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Factors Influencing Income Inequality in Urban Ethiopia (Cross-sectional Analysis)

Gizachew Mengesha Abebe

Economics Department, Business and Economics College, Jinka University, Addis Ababa, Ethiopia

Email address:
gmengesha06@gmail.com

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Abstract: This studies focusing on investigating the source of inequality in urban part of Ethiopia. The study are more of descriptive and econometric analysis was employed as general method of analysis by using the raw data collected from central Stastical authority based on the regression decomposition methodology of fields. The empirical result tells that the variables like age, sex, household size, gender and marital status have negative relation with expenditure/income and this variable is the highest contributor for variation in income/expenditure among the urban society in Ethiopia while the remaining variables like age square, value, numbers of household head with primary education, numbers of household head with secondary education, and numbers of household head with tertiary education are positively related with expenditure/income or positively affect expenditure in the household head and this variable is highest contributor for reducing the deviation among the urban society interms of income/expenditure. The employment, the occupation and the race are also having a great contribution for the inequality of income in urban part of our country. The government should employ poor oriented policy in order to curb income inequality especially the government should invest urban infrastructural development (road, private and condominium housing construction) which have a great contribution to reduce inequality among the household head in urban Ethiopia.

Keywords: Income Inequality, Urban, Ethiopia

1. Introduction

Ethiopia is one of the poorest countries in the world which is largely rural, but urbanization is proceeding at the fast pace, the urban population expected to grow more than 4% over 2000_2035 period resulting from in the rise of share at about 35% [13]. In Ethiopia increasing urbanization has been accompanied by growth but not by poverty reduction and with income inequality. This paper seeks to shed light on factor that affects income inequality in urban Ethiopia. These papers exploit the availability of the household consumption surveys of 2010/11 to see the level of urban inequality in Ethiopia. The main finding is that the factors that influence income inequality in urban Ethiopia. The major factor that expect to influence income inequality is education in the household level, occupational difference among household head, household characteristics that the new profile of urban household with young heads, well educated, living alone or in couples with no children also contributed to increase inequalities as those type of household experienced higher growth rate in consumption per capital. We know that distribution and inequality affect a society's ability to convert income into welfare. Assuming quasi_concave individual and social utility function with respect to income, one can conclude that societies that experience a higher degree of equality clearly better off than those with a lesser degree of equality, given the average income are the same. The uneven distribution of income has several reasons, considering this reason it's important to distinguish between urbanization in developed countries and developing countries. Urbanization in developed countries have usually established at relatively stable level of income inequality in accordance with their economic, political and cultural characteristics in urban areas, while urbanization in developing countries have undergone considerable economic and political change and their economic variable, thus making it in political to establish some stable level of income inequality. Ethiopia tries to provide equitable economic and social development opportunities to its population in its growth and transformation process, for vulnerable and food insecure

households. The country has one of the largest social protection programmes in the African continent. i.e. The productive safety net programme (PSNP). Countries such as Mozambique, Malawi and South Africa have also safety net programmes targeted at the poor with the aim of sharing the fruits of their respective growth. However, in most African countries inequality remained as the main challenge exacerbated by data and measurement problem [10].

Both macro and microeconomic determinants matter to explain the nature and dynamics of inequalities, but in these paper microeconomic determinants are used to explain income inequality in urban Ethiopia. Even if there is a structural transformation (e.g., Services value added outstripping agricultural value added in recent years), Ethiopia has to make progress in economic diversification and competition. For instance, the poor concentrated in the poorly performing informal or self-employment sectors which constitute the bulk of the service sector activities.

There is a complex set of factors affecting income inequality in a country. The extensive literature about this topic also includes many empirical studies focused on correlations between single factors and inequality according to WB Ethiopia is one of the most equal countries in the world as a result of a very equal consumption distribution in rural areas. In comparison to Other African countries, but this equality especially in rural areas is not due to economic policy rather due to the nature of the economy. Subsistence farming is the dominant economic activity particularly in rural areas, income and consumption may not differ much. Even during severe negative shocks, consumption is likely to stay positive through different household survival strategies. It is also well known that surplus-growing households purchase and keep chicken, goats or cows during the good harvest years as their savings and investment which could be used to smooth future consumption and also build more assets. In the contrary inequality is seen in urban areas some recent papers prove that inequality exists with Gini coefficient 0.37 in urban areas.

Analysis of factors affecting income inequality in urban Ethiopia has not done that much paper on this regard it gives additional information for new researcher and most of the related studies are not give emphasis for source of inequality rather they give emphasis on the level of inequality rather than dictating sources, but a lot to say about source inequality among the urban people of Ethiopia, unfortunately source of inequality in Ethiopia is simply ignored specially in urban part of the country, but in this studies I give more concern for sources of inequality in urban part of Ethiopia.

