The Impact of Financial Institution Development on Income Inequality: The Case of Ethiopia

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Abstract

The study investigates the link between financial institution development and income inequality in Ethiopia. Econometrics frame work (analysis) was employed as a general method of analysis using secondary data collected from national bank of Ethiopia (NBE), central statistical authority (CSA), MOFED and EEA. The study covers for 33 years from 1980 to 2012. The Engle Granger two steps procedure is followed to estimate the long run and short run parameter for the variables included in the model.

The empirical result of the study shows that broad money to GDP ratio, GDP, credit and openness are the main determinates of income distribution (inequality) in Ethiopia in the long run. In the short run only broad money to GDP ratio is the main determinant of income inequality. All these variables except openness and broad money have decreasing effect on income inequality.

The policy implication of the result implies that among other things government should motivate more for domestic trade than international trade. It should be selective in export and import trade. Government should create awareness for the mass rural population about the importance of formal financial institutions. Distribution and expansion of financial institutions from unban to rural areas, Provide incentives, licensing and other important measure to improve equitable distribution of national resources.

Keywords: Financial institution, income inequality, openness, credit, broad money, Gini coefficient.

1. Introduction

1.1 Background of the Study

The presence of income inequality at high level in many developing countries has made it more difficult to reduce poverty. High income inequality can also have undesirable political and social consequences, particular in developing countries, where the institutions of

government are weak, and income inequalities exacerbates the problem of creating and maintaining accountable government, increasing the probability of criminal activities (Alesina and Perotti, 1996).

This high income inequality makes the gap in capital expenditure wide disparity between poor and non poor. For instance, in rural areas, expenditure of non- poor are roughly twice as those of the poor people. In urban areas, they are 2.8 times higher, and nationally, the non poor spend 2.25 times more than the poor (MEDAC, 1999).

Income inequality is very common problem that hurt the economy of Ethiopian for very long time. Economic development is associated first with an increase and then a decrease in income inequality, results an inverted u-shaped relationship between the two variables (Kuznets, 1955).likewise income inequalities and financial intermediaries have u-shaped relationship (Green wood and Jovanovic, 1990).Financial market imperfections can perpetuate the initial distribution of wealth due to the presence of indivisible investments (Banerjee and Newman, 1993).

To overcome this problem one possible development plan is to establish improved and well organized financial institutions in the country. This is because financial institutions play an important role to allocate capital (resource) from less productive (less risky) to highly productive investment and hence it increases economic growth. On the other hand financial institutions improve income inequality by giving time the poor to purchase and start a new business. It also creates employment opportunities for low income groups of the society.

The Ethiopian financial system is small and largely dominated by the state. Currently public banks account for 67% of the total deposits and 55% of loans and advances. Government lending controls interest rates, and owns the largest banks the commercial bank of Ethiopia (CBE) whose assets represent about 70% of the sect oral total. By June 2011 the private credit to GDP ratio for Ethiopia was about 9% compared with the average of 30% for sub-Saharan has recently experiencing reversal of financial deepening. The broad money to GDP ratio decline from 27% in 2007-2008 to 25% in 2008-2009, at the same time the ratio of domestic credit to GDP decreases from 32% to 27% over the same period (Ethiopia financial sector profile, new frontier in African finance, Jun 2014, Dakar,Senegal).

There is a strong relationship between financial development on one hand and economic growth and income distribution on the other hand. So the development of financial sector has remained an important item on the development agenda of countries particularly to those in developing world (Goldsmith,MC kinnon and Shaw, 1973). Even though there is a positive impact of financial development on economic growth and income distribution, less is known about the empirical link between financial development and income inequality. There is also a caution in which direction they are related.

At all stages of economic development, financial development improves capital allocations, boosts aggregate growth, and helps the poor through this channel. However, the distribution effect of financial development, and hence the net impact on the poor depends on the level of economic development. Accordingly at the early stage of development only the rich can afford access and direct benefit the profit from better financial markets. At high level of economic development, many people access financial market so that financial development directly helps a large proportion of the society. So this paper empirically assesses these conflicting views about the impact of financial development on the distribution of income and the income of the poor in Ethiopia.

In Ethiopia, even though currently there is some improvement in growth, there are evidences which show that there is still high income inequality with in the country. According to World Bank (2013) report of world development indicators in 2012, the top 10 percent of the population receives 28 percent out of the country's total income and in contrast, the bottom 20 percent of the population receives only 8 percent of the country's total income.

1.2. Statement of Problem

The relationship between financial development and economic growth has been extensively studied in the literature. But little is known about how financial development impacts on income inequality. The essence of financial development on income inequality has recently highlighted in an insightful survey article by Claessens and Perotti(2007). They indicate that while financial development can help reduce income inequality.

