("chat" named in Ethiopia) contains the alkaloid cathinone, an amphetamine-like stimulant, which is said to cause excitement, loss of appetite, and euphoria. It's taken via month in the form of chewing.

the number of universities and to alleviate the shortage of educated man power in the country at large. The university is found at a town called wolaita Sodo, which is around 329 kms away towards south from the capital, Addis Ababa .

Meanwhile, the university has gone through a serious of developments since its establishments as a higher educational institution. Due to the great demands of trained man power in the region as well as in the country at large, the university has witnessed tremendous expansion in terms of fields of study. Thus currently the university offers undergraduate programs in six bands with 49 departments and one PGDT and one HDP which comprised 11527 regular students in 2009 e.c

The university, apart from the expansion of its training programs, has been actively involved in research activities primarily in the fields of agriculture. Through the resource of its few years of age the institution has also been working to establish linkages with national and international organizations to strengthen its academic, research and outreach activities.

Wolaita Sodo University is now functioning on its main campus (gandaba campus) where the first grave stone was laid. It is where the office of the management of the institutions is located. the ottona campus, where the second grave stone of the university was laid is currently on the progress and meant for the faculty of health science after the completion of its construction.

1.2 statement of the problem
Education has played a vital role for developed counters in the process of development. In the case of the present developing countries including Ethiopia investment in education can contribute much to the formation and accumulation of human capital which in turn leads to higher economic growth by making people know to use modern technology just like develop countries (DCs) over and above all. High are the dominate one on which the nations rely.

In the real world, tertiary level deduction plays a vital role world, tertiary level education player a vital role in producing highly qualified professionals to discovering new technologies and adapting them.

In Ethiopian there are around thirty-five universities which are providing different training for undergraduate and other of which, wsu is one of those universities in this country. The number of gradate is increasing from time to time from each university. Accordingly, just like other, wsu has also registered Dramatic changes from its establishment in related with expanding its department and in related with the numbers of students it well comes.

Unfortunately the researcher have been arguing that there is no significant or exaggerate difference between the number of students who join this university and the number of student who graduate from this university wsu is known not only by well coming high number of student but also very well known by graduating high number of students in each year. This implies that there is no performance difference in their primary and secondary school levels.

However, some philosophers opposed the above idea by saying that this qualitative separation is coming or emanating due to only the student them server and not because of other factors. There is no consensus about the determinates of the student qualitative differences and there is always argument in their regard. The researcher focus is to fill the gap of the previous researcher that determine only qualitative variables as they affect human capital without assuming the quantitative variables like financial support for the student.

1.3 Research question
The research questions of the study are
1. Does all student's equal academic performance in wsu or not?
2. What are factors that affect the quality of education in wsu?
3. What are the factors that affect the performance of students in Wsu?

1.4 Objectives of the study
The general objective of the study is to assess the determinants of human capital formation in Wolaita Sodo University.
While the specific objective of the study includes:
- To examine the student academic performance in WSU.
- To investigate factors affecting quality of education in WSU.
- To examine the factors that affects the performance of students in WSU.

2. Methodology of the study
2.1 Data types and sources
The data which the research was used was mainly cross-sectional primary data. The primary data was collected from the students themselves.

2.2 data collection methods

The data was collected by using questionnaire method the research choose this method because the subject of the study is very wide and it is not possible for direct observation.

2.3 sampling techniques

Techniques and sample size this study would be focused was three stage sampling which is one of multi-stage sampling method, in which in the first stage the researcher would be taken all third-year students from all bands which accounts a total of 3007 students. In the second stage the researcher took 2 bands (colleges) which are band 2(Natural and computational science and band 5 (Bossiness and Economics) which accounts a total of 2846 students. From this the study used only third year students from the two bands which accounts a total of (946) students. Finally, in the third stage the researcher would be selected the sample from each department by dividing them by their own respective sections on randomly basis in order to give an equal chance for each section to be selected.

The criterion would be that their students result), some from low scores and some from high scores, some from mares and some from females, at random base.