Indeed, the distribution of wealth is too important an issue to be left to economists. Sociologist. Historians and philosophers. It is the interest to everyone, and that is a good thing. The concrete, physical reality of inequality is visible to the naked eye and naturally inspires sharp but contradictory political judgments. Peasant and noble, worker and factory owner, waiter and banker, each has his or her own unique vantage point and sees important aspects of how other people live and what relation of power and domination exist between social groups and these observation shape each person judgment of what is and is not just. Hence there will always be a fundamentally subjective and physiological dimension to inequality, which inevitably gives rise to political conflict that not purportedly scientific analysis can alleviate. Democracy will never be supplemented by a republic of experts and that is a very good thing. Due to this the researcher is highly interested on detecting source of income variation in urban Ethiopia by employing regression based inequality decomposition

2. Objective

The general objective of the study is to assess the major factors that affect income inequality in urban Ethiopia. Specifically the objective look into the effect of educational level, gender and age of the household head to income variation among the household head.

3. Methodology

This study use regression based decomposition technique to establish the Influencing factor of inequality in urban Ethiopia (14). He extends Shorroks' theorem and applies It to an income-generating function in order to account for or decompose the level of income inequality contributed by explanatory variables in a country and its change over time. This is possible as the income generating function has the same additive form, which expresses total income as the sum of the income from various components [13]

The standard income generating function written in the following form;

$$\text{LNEXP} = a\,'Z\,i$$

Where

$$a = [\beta_0\ \beta\ 1\ \beta\ 2 \ldots \beta\ j\ 1]$$

And

$$Z\,i\ = [1\ x\,i\ 1\ x\,i\ 2 \ldots x\,i\,j\ \in i\,]$$

Where, LNEXP is a vector of household income in log, Z is a matrix of household

Characteristics (such as age, education, household size, residence, including the residual), a is A vector of the regression coefficients. The relative factor of inequality weight by explanatory variable j and it's very similar used by shorroks to decompose inequality by income source [11]. The product of the OLS coefficient and explanatory variable is regarded as the income flow associated with the explanatory variable is regarded as the income flow associated with the explanatory variable.

3.1. The Model, Data and Descriptive Stastics

Household expenditure survey 2010/11 will be used to conduct an analysis in this chapter. Before that let us describe the way the data collected. The 2007 Population and Housing

Census served as the sampling frame from which the rural and urban EAs were selected. A fresh list of households for each selected EA was collected at the beginning of the survey period. Households were then selected for inclusion in the survey by choosing a random number as the starting point in the list and selecting every nth household (n being the necessary number to achieve the desired number of households in each EA).

3.1.1. Sample Design & Selection

In order to produce a representative sample, the country was stratified into the following four categories: rural, major urban centers, medium towns, and small towns.

a. Category I – Rural

This category consists of the rural areas of 68 zones and special weredas, which are considered zones, in 9 regions of the country. This category also includes the rural areas of the Dire Dawa City Administration. A stratified two-stage cluster sample design was used, with the primary sampling unit being the EAs. Sample EAs were selected using Probability Proportional to Size, with size being the number of households identified in the 2007 Population and Housing Census. Twelve households were randomly selected from each sample rural EA for survey administration. The total sample for this category is 864 EAs and 10,368 households.

b. Category II-Major Urban Centers

This category includes all regional capitals as well as five additional major urban centers with large populations, for a total of 15 major urban centers. These 15 urban centers were broken down into the 14 regional capitals and the 10 sub-cities of Addis Ababa City Administration resulting in a total of 24 represented urban domains. A stratified two-stage sample design was also used for this category as in the rural sample with EAs as the primary sampling unit. For this category, however, 16 households were randomly selected in each EA. In total, 576 EAs and 9,216 households were selected for this category.

c. Categories III & IV-Other Urban Centers

These two categories capture other urban areas not included in Category II. A domain of other urban centers was formed from 8 regions (all except Harari, Addis Ababa, and Dire Dawa where all urban centers are included in Category II). Unlike the other categories, a three-stage sample design was used. However, sampling was still conducted using probability proportionate to size. The urban centers were the primary sampling units and the EAs were secondary sampling units. Sixteen households were randomly selected from each of the selected EAs. A total sample of 112 urban centers, 528 EAs, and 8,448 households were selected for these two categories.

3.1.2. Response Rate

In the rural part of the country it was planned to cover 864 Enumeration Areas (EAs) and 10,368 households. However, due to various reasons 2 EAs and 47 households were not covered by the survey. The overall response rate is 99.8 percent for EAs and 99.5 percent for households. For urban areas 1104 EAs and 17,664 households were planned to be covered ultimately, 100 percent of EAs and 99.1 percent (i.e. 17,513 Households) of households were successfully covered by the survey. The researcher take the urban area alone.. In total, 576 EAs and 9,216 households were selected for this category.