The theoretical prediction of the effect of financial sector on income inequality is controversial. Some theories like the argument by Alhion and Bolton, 1997;Galor and Zeira, 1993;Galor and Moav,2004 argue that financial development enhances growth and reduce inequalities through reducing financial imperfections, such as information and transaction cost, may be especially binding the poor who lack collateral and credit histories. Thus any relaxations of these credit constraints will disproportionately benefit the poor. Furthermore, these constraints reduce the efficiency of capital allocation and intensify income inequality by impeding the flow of capital to poor individuals with high expected return investments. From this perspective financial development help to low income group of the society both by improving the efficiency capital allocation, which accelerates aggregate growth, and by relaxing credit constraints that more extensively restraint the poor, which reduce income inequality.

In contrast to the above argument, some theories like the Greenwood and Jovanovic, (1990) predict that financial development primarily help the rich. According to this view the poor rely on informal, family connections for capital, so that improvements in the formal financial sector inordinately benefit the rich. Greenwood and Javonovic develop a model that predicts non linear relationship between financial development, income inequality and economic development.

This studies show that there are two main contradictory views (findings) exist concerning the relationship between financial institution development on one hand and income inequality and economic development on the other hand. Green Wood, 1990; argue that, at early stages of development, only the rich can afford to access and get profit from financial markets and hence it intensifies (increase) income inequality (Green wood and Jovanovic 1990). On the contrary Galor and Zeira in 1993 argue that financial development enhances growth, increase access to loans for the poor, so it will help to reduce income inequalities. For instance, financial development can enhance to reduce credit constraints of the poor, reduce income inequality and improve the allocation of capital and accelerating growth (Galor and Zeira 1993). Accordingly this paper will investigate among these contradictory theoretical predictions and examine (locate) which view is applicable, in Ethiopia. There is a

positive impact of financial development on economic growth, but less is known about the empirical link between finance and income inequality. There is also a caution in which direction they are related.

There is no enough research is done about the relationship between income inequality and financial sector development in most developing countries like Ethiopia. Even the researches done previously did not show whether financial development benefits the poor or the rich or disproportional benefit for both. As a result this paper focuses on this issue (topic) and considers the case of Ethiopia. Most researches in this regard uses very old data, for instance, some until 2005, but latter on no enough study has been done based on recent data on the experience of Ethiopia. This paper will use recent data and experience until 2013. So this research tries to use recent data and show such influence of financial sector development on income inequality.

1.3. Research Hypothesis

The study hypothesis that financial sector development affects income inequality negatively and significantly, but GDP, lagged GDP, trade openness, will have positive relationship, this means these factors will lead to less equitable distribution of income. The sign of these variables should be positive. The sign of the coefficient financial sector development indicators; broad money to GDP ratio and private credit to GDP ratio are expected to be negative. This means these factors will lead to equitable distribution of income.

1.4 Objective of the Study

1.4.1. General Objectives

The overall objective of this study is to find out if any relationship exists between financial development and income inequality, finding out the impact of financial development on income distribution. Or to find out the short run and long run relationship between financial sector development and income inequality in Ethiopia.

1.4.2 Specific Objective

- To examine the factors that explains income inequality;
- To investigate the effect of financial development on equity distribution of national resources; and
- To evaluate the effect of financial development on the low income group of the society and give some recommendations.

2. Methodology of the Study

2.1 Data Type and Source

To achieve the above objectives, the study uses secondary data sets from the period of 1980 to 2013. The data for Gini coefficient will be collected from MOFED. The data for GDP(Y), trade openness, government expenditure, inflation and financial development will be collected from national bank of Ethiopia, MOFED. Other important data will be obtained from annual report of commercial banks, literatures, economic journals, word bank and internet.

2.2 Methods

This paper uses both qualitative and quantitative analysis, mainly quantitative econometric analysis. So it uses time series regression to find the effect financial institution development on income inequality. To examine the effect of financial sector development on income inequality the study uses two types of proxy here used are; private capital over GDP (value of credit by financial intermediaries to private sector divided by GDP) to capture the amount of credit channeled from savers though financial institutions to private firms and broad money to GDP ratio. To measure income inequality in the economy this paper uses the growth of Gini, which is the annual growth rate of Gini coefficient, and it is a direct measure of income distribution in the country. The coefficient ranges from zero to one. Zero indicates perfect equality and one represent perfect inequality.

2.3 Significance of the Study

The study is important because it try to solve the problem of the knowledge gap in particular reference to Ethiopia. It shows some directions for policy makers. It also gives highlight to other study in

the same area. It is important to show the recent activities affecting financial development and income inequality.