According to Yamane (1967) sample size at 90% confidence integral and level of precession (expected error term) 10% sample size would be computed as follows)

$n = \dfrac{N}{1+N(e)2}$ where n- resent large population (regular student

e- Represent level of precession or

Expected error term which is equal to 10%

n – Represents the required sample size

Sample size $= \dfrac{946}{1+946(0.1)2}$ =90//

2.4 Method of data analysis

After collecting relevant data, the researcher was analyzed the data obtained from different sources through descriptive analysis like ratios, percentages and the like and econometrics analysis like multiple linear regressions model (MlRM). The researcher would be used different statically test to check the relationships between the dependent variable and independent variable. for instance, to check the presence of multico linearity the researcher used variance inflating factors (vif), bresuch –pagan (BP) test for heterosecadasticity, t test for normality and the data is free from such OLS criteria problems.

2.5 Description of variable

There are so many qualitative and qualities variable which can be offer human capital formation. These variables may be classified in to the following major groups back ground of the student, the behavior of the university that as student joined, and availability of materials in the supply side.

2.5.1 Independent variables

A, REGION : It indicates the state (the region) of the students come from in which the reasearcher expects it positively affects the cumulative grade point average (CGPA).

B sex : It referes the students maleness or femaleness . according to the researcher it is expected as this variable affects negatively if the sex of the student is female becase of some factors such as cultural factors and the like

C . school back ground of the student: It indicates the where the student learns either public or private school. The study expects this variable positively affects the students (CGPA) . This is to mean that if the students learn in private school in their lower grade their cumulative grade point average would be better than learning in public school.

D , students choice of university : This refers the student assigned or not in the university which he/she choose . According to the researcher it would be positively affects the dependent variable. This implies that if a student assigned according to his / her interest it would be succeed in his / her education.

E , students choice of department : This indicates the student either or not to the department base on his / her interest . This variable was expected to positively affect the dependent variable (CGPA) . It is to mean that if the student assigned to the department based on his / her interest he/she would get good (CGPA).

F , Habit of the student towards drug (specially chat): It refers to either the student use chat or not for reading . It is expected to negatively affect the dependent variable (CGPA). This implies that if the student use chat for reading he/she read much time without understanding that would decrease their cumulative grade point average (CGPA)

G, Age: This refers that at how much age is the student at the study time. It is expected to affect the dependent variable negatively. This implies that if the age increases over time the performance of the student decreased which leads to low CGPA.

3.6.2 Supply side variables

I, The educational level of the instructors: This refers that the instructors holds either MA/MSC, under MA/ MSC degree or above MA/MSC. This is expected to affect the, dependent variable negatively.

J, The number of credit hours the student taken in a semester : This indicates that how many credit hours the student taken in a semester . It is expected to negatively affect the dependent variable CGPA). This implies that if the number of credit hours which the student taken would increased the students CGPA would be decreased

H. income : it refers the monthly financial support for students from their family . It is expected to affect the dependent variable positively. This implies that if students get sufficient income it enable them to fulfill necessary materials that leads them to succeed on their result.

3.6.3, Dependent variable : The dependent variable   is quality human capital which is proxed by cumulative grade point average (CGPA) which is affected by different independent variables which are mentioned above.

3.7 Model Specification

It show the relations ship between quality of human capital, which is captured by CGPA score of the student, and the dependent variable are sex, of the student, the student, the region a student come from, the school where the student learn (public or private school, number of credit hour which a student has to take in a semester, the study year of study.

The empirical estimation of the model express as follows

$$CGPA = \alpha + \beta_i X_I + \epsilon_I$$

Where: - CGPA represents explained (dependent variable) which means cumulative grade point average score of the student during his/her stay in university.

∂ : it represents the intercept term

$-\beta_i$: it measure the change in means value of quality of human of capital in education (CGPA) due to a change in one of explanatory variables keeping other variable constant.

X_I : stands for explanatory variables mentioned on above.

ϵi= the error term / disturbance term which may affect the dependent variable (CGPA)

4.2 Results of Econometrics Data analysis
4.2.1 Econometrics Tests

When undertaking results of econometrics data analysis , it starts by going to estimate the specified models ,it is important to undertake different tests on whether the basic assumptions of the model are meet or not. In addition, since the study is a cross-sectional, autocorrelation, which is a common problem in time series data is ruled out. According to our postestimation tests for the following problems like multicolinearity, hetrosckedasticity, and normality test and model adequacy tests are consistent with the ordinary least square estimation method (see also appendix I-IV).