3.2. Theoretical Framework

As discussed above, this study uses Field model to establish to explain the determinants of Inequality in urban Ethiopia using the 2010/2011 Household Income Expenditure Survey. According to Gindling and Trejos Field's decompositions have important advantages over other recently-developed regression-based techniques to measure 'quantity' and 'price' effects such as those of Bourguignon, Fournier and Gurgand (1). The latter decompositions use simulation techniques, such that decompositions of the change in inequality between two years are based on simulations which start with the distribution for year one and then substitute (one at a time) the distribution and price of each characteristic from year two into the earnings equation for year one, measuring the change in inequality in the resulting distribution of earnings in each case. The change in inequality in the simulated distributions resulting from changing the price and quantity of each variable is then interpreted as the contribution of that price or quantity to the change in inequality. A limitation of these simulation-based techniques is that the results of these simulations will be different depending on the order in which the variables are substituted, a problem that Bourguignon, et. al. (2001) calls path dependence. Therefore, the researcher cannot be sure of the contribution of each variable to the change in inequality unless the results from all possible 'paths' are calculated (and are of similar signs and magnitudes). Calculating the distributions using every possible path becomes cumbersome especially if the number of variables to be considered is large. In addition to the constraints outlined above, Field's technique is used in the study as it allows for decomposition to be done even when only one survey period is available. This is very important as the 1994/1995 Household income survey has limited variables and hence the Bourguignon et. al.'s technique cannot be employed. Model specification is mainly guided by previous studies on income inequality and on the available variables in the Household Income Expenditure Survey. As the first step of the regression-based decomposition, an income-generation function must be obtained. The income function below is employed to decompose household inequality by contributing factors [1].

$$LNEXP=\sum \beta j * Xij + \epsilon i$$

Where LNEXP is the log of annually expenditure for household i, $X\,i\,j$ are variables j associated with household i that affect income and $\epsilon\,i$ is the residual term which can be explained as the part of the variation in income among workers that cannot be captured by variation in the variables included in the earnings equation. The use of the semi-log specification is prompted by the finding that the income variable can be approximated well by a log-normal

distribution [11]

The variables should decompose in this paper is as follows
Occupational type
Employment area of the household head
Industrial work area of the household head
Marital status (married=1, otherwise =0)*
Sex of the household head (male=1, otherwise=0)*
Age of the household head*
Size of household*
Regional/race of the household
Values of goods and service*
The calorie intake by the household head*
Numbers of household head with primary education (1 yes, otherwise 0)
Numbers of household head with secondary education (1 yes, otherwise 0) *
Numbers of household head in tertiary education (1 yes, otherwise 0)*
* This shows the variables that use in regression equation
The decomposition equation is as follows:

$$\text{LNEXP}=\beta_0 +\beta_1 \text{CQ105} +\beta_2 agesq + \beta_3 CQ104 +\beta_4\ CQ19 ++\beta_5 value+\beta_6 \text{GROSS CAL} + \beta_7 CQ111 + \beta_8 pre+ \beta_9 \text{sec} + \beta_{10}\ ter + e_t$$

Where lnEXP is expenditure of the household
β_0 The intercept of the equation, while $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8\ and\ \beta_9$ is the parameter of respective variable.
Age of household headed CQ105
Age of the house head square agsq
Sex of the household headed CQ104
Marital status CQ111
Household size CQ19
Numbers of household members with secondary education (1 yes, otherwise 0) SEC
Numbers of household members in tertiary education (1 yes, otherwise 0) TER

$e_t \approx N(0, \delta^2)$ is assumed.

4. Result and Discussion

4.1. Descriptive Analysis

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.

In 2010/11, the Gini coefficient for urban areas become 0.37 and rural 0.27. Similar to the previous years, inequality is higher in urban areas than in rural areas. However, rural inequality marginally increased, while urban inequality declined substantially leaving the national Gini Coefficient unchanged. Since 1995/96 urban inequality was increasing at an alarming rate Reaching 0.44 in 2004/05, but because of the change in urban development policy after 2005 the Rising trend of urban inequality reverted [7]. The decline in income inequality in urban areas has resulted into a huge decline in poverty. Such positive developments in urban areas are because of the urban focused development activities carried out in the country including urban infrastructural development (road, private and condominium housing construction), promotion of labor intensive activities (use of cobblestone to construct urban roads), promotion of micro and small scale enterprises via the provision of training, credit and business development support, and the distribution of subsidized basic food items to urban poor in times of crisis over the past five years [6]. According to the report of ministry of finance and economic development the gini coefficient of urban areas in 2010/11 household consumption expenditure is 0.37 this value of the gini coefficient is relatively unequal distribution. This amount of value should to decrease to the lowest amount, so this paper interested to answer this question. The following table is to describe the variables that take as factors that determine the gini coefficient.

Table 1. *Description of variable.*

Variable	Obs	Mean	St. devaition	Min	Max	Skewness	Variance
Expenditure	439636	25016.22	30029.13	648.5789	146546	2.224	9.02e+08
CQ105	439636	36.80998	15.239445	12	99	1.57	232.2408
CQ105*2	439636	1587.215	1396.492	144	9801	1.8844	1950190
CQ104	439636	1.386085	0.4868511	1	2	0.467	0.23704
CQ19	439636	2.891108	2.004731	1	28	1.19667	4.019
Value	439636	441.216	2185.937	0.2	384000	92.74	4778322
CQ11	439636	6.519962	4.562701	1	15	1.178171	1.584998
CQ111	439636	2.258392	1.258967	1	6	1.178171	1.584998
Gross calorie	439636	111.007	188.9932	0	898.2	2.215	35718.43
Pri	439636	0.3043199	0.4601193	0	1	0.85	0.2117098
Ter	439636	0.5694757	0.4951502	0	1	-0.28	0.2451737
Sec	439636	0.382726	0.1918538	0	1	4.81	0.0368073

Source; CSA, own computation

Among the explanatory variable age of the household is head is one of the indicator of expenditure as well it contributes the difference on income among the household head. Has maximum 12 and 99. It means the minimum age of the household head in the observation and the maximum age of household head. Those household head with 12 years old are inefficient to rule the household in both physically and psychologically due to this household are not expected to get

equal income source opportunities hold this create inequality among household head. The same is true for the old household head.