2.4 The scope of the Study

The link between financial sector development and income inequality is bi directional. This means financial development affects economic growth and hence income distribution, and intern economic growth affects financial sector development. It may lead to causality problem, which means the model estimated will be biased. However, the study limited to the impact of financial development on income inequality and only on the case of Ethiopian for the period from 1980- 2013.

2.5 Limitations of the Study

The study limited to because of the following constraints; Money cost to collect all appropriate data, Incompatibility of data between domestic and international sources which make reliability of the data questionable and lack of time to collect data from different sources and processing.

3. Estimation and Analysis

3.1 The Data

The data used in this paper is collected from difference sources. Data on GDP is collected from MOEFED; the data for trade openness (TOPN), private credit to GDP (pc/gdp) and broad money to GDP ratio are collected from national bank of Ethiopia. The data for gini coefficient from 1880-1994 is obtained from World Bank and IMF whereas from1995 to 2012 is collected from minister of finance and Economic development (MOEFD).

The data covers 33 years (1980-2012). In the data set GDP is measured at current market prices. The data on broad money, credit and openness are measured as a ratio of GDP.

3.2 Descriptive Statistics

Before going to the econometrics analysis of the model it is natural to discuss the characteristics and the distributional patterns of the variables included in the model. Accordingly there are many

measures of analysis, for instance, according to Hetal (2006), proposed three major techniques of analysis as; summary, which contains information about the variables used in the model.

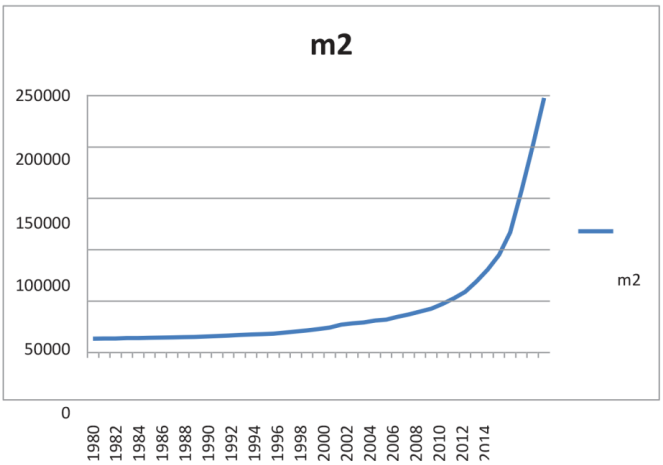
3.2.1 Trends of Income Inequality Measured by Gini Coefficient

Trends of income in equality measured by Gini coefficient income distribution which is measured by Gini coefficient exhibits (Experienced) some fluctuation (ups and Downs) though 33 years (1980-2012). During the dreg regime even through, there is height income inequality, it shows small fluctuation (not significant) due to the socialist economic system of the period. It starts to increase during the imperial regime; it reaches an absolute minimum of 0.25 & absolute maximum of 0.57 in 1984 and 2003 respectively. But during the ERPDRE it exhibits an increase trend until 2006, and reaches a relative maximum of 0.44 in 2006.But after this year it shows a contentious decline and teaches a relative minimum of 0.29 in the last estimate of the year (2012).

3.2.2 Trends of Broad Money (m2)

Among the explanatory variables, broad money to GDP ratio, which is an indicator for financial development has a maximum of 0.33386 in and minimum of 0.0821829 in and has a mean and standard deviation of which consists of m2 saving and time deposit . It is the amount of money that people deposit and with drawn in financial institutions. It has a mean value and standard deviation of about 0.3 and 0.0736278 respectively.

Figure 2: trends of broad money (M2)



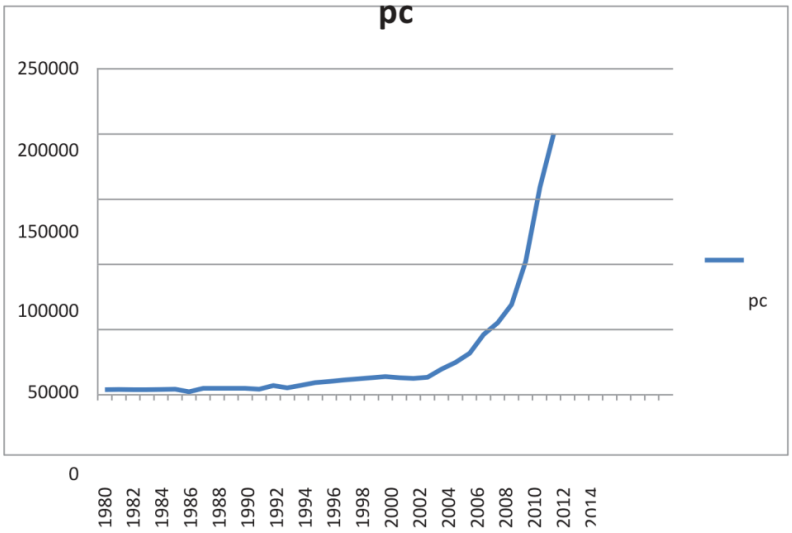
Source: own computed from the data of NBE, 2013