Table 1: Regression output

Source	SS	Df	MS	Number of obs =		90
				F(14, 75)	=	4.36
Model	9.30646051	14	.664747179	Prob > F	=	0.0000
Residual	11.4356679	75	.152475573	R-squared	=	0.4487
				Adj R-squared	=	0.3458
Total	20.7421285	89	.233057623	Root MSE	=	.3904
CGPA	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf.**	**Interval]**
Sex	0.3248662	.091856	-3.54	0.001***	-.5078526	-.1418797
Age	-.0153239	.017734	-0.86	0.390	-.0506518	. 0004
Martsta	.1224207	.0810995	1.51	0.135	-.0391378	.2839792
Depchoice	.0807493	.1534944	0.53	0.600	-.2250272	.3865258
Scbackgr	.0745253	.1191886	0.63	0.534	-.1629106	.3119612
Unstycho	0.4183589	.1804159	-2.32	0.023**	-.7777658	-.058952
Chat	-0.3831162	.1502842	2.55	0.013**	.0837347	.6824977
Income	.0006391	.0001837	3.48	0.001**	.0002733	.001005
Referen	-.186264	.2012666	-0.93	0.358	-.5872076	.2146795
Schedule	-.2252146	.1638952	-1.37	0.173	-.5517107	.1012815
Onetofv	.0843639	.2175571	0.39	0.699	-.3490319	.5177598
Stdyplac	-.0399255	.0672719	-0.59	0.555	-.173938	.094087
Study time	.0319223	.0260759	1.22	0.225	-.0200236	.0838681
Educlectur	-.0065909	.0649295	-0.10	0.919	-.135937	.1227552
_cons	3.238775	.4820186	6.72	0.000	2.278544	4.199005

Source: STATA 11 result, 2017

The asterisks *** ,** and * indicates 1% ,5% and 10% level of significance, respectively .

According to survey, using reference material , schedule for 1 to 5 mentor advice, studying place of the students and an educational level of instructors are negatively contributes to the students success on their result , keeping other variables remain constant, yet statically insignificant .Hence ,no need of further interpretation for these variables. Whereas , other things being constant , marital status of the respondents , department choice of the respondent , participating in 1 to 5 discussion and the respondents time schedule for study per day are positively related with dependent variable , cumulative grade point average, but statically insignificant . Hence, for these mentioned variables no need of further interpretation. However, using stimulus drug (chat) for reading, monthly income, sex and choice of university by the respondents are significantly determining human capital development.

Students university choice has positive and statically significant effect on the student's cumulative grade point average at 5 percent level of significance with coefficient of - 0.4183589, keeping other factors remain constant. This indicates that these who joined their choice university are by 0.42 percent scores better than these who joined without their choice. This indicates that assigning the students according to their interest increases the student's successes and thereby their human capital in the long run.

Using drug specially chat for reading have negative and statically significant effect on the students successes (CGPA) at 5% level of significance with the coefficient of -0.38. Keeping other factors remain constant as the habit of using chat for reading increased by 1%, the students cumulative grade point average (CGPA) is decreased by 0.38 percent. The implication is that the students read and study much time with no understanding.

Monthly income of the students also have positive and significant effect on the students cumulative grade point average (CGPA) at 1% level of significance with coefficient 0.0006391. Keeping the effect of other variables constant as the students monthly income increased by 1% the cumulative grade point average of the students is increased by 0.0006391 percent. This indicates that the students need enough monthly income from their family to fulfill the necessary materials and also to refresh their mind and, then to study effectively for their successes.

Sex also have positive and significant effect on the students (CGPA) at 1% level of significance. This implies that by being female their CGPA was decreased because of socio-cultural and natural factors and the like. If sex changes from female to male by 1percent, the students (CGPA) is increases by 0.3248662 percent.

5.1 conclusions
Despite the large literature on the area, there is a need to learn a lot. After all, not only human capital concept that is not understood well but even the subject economics by itself is a young science that needs to be studied

with much effort. Realizing this fact the followings are the main findings of our study:

✓ in terms of sex, female students are found to be less successful than male students, given other things remain constant.