From the table we understand there is high standard deviation in expenditure this have implication on income inequality since the expenditure are taken as income of the household.

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, If the jointly probability of skiwness and kurtosis (prob>chiz) is greater than 10%, based on this the whole variable except tertiary level educated household level are normally distributed.

4.1.1. Educational Level of Household Headed

The amount of schooling received by an individual, not only affected by expenditure many nonmarket factors also determined it this can be regarded as largely determined by demand and supply, like any other commodity or service. On the demand side, the two principal influences on the amount of schooling desired are a more educated student's prospects of earning considerably more income through future modern-sector employment (the family's private benefits of education) and the educational costs, both direct and indirect, that a student or family must bear. The amount of education demanded is thus in reality a derived demand for high-wage employment opportunities in the modern sector. This is because access to such jobs is largely determined by an individual's education On the supply side, the quantity of school places at the primary, secondary, and university levels is determined largely by political processes, often unrelated to economic criteria. Given mounting political pressure throughout the developing world for greater numbers of school places at higher levels, we can for convenience assume that the public supply of these places is fixed by the level of government educational expenditures. These are in turn influenced by the level of aggregate private demand for education. Because the amount of education demanded largely determines the supply (within the limits of government financial feasibility), let us look more closely at the economic (employment-oriented) determinants of this derived demand. The amount of schooling demanded that is sufficient to qualify an individual for modern-sector jobs appears to be related to or determined by the combined influence of four variables: the wage or income differential, the probability of success in finding modern-sector employment, the direct private costs of education, and the indirect or opportunity costs of education. The source of income can determine education. Education is both the source of income for the future and it is expense at current this fee comes from income. This income determined by this expense in addition to opportunity. Based on the survey of 2010/11 the educated household head are more income than uneducated one. The following graph is explaining the relation between average expenditure and education level.

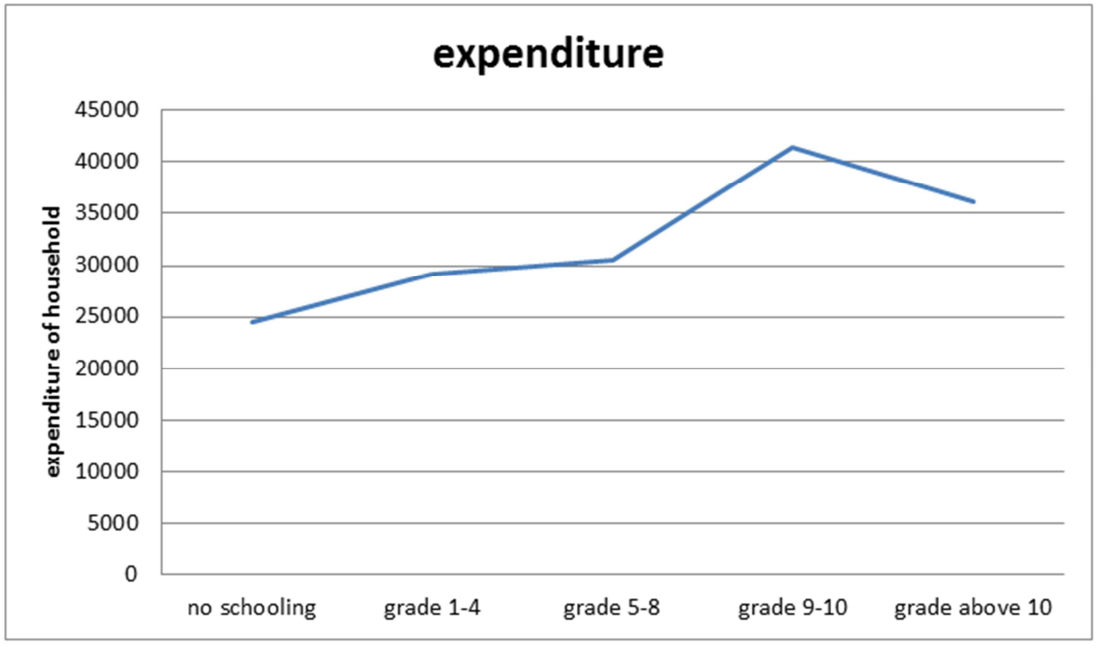


Figure 1. *Source: CSA own computation.*

The analysis of household expenditure and education from the above graph we understand the positive relation of expenditure and educational level of household head. The direction of causality is not clear with education. It often goes both ways in that having larger incomes increases education and having more education increases incomes. This indicates as income goes up the level of education is increase this in return bring the high wage for those educating more in most literature there is low amount of access to education in most developing. But there is a people