As shown in the figure broad money to GDP ratio becomes stagnant from 1980 to
1996. But after this year it shows an increasing trend with modest increment rate, and after 2007 onwards it increases at an arming rate though out the remaining years.

3.2.3 Trends of Private Credit to GDP Ratio

Private credit to GDP ratio, which is apart for financial sector development indicator, has a mean and standard devotion of 0.347085 and 0.3228337 respectively. It has variability of which is in between gini coefficient and broad money to GDP ratio.

Figure 3: trend of private credit



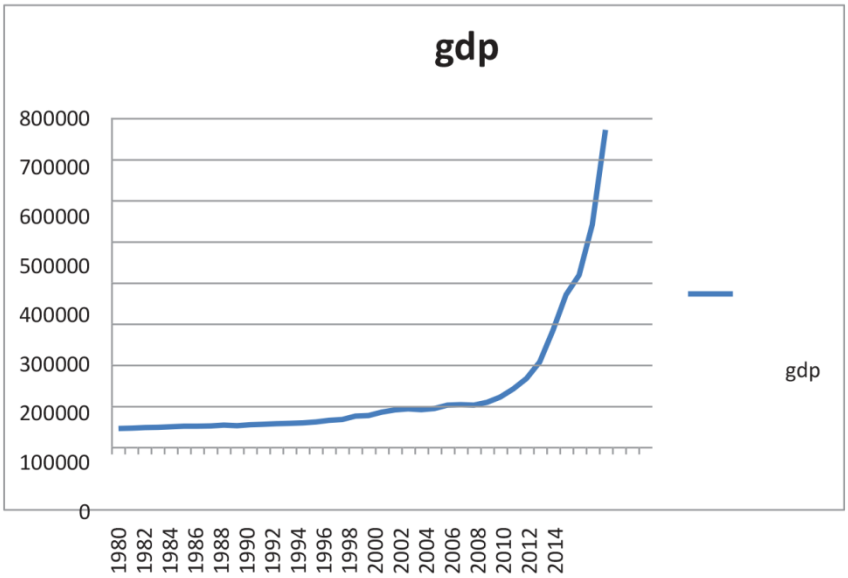
Source: own computed from the data of NBE, 2013

As shown above private credit exhibits stagnant from 1980 to 1986 due to the socialist system, that prevents privatization and hence its expansion is limited by the then political system. But after 2003 it shows increasing at alarming rate.

3.2.4 Trend of Gross Domestic Product

Nominal GDP measured at current market price is very low in 1980s due to the given to military expenditure. At the time most of the resources used for military and consolidation of political power rather than the expansion of our put. In the 1990s GDP shows a steady increase, but after 2010 it shows very fast increase.

Figure 4: trend of GDP

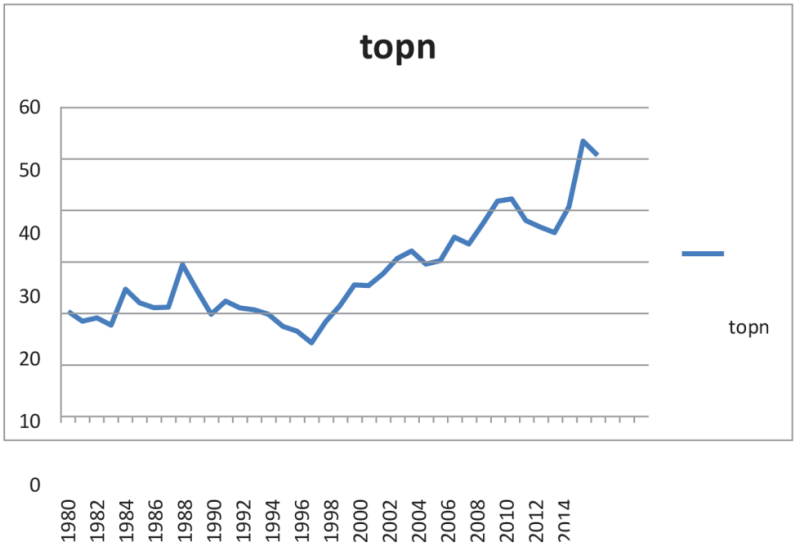


Source: own computed from the data of MOFED,2013

3.2.5 Trends of Trade Openness

Trade openness, which is the ratio of export plus import to total GDP (Export+Import/ GDP), has showed fluctuated over the period until 1997, at which it reaches its relative minima.