✓ the study found that the choice of university is a significant variable to affect the students result. Just like the first conclusion, the students who have unwillingly joined WSU are also in lower performance than the students who have willingly joined WSU.

✓ if one considers the relationship between the student's success and using chat for reading, one can see that the study found insignificantly inverse link. Amazingly, the student's argument for using chat to reading is that to stay long reading without getting tired. It was what most students answered 'why do they use it '. These addicts of chat themselves say that they do not remember what they read after a couple of day. Human capital investment on these people might be in question.

✓ the study found the monthly income of the students is a significant variable to affect the students result. This implies that sufficient income support for the students from their families leads them to better result.

5.2 Recommendations

Based on the findings of the study, the researcher recommends the following points :

✓ The concerned body or the government is required to give attention towards gender. The researchers strongly recommend that women affirmative action at university level and women empowerment activities need to be undertaken so as to fill gender gap.

✓ For Ministry of education it's better to assign universities according to their preferences given the quota followed by the institute.

✓ According to the finding chewing chat jeopardize the performance of students at university level, hence the government should consider in developing rules regarding the use of addicts in the university.

✓ Additionally, income, mean remittance from their relatives, level of students should considered to capacitate quality human capital. The concerned body should provide regular income sources for the students as a system in higher educational institutions.

✓ Finally, it is better to recommend for other researchers to conduct investigation at macro level by taking expenditures on health and education to observe the flow of human capital and it's determinants.

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Appendixes
Appendix I: Normality test

kernel = epanechnikov, bandwidth = 0.0172
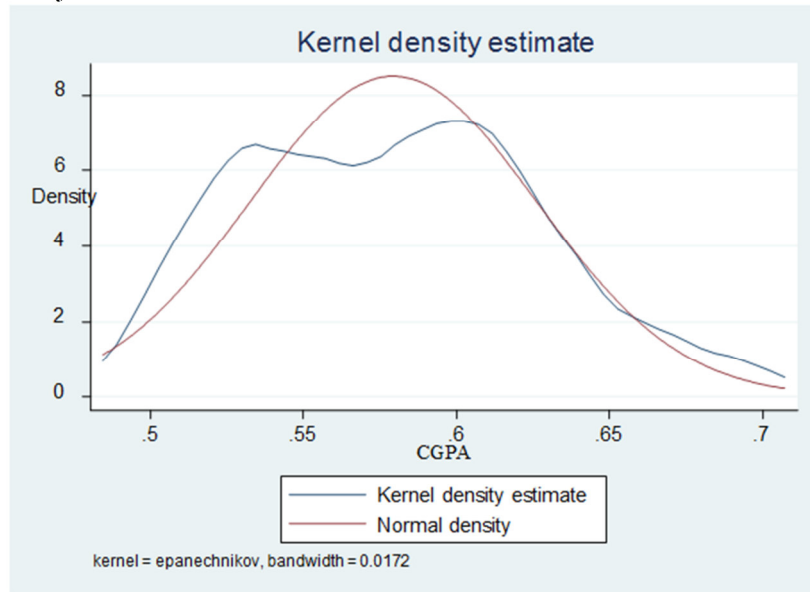
Appendix II
Multicollinearity test:

Variable	VIF	1/VIF
Onetofv	6.98	0.143247
Referen	5.97	0.167374
Unstycho	4.78	0.209123
Schedule	3.95	0.253408
Depchoice	3.45	0.289920
Chat	3.05	0.327369
Study time	1.38	0.724480
Scbackgr	1.34	0.745364
Martsta	1.31	0.764545
Stdyplac	1.30	0.771780
Income	1.29	0.776672
Age	1.28	0.778895
Sex	1.24	0.806748
Educlectur	1.13	0.884287
Mean VIF	2.75	

Appendix III
Hetroscedascity test:

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of CGPA
chi2(1)   =   1.07
Prob > chi2 = 0.3013

Appendix IV   Model adequacy test by using omitted variable bias test:

Amsey RESET test using powers of the fitted values of CGPA						
	Ho: model has no omitted variables					
		F(3, 72) =	0.46			
		Prob > F =	0.7092			