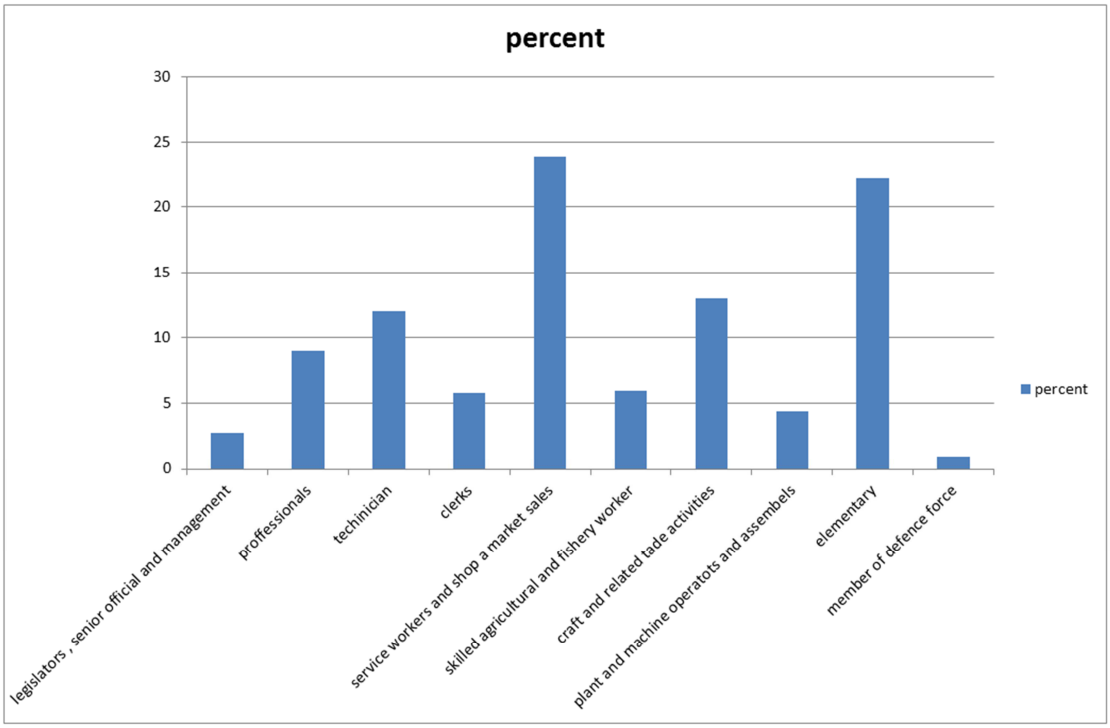
those get primary/secondary education and above those individual maximize their benefit without competitors in work availability this bring inequality among individual this effect goes to at the household level.

Even if as education level increase income also increase at some stage then obliged to decrease especially after gaining the tertiary education this is due to the policy of country in most developing countries education are not profitable for educator since he/she are not maximized their income, but those of the people engaged on other activities like a business earn a high amount of income this may be due to the fear of government either for his power or based on the argument of Todaro social cost of education [12].

the social costs of education (the opportunity cost to society as a whole resulting from the need to finance costly educational expansion at higher levels when these limited funds might be more productively used in other sectors of the economy) increase rapidly as students climb the educational ladder. The private costs of education (those borne by students themselves) increase more slowly or may even decline. This widening gap between social and private costs provides an even greater stimulus to the demand for higher education than it does for education at lower levels. But educational opportunities can be accommodated to these distorted demands only at full social cost. [12]

4.1.2. Decomposition of Household Head Based on Occupational Type

The occupational choice of laborers is depend on their skill and educational level and also determined by the demand of labor force. As we see in the graph below there is low amount of worker engaged on technicians which need more education. In general the occupational type for household head is determined by education factors and demand of the labor force. In some area of work the demand of labor is decline since the application of technologies.



Source: CSA, own computation.

Figure 2. *Decomposition of household head based on occupational type.*

Service workers take a largest place of occupation with the share 23.92% of the household head followed by Elementary occupation with the share of 22.24% of the household head.

In our country those of the service worker get a low wage but it absorbed a high amount of household head the same is true for those engaged in elementary occupation this create income inequality among the household head.

4.1.3. Decomposition Household Head Based on Budget Allocation by Sex

Characteristics of the household head are also related to expenditure levels and patterns. Sex and education are of particular interest due to their measurability. The graph disaggregates households by the sex of the household head and examines the average proportion of household expenditure allocated to different item groups. It is important to note here that this is strictly based on household expenditure and does not consider differences in household composition. Female household heads allocate more of their expenditure to food and housing and utilities. That is, for food, females devote about 1.75% more than males urban. For housing and utilities, female headed households in urban areas spend an additional 6.9%. Male headed households allocated slightly more of the total household expenditure to alcohol, tobacco, chat and coffee/tea, clothing and footwear,

transportation and communication. These goods and services tend to be more luxury items, which is in line with the observation that there are more male headed households in the higher quintiles. Based on Engels hypothesis we understand there is income inequality between female headed household and male household headed. As we describe above most of the income of female house hold head is used to by the basic material it means that essential for life while the male household head is used the income for luxury material. The Engels hypothesis tells as income as goes up the expenditure on necessity goods are goes down this implies the reason for males household headed spend for luxuries is due the increasing income while the female household headed are low income since they spent more of their income for necessity goods. This implies the income difference between female household headed and female household headed is a problem.