Figure 5: trend of trade openness



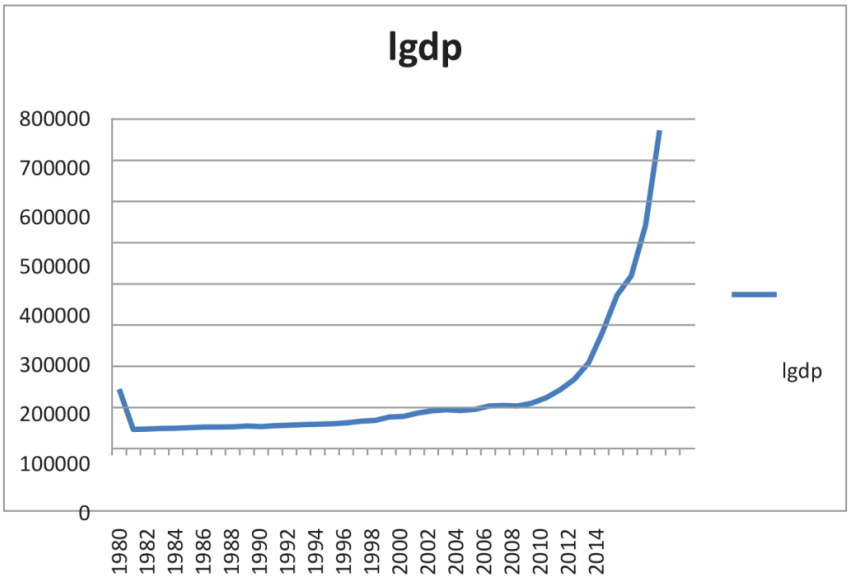
Source: own computed from the data of MOFED, 2013

As it is shown in the figure above (3.5), it starts to decline by reaching its relative minimum point of in 1983. But after this it starts to increase by reaching another relative maximum in 1988, and after this year it declines continuously. In 1987 it reaches relatively lower value. After this year it becomes increase though the period and reaches maximum value in the last estimation period.

3.2.6 Trend of Lagged Gross Domestic Product

Lagged GDP shows a sharp decline from 1980 to 1983.But after this year it becomes stagnant until 1987. After this year it shows a steady increase until 2008, after which it increases at an increasing rate. In the last estimate of the year it reaches maximum point.

Figure 6: trend of lagged gross domestic product



Source: own computed from the data of MOFED, 2013

As shown in the figure above nominal lagged GDP shows slight increase (stagnant) for

17 years. For the period of two years it shows a sharp decline.

In the distribution issue, the concept of skiwness and kurtosis give important information about the distributions of sample point before running regression. Skiwness measures the degree of symmetry and it shows the departure from normal distribution while kurtosis show (is) the degree of Preakness of a distribution relative to normal distribution,

Gupta (1974). If the jointly probability of skiwness and kurtosis (prob>chiz) is greater than
10%, it indicates the variables are normally distributed. Accordingly gini coefficient, lagged GDP and private credit to GDP ratio are normally distributed. But trade openness and broad money to GDP Ratio are not normally distributed.

3.3 The Model to be estimated

As it was mentioned previously, time series econometrics is used as a method of analysis to investigate the impact of financial sector development on income inequality. Thus the study uses the following model.

$\ln(Gini_t)=(\beta 0+(\beta 1Ln(GDP_t)+\beta 2Ln(lGDP_t)+\beta 3\ln(pc/GDP_t)+(B4\ln(m2/GDP_t)/+\beta 5\ln(topn/GDP_t) +E_t$

Where; $Gini_t$= gini coefficient

GDP_t = gross domestic product

L GDP_t = lagged GDP

$topn_t$ = trade openness as share of GDP (Trade/GDP)

$M2/GDP_t$= broad money to GDP ratio which is financial sector development indicator measured as ratio of national out put
Pc/GDP_t=Private credit to GDP ratio, proxy for financial development

3.3.1 Unit Root Test for Stationary

This study uses dickey fuller (DF) test to analysis or investigate stationary of Variables. It also shows the order of integration. If the calculated dickey fuller is greater than the tabulated (critical) value at a given level, the time series variable is stationary at the given order.
The unit root test result of the variables is presented in the following table.

Table 1: Unit Root Test Results

Variable	Test statistic	Stationary at
ln Gini	**-5.548**	**I(1) ***
ln GDP	**-4.196**	**I(1) ***
ln lGDP	**-32.073**	**I(1) ***
ln(m2/GDP)	**-5.906**	**I(1) ***
ln (pc/GDP)	**-7.137**	**I(1) ***
ln(topn/GDP)	**5.193**	**I(1) ***

Note; **Indicates 1% significant level,** ** indicates 5% significant level and *** indicates 10% significant level.

From the above table all the variables are non- stationary at level. All the variables become stationary after differencing once.

3.3.2 Test of Co-integration

A linear combination of a time series variable becomes stationary if there is co- integration relationship between the variables. The variables are said to be stationary if the residual is co-integrated (Stationary). The residual is stationary at 5% level of significant as shown in the following table. Therefore, the variables are co-integrated and there is long run relationship between them.

Table 2: Co-integration Test Results

Variable	Test statics	1% critical value	5% critical value	10% critical value
Residual	**-3.081**	**-3.1716**	**-2.986**	**-2.624**

The residual is stationary at 5% significant level

Since AEG test result is -3.081, it is stationary at 5% level I (0), which means the variables are stationary. This shows the existence of long run relationship among the variables.

3.3.3 Long Run Model Estimation

From the table below (table 3.2) the residual is stationary at 1% significant level shows the presence of long run relationship between the dependent and in dependent variables. Accordingly from the estimation, the following results are obtained for the long run model of;

$Lngini_t = Bo + lnGDP_t + ln(lGDP_t) + ln(m2/GDP_t) + ln(PC/GDP_t) + ln(topn/GDP_t) + E_t$

OLS long run Estimation results are;

As shown in the table below GDP has negative and in significant effect on income inequality, because as the economy expands the low income portion of the society benefits disproportional, due to availability of job opportunity, increasing access to infrastructure and the creation of conductive environment to start their own business.

Private credit to GDP ratio has negative and significant effect on income inequality due to the availability of credit motivate people to invest and utilized their unused resources properly. This indicates that an additional increase in credit causes the poor to invest on productive activity, but the rich increase their luxurious consumption.

Table 3: Long Run Estimation Results

Variable	Dependent variable lngini			
	Coefficient	Std.err	T-value	T-probability
Lngdp	-0.2320499	0.1152355	2.01	0.054
lnlGDP	0.1045529	0.6776875	1.54	0.135
ln(m2/GDP)	0.5461611	0.147999	3.69	0.001
ln(Pc/GDP)	-0.1445701	0.0669834	2.16	0.040
ln(topn/gdp)	0.131442	0.0896451	2.02	0.053
Cons	0.3836499	1,282882	0.30	0.624

No of observation 33

F (5, 26) = 4.94	R- Squared = 0.4871
Prob>F= 0.0026	Adjusted R-Squared = 0.3887
Chi^2 (1) = 1.69	
Prpn>Chi^2= 0.1933	

3.3.4 The Short Run Model (dynamics)

Even though there is a long run relationship between dependent and independent variable or co-integration in the long run, there may be disequilibrium in the short run. ECM (Error correction model) is use to estimate the short run relationship between the variables and to determine the adjustment in the short run shock by differencing the long run model. The short run model can be estimated (ECMT-1) to capture the adjustment towards the long run and the model can be specified as follows.

$dlnGini_t=dln(GDP_t)+dln(M2/GDP_t)+dln(PC/GDP_t)+dln(topn/GDP_t)+ dlnlGDP_t+ECM_{t-1}+e_t$

The error correction model is employed to correct for disequilibrium and determine the short run relationship between variables. The analysis of short run dynamics is often done by first eliminating trends in variables usually by differencing. In order to capture the adjustment towards the long run mode, the ECM incorporates the equilibrating error term (ECM_t-1). According to the short run model regression result shows as follows in table 4.

As shown in table 4 below all the variables except pc/ (GDP), are insignificant to explain the short run variation in Gini coefficient or in the short run the impact of these variables on income distribution is unsatisfactory to explain because in Ethiopia, income gap in the short run is most affected by other than these factors like inheritance, relative's income to start business which may lead to high inequality or difference in combined with other factors in the long run.

In the short run nominal GDP have insignificant effect on income inequality unlike the long run result, it is due to GDP have calculated on

the nominal base, and it cannot exert significant impact on the real sector and cannot make any significance difference.

Financial sector development measured by proxy variables such as M2 and private credit to GDP ratio and has insignificance because people are more interested in the informal means of saving than formal financial institutions.