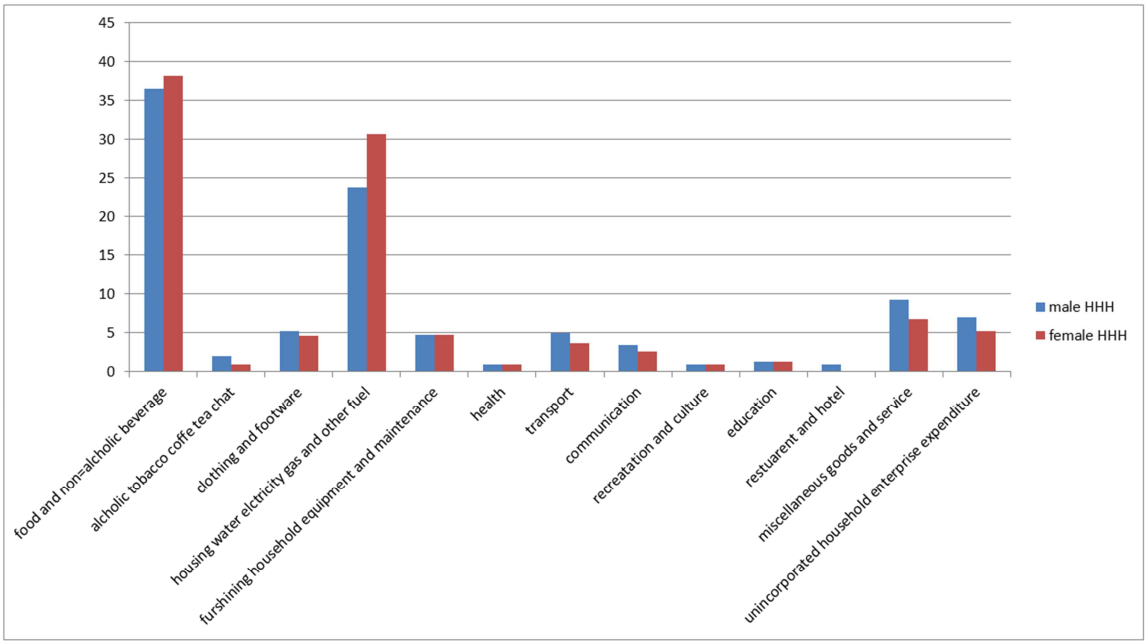


Figure 3. *Source: CSA.*

4.1.4. Decomposition of Household Head Based on Employment Place

Table 2. *Decomposition of Household Head Based on Employment Place.*

Employment	Fre	Percent	Cumulative	Average share of expenditure
Employer (working employer	3273	0.91	0.91	19842.95
Own-Account work (Self Employed	162192	44.86	45.77	22322.94
Employed-in private enterprise	66002	18.26	64.02	28306.66
Employed-in public enterprise	27050	7.48	71.5	26862.84
Employed-in public service	79987	22.12	93.62	27460.2
Employed-in local NGO	670	0.19	93.8	20244.76
Employed-in International NGO	3292	0.91	94.72	29183.76
Employed-in Extra-Territorial organ	576	0.16	94.87	16912
Employed-in Relegious Institution	3619	1	95.88	23097.55
Employed-in cooperative/unions	1289	0.36	96.23	23530.9
Employed-in chamber of commerce & Re	216	0.06	96.35	35586.64
Employed-in civic Associations (Profe	203	0.06	96.35	21908.91
Employed-in political organization	219	0.06	96.41	30199.25
Employed-for private Hh/person	7220	2	98.41	26064.73
Unpaid family work Unpaid/for family wo	1114	0.31	98.71	17111.56
Unpaid family work Unpaid/Free service	112	0.03	98.74	20959.11
Member of cooperatives	1308	0.36	99.11	30041.41
Other, nec	3231	0.89	100	26032.48
Total	361543	100		25061.98

Source: CSA own computation.

From the above table in the above most of the head of household engaged in Own-Account work (Self Employed) with the share 0f 44.86% followed by Employed-in public service and Employed-in private enterprise with the percent share of 22.12 and 18.26 respectively, but the share of the average expenditure in the household head is high in

employed in chamber of commerce followed by employed in political organization and employed in international organization. But in this working environment that means the number of people employed in political organization is 6% only the same true for the second highly wage payer work area. This implies there is a high income variation among household head.

In the own account work /self-employed activities which is the largest observer of labor force and it mainly engaged on service sector. This sector by nature is volatile in terms of generation of income. The household head those engaged in in the own account work get their income from the default other they consider themselves as mercantilist. This implies ones get at the expense of the other or the competitor. Since in our country Ethiopia most of self-employed household engaged on trade and related activities. This service sector is exposed to informational asymmetry and knowledge gap so the engaged of household head in sector is exposed to differential in profit this bring income inequality among the house hold head within the same employment type.