Table 4: Short Run Estimation Results

Dependent variable Gini coefficient

Variable	Coefficient	Std.er	T-val	(95%conf.interval)
dlnGDP	**-0.1631153**	**0.5847727**	**-0.28**	**-1.37586-1.049629**
dln(Pc/GDP)	**-0.0825656**	**0.08558666**	**-0.96**	**-0.2600614-0.0949302**
dln(m2/GDP)	**0.412011**	**0.5070778**	**1.81**	**-0.639604-1.463626**
dln1GDP	**-0.0042642**	**0.0565551**	**-0.08**	**-0.1215523-0.113028**
dln(topn/gdp)	**0.0809982**	**0.1010888**	**0.8**	**-0.1286471-0.2906435**
Ecmt-1	**-0.524454**	**0.1747872**	**-3.00**	**-0.8869405-(-0.1619677**
Cons	**-0.004561**	**0.0707955**	**-0.01**	**-0.147277-0.1463647**

No obs 30 R-squared= 0.3941

F (6.22) =2.38 Adjusted R-squared =0.2289

Prob>F= 0.0630 Root MESE=0.11429

Note: * indicate 1% significant **indicate 5% significant and**indicate 10% significant level

As indicated in the above table 39.41% of the variation in the short run model is explained by the variables included in the model, this Shows the variation of Gini coefficient in the short run model enough to explain it .

The lagged error correction (Ecmt-1) indicates that 52.445% of the shock is adjusted in each year or the shock is eliminated in each year or, it shows 52.445% of discrepancy between the actual and long run or equilibrium value of Gini index corrected in each year.

3.3.5 Hypothesis Testing and Interpretation

As shown in the above table, R-squared and adjusted R-squared of the long run model are relatively low with a value of 48.7% and 38.8% respectively. This means other things being equal, on average about 48.7% of the variation in income inequality is explained by the explanatory variables included in the model. The overall significant of the model is tested using F-test against the hypothesis of; Ho: B1=B2-B3=B4=B5=0
H1: not Ho

Since the value of F-statistics is greater than the F-critical value implies we cannot accept it that means the model is significant. The independent variables which are included in the model can explain the income disparity well at five degree level of significant.
While individual significant of coefficients are tested using T-statistics as; Ho: B1=0
H1 not Ho, but by using the rule of thumb the T-statistics (T-value) of the explanatory variables except lagged GDP are significant in against the null hypothesis (Ho). There for, except lagged GDP all explanatory variables can affect income inequality insignificantly.

In the short run model (error correction model) is estimated to determined the coefficient of the short run dynamics and to grasp how fast the disturbance in the short run adjustment to their long run value. The overall significant of this model is measured by F-test, as indicated in the above short run model F-calculated is greater than the F-tabulated.

3.3.6 Discussions of the Result

The regression result shows that 48.7% of the variation in lnGini (income inequality) is explained by the independent variables included in the model jointly. To say in other words 48.7% of the variation in income inequality is explained by the variables included in the model. F-test shows the overall significances of the model. As F-statics result is

greater than the F-tabulated, which shows the model is significant. The long run mode result shows that all the variables in the model except lagged GDP are significant.

As shows in table 4 above in the long run GDP has a negative and significant impact on income inequality (Gini coefficient) the result shows that if GDP increase by 1%, then on average income in equality decrease by 0.232%, cetrices paribus. This is due to an increase in income benefits the poor disproportionally. Due to the fact that if output (GDP) income of the country increase by some amount, the marginal propensity to save(MPs) and investment opportunity and productivity of unused resource for the poor increase more than the rich. Furthermore the rich most probably use their increase in income for unproductive consumption. This negative sign of GDP opposes (refute) the Kuznets hypothesis, in U-shape Kuznets curve, which states that income distribution first increase, then decrease with an increase income. But in the case of Ethiopia it is not true, because according to the Kuznets, in the first stages of development, GDP should contribute positively to income inequality. In Ethiopia lack of capital (income) is the main cause for unproductive use of resource especially for the poor. Accordingly an increase in income is better opportunity for low income groups of the society for proper use of their limited resource.

Trade openness contributes positively and significant impact on income in equally. One percent increase in trade openness leads to about 0.181% increase in income inequality on overage, other thing being constant. This is because as the country opens up to trade the rich who acquire enough capital for trade specially international trade benefits more for the rich because they have enough capital for trade, which leads to widen the gap between, the rich and the poor. I.e. it contributes positively for income in equality. In addition the rich can afford to import and export because they may have enough collateral requirement for getting loans and initial capital availability than the poor.

Private credit to GDP ratio contributes negatively and significantly to income in equality. This is because in Ethiopia, which follows privation policy, anyone who wants to get started his own business can get loans from micro and small institutions and hence the availability of credit helps the poor to generate his/her own income. Therefore, private credit to GDP ratio helps to reduce income inequality.