Next to the self-employed most of the household head engaged on public service and in private enterprise. Mostly in our country those engaged on public enterprise earn low income than those employed on in private enterprise. The data also show this on the average those household head work in private enterprise get 28306.66 birr annually while work in public service get 26862.84 birr annually. Mostly in private enterprise there a high wage gap among the worker. This bring income differential among the household head not only income inequality but also the future generation also lose a lot by this wage differential because our country is not developed as well most of the human capital sector like education, health are control by the public, but the public sector employee is not get sufficient reward from their contribution so they lose satisfaction from work based on rationality assumption of the individual go to the private enterprise. The overall effect is adverse for the country.

Finally the employment area of the household head is the ability to determine the income difference among the head of the household. The above table tells about the share of the household head in working environment.

4.1.5. Decomposition of Household Head Based on Industry Work Involvement

Table 3. *Decomposition of Household Head Based on Industry Work Involvement.*

Industry	Fre	Percent	Cum	Average share of expenditure
Agriculture	27551	7.62	7.62	18063.34
Fishing	9	7.62	7.62	12108.1
Mining and Quarrying	1449	0.4	8.02	21049.35
Manufacturing	32803	9.07	17.1	24339.7
Electricity, Gas and Water supply	4143	1.15	18.24	27765.62
Construction	29804	26.49	26.49	24347.1
Wholesale & Maintenance of Vehicles	74755	20.68	47.16	22413.59
Hotel and Restaurants	28384	7.85	5.015	29386.23
Transport, Storage and communication	15394	4.26	59.27	23246.23
Financial interm	7.922	2.19	61.46	27084.48
Real Estate, Renting and Business	2404	0.66	62.13	20746.7
Public Adminstration and Defence	47064	13.02	75.15	26665.97
Education	31125	8.61	83.75	29656.54
Health and Social work	10934	3.02	86.78	28605.97
Other community, Social and Personal	36164	10	96.78	26494.56
Private Hhs with Employed Persons	5094	1.41	98.19	27382.06
Extra-Territorial Organizations and	6544	1.81	100	26469.65
Total	361543	100		25061.98

Source: CSA own computation.

From the above table most of the household head engaged on industrial activities is on construction with the share of 26.49% with the 24347.1 birr the annual income for single head of the household. While the work area which involves only 7.6% opportunity for household head pay 29386.23 birr per annual for single household on the average.

The second and third are wholesale and maintenance of vehicles, and public administration and defense with the share 20.68 %and 13.02% respectively and pay for the employees annually on the average 26665.97 birr and 22413.59 birr respectively. the lowest earner of household head are engaged on fishing and agriculture hunting and forestry both share equal amount of worker which is 7.62% and get income from the fishing sector is one of the lowest which is 12108.1 birr annually per single person while those engaged in agricultural, hunting and forestry are earn 18063.34 birr annually on the average per single person. Since most of this activities are concentrated in specific cities or towns especially fishery are limited in our country in rift valley area and some parts of northern area due to this in that particular cities or town it create income inequality, but at the country level or at the whole urban part of our country it may not determine the income inequality since excluding Hawasa and Bahirdar the major cities like Addis Ababa, Adama, Mekelle, Dire Dawa have engaged on fishery economy. The same is true for agricultural, hunting and forestry.

In general the unequal involvement of household head in working area has their own contribution to the income gap

among the household head as well for the country development in terms of politics social and as a whole level of the living standard of the population.

4.1.6. Decomposition of Household Head Based on Region

Table 4. *Decomposition of Household Head Based on Region.*

Region/race	Fre	Percent	Cum	Average share of expenditure
Tigray	34572	7.86	7.86	28300.45
Afar	17897	4.07	11.93	22766.63
Amhara	84992	19.33	31.27	27305.69
Oromiya	91177	20.74	52.01	26445.39
Somali	23673	5.38	57.39	18299.13
Benshangul	22120	5.03	62.42	25499.46
SNNP	51335	11.68	74.10	26045.98
Gambella	15270	3.47	77.58	26105.54
Harari	7910	1.8	79.38	19526.55
Addis Ababa	80330	18.27	97.65	21547.93
Dire Dewa	10340	2.35	100	25273.93
Total	439636	100		25016.22

Source: CSA, own computation

In our country there is a lot of argument on the issue of race or on the ethnic based federalism some says ethnic federalism leads to become the country with nationalist federalism and if they come into power the care more for their own ethnic. For example the current regime is ruled by

the Tigrian families due to this some politician and economist claim this ruled class is injustice on the distribution of resource among the region for example most of the safety net programme are goes to this ruling class ethnic according politician. Due to this the paper is interested to include this variable and to see the effect. According to EPRDF government the Ethiopian federalism is based on the ethnicity except Addis Ababa and Dire Dewa.

From the above the Tigray households headed consume high followed by Amhara and oromiya. The reason for this may be the political system known in the position of rule in our country this reason supported by politician and human right activist. The lowest consumption on the region of Somali the reason for this also the political background according to the human right activist says the current regime did not give appropriate attention of infrastructural development in Somali region due to the suspecting of the Somali people relation al-shabab.