Private credit refers to financial resources provides (supplied) to the private sector, though loans, purchase of non- equity securities, tread credits and other account requitals, that needs to be repaid. Since it is circulated and attached financial institution and contributes for the development (expansion) and discouragement of financial sector and we take its amount to the GDP of the country shows financial sector development.

Business man can generate his own income and can reduce income inequality. At early stages of development, if the poor get credit or access to loans, for the poor increase by some amount, the allocation and utilization of unused resource available for the poor improves. This leads to generate more income for the poor compare to the rich. Narrows down the gap between and hence reduce income inequality. The regression result shows that a 1% increase in Pc/ GDP leads to 0.145% decrease in income inequality.

M2/GDP (money to GDP ratio) contributes positively and significant for income in equality, it is because, the broad money which consists of m1 and demand and time deposits in the case of Ethiopia the most significant savers are the rich and if m2 increase relative to GDP the poor benefits more from the expansion of financial institutions. Since the rich benefits more from the expanded financial service disproportionally contributes for the rich to sale and generate more capitals, which again leads widen the gap. From the long run model, if m2 to GDP ratio increase by 1% then income in equality which is measured by gini coefficient increases by 0.546% on average, other things being equal (Certis paribus).

LnlGDP (lag GDP) has significant and positive impact on income inequality. From the long run model result shows that a 1% increase in lagged GDP leads to 0.1045% increase in income inequality. This is due to the fact that the previous year GDP (income) contributes for the rich. As they have accumulated their capital for today investment, and it can enhance them to produce more today (generate) more income leads to an increase in income gap.

4. Conclusion

In this study we used econometric frame work to analyze the link between income inequality and financial sector development. The study hypothesized that financial development, which is measured by proxy variables, has negative and significantly linked to income inequality. So as to achieve the stated objective and to test hypothesis of the study, ordinary least square methods of estimation is used. Before an econometric estimation, the variables were tested for their order of integration and they were tested for their order of integration and they were found that integrated (Stationary) of order one, I(1). The residual is stationary at level indicates that the Regression stationary at level (co-integrated). This means variables there is long run relationship among the explanatory variables, finally OLS estimation techniques is used to estimate the short run and the long run coefficient of variables used to investigate the relationship of variables in the model.

As the result shows, other thing being equal, 1% rise trade openness results 8.09% increase to income inequality. On other hand, which found to be opposite the Hypothesis lagged GDP found to be insignificant both in long run as well as in the short run. However, the proxy variables used for financial sector indicators; private credit to GDP ratio. Found to be inconsistence with the hypothesis, rather it contributes to equitable distribution. I.e. a 1% increase in credit results8.25% decrease in income inequality, citrus paribus; M2 (broad money) to GDP ratio contributes positively and significance impact on equitable distribution which found to be consistence with the hypothesis. Therefore, bank values have significant and important contribution for equitable distribution of national resource only in very long run. This proxy variables show that as there is consistence relationship between the variables like the foundation of Kuznat U-shape hypothesis. In the case of Ethiopia, Financial sector development results, an increase in income inequality in short run but in later stage it leads to decrease inequality.

GDP contributes positively and significance in long run indicates that in Ethiopia income increase leads to equitable distribution of income.

5. Policy Implications

Based on the analysis made and conclusion arrived the following policy implication are derived. As it was observed from the estimation results, Trade openness one of the major contribution to income in equality. The government of Ethiopia should take measures to encourage law income groups of the society. Like incentives, tax reduction, reduce license requirement costs and create conductive environment for retail and small scale domestic traders rather international high income traders. These measures should able to in courage the income of law income traders to narrow the income gap between high and law income groups. Furthermore

The government should establish some barriers of export and import; rather it should establish light consumer industries.

Thus the government should selectively allow free entry and exists
Although the study hypothesized financial institution development indicators as the major distributional affecting variables, broad money results show the government of Ethiopia should formulate policies that encourage the poor to understand the importance of financial institution for the proper use of their financial resource. There needs awareness creation for rural population so as to encourage saving from informal to formal institution unless the expansion of formal institution contributes any for electively better income owners. It needs expanding formal financial institution in rural areas rather higher concentration of them only on the rural centers.

Finally, GDP, a major marble for equitable distribution shows (implies), government needs to create conductive environment for expands the income of law income groups. Self improvement roles for, in whatever means it needs to expand output for narrowing down the income gap. Event thought the study provide important out comes on the linkage between income in equality and financial sector development, further study is needed that would overcome the limitations the study. More variables should included in the model to found the appropriate linkage between like government expenditure, population growth human capital, inflation rate so as to reach at a more accurate results.

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