4.1.7. Distribution of Urban Regional Population by Household Expenditure Quintile

Table 5. *Distribution of Urban Regional Population by Household Expenditure Quintile.*

Region	1^{st} quintile	2^{nd}quintile	3^{rd} quintile	4^{th} quintile	5^{th} quintile	Total
Tigray	53.29	22.55	13.23	6.505	4.4	100
Afar	51.4	32.51	8.68	4.52	2.9	100
Amhara	59.04	17.55	12.52	6.56	4.33	100
Oromiya	69.54	14.53	8.46	4.55	2.92	100
Somali	69.92	14.75	8.34	4.08	2.92	100
Gambella	68.86	14.57	8.92	4.68	2.99	100
Harari	67.07	14.26	10.8	4.86	3.008	100
Addis Ababa	51.46	24.14	12.8	7.16	7.16	100
Dire Dewa	48.83	16.42	20.98	7.55	6.23	100
Total	61.65	18.3	10.76	5.62	3.66	100

Source: CSA, own computation

The first quintile shows 20% of the urban population an all-region is above the half percent except Dire Dawa city administration which is only 48.83% of the household are in low income group.

The highest percent of the household head that live with low income groups is from Somali, oromiya and Gambella region with the share of 69.92, 69.54 and 68.86 respectively. The upper 20 % quintile is the highest in Addis Ababa followed Dera Dawa and Tigray with the share of 7.16, 6.23 and 4.4 respectively.

From the above we understand that the small number of the people consumes the large while the largest number of people consumes the least. This implies there is a high income gap among the household head.

For instance in urban Somali region the highest number of population are under the first quintile and the lowest number of population are under the fifth quintile. These have obvious implication on the income inequality since the small numbers of household consume a large amount of resource while the largest part of the society consumes a small resource.

Even in dire Dawa which somewhat better amount of the population are under the first quintile and fifth quintile have also prove a high amount of income inequality.

4.1.8. Size of the Distribution by Lorenz Curve

The more the Lorenz line curves away from the diagonal (line of perfect equality), the greater the degree of inequality represented. The extreme case of perfect inequality (i.e., a situation in which one person receives all of the national income while everybody else receives nothing) would be represented by the congruence of the Lorenz curve with the bottom horizontal and right hand vertical axes. Because no country exhibits either perfect equality or perfect inequality in its distribution of income, the Lorenz curves for different countries will lie somewhere to the right of the diagonal. The greater the degree of inequality, the greater the bend and the closer to the bottom horizontal axis the Lorenz curve will be

Y axis represent cumulative share of income earned

X axis cumulative share of population from the lowest to highest

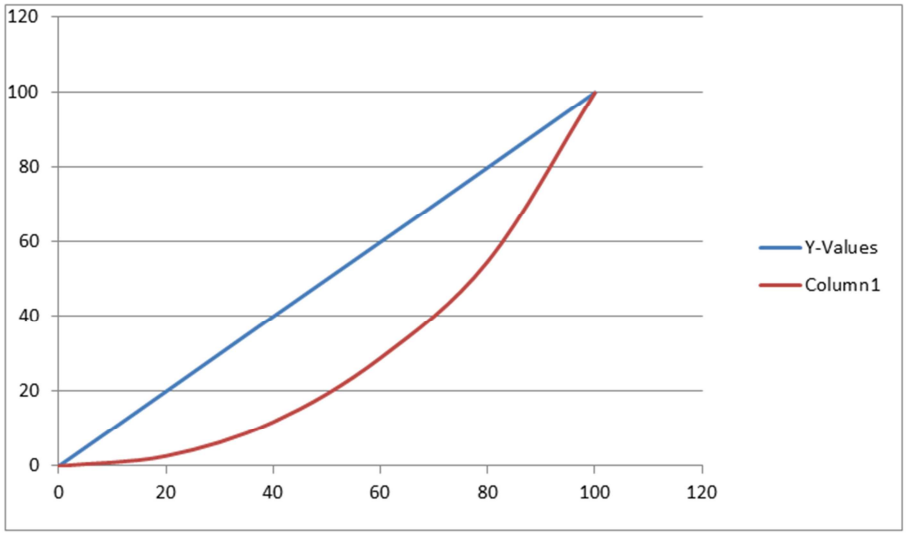


Figure 4. *Lorenz curve.*

As we have seen on the figure the Lorenz curve is not that much away from the diagonal line this implies the gini co-efficient are not that much is large or the size of the distribution of income is somewhat good but it's not fair.

4.2. Econometric Analysis

4.2.1. Empirical Result

Based on this simple linear regression model the papers try to explain the dependent variable relative to the independent variable.

LNEXP= β_0 + β_1 CQ105 + $\beta_2 agesq$ + $\beta_3 CQ104$ + β_4 $CQ19$ ++ $\beta_5 value$ + β_6GROSS CAL + $\beta_7 CQ111$ + $\beta_8 pre$ + β_9 sec + β_{10} ter + e_t.

Table 6. *OLS regression result.*

LnEXP	Coef.	Std.err	T	p>|t|	{95% conf. interval}
CQ105	-0.0085387	0.0004877	-17.51	0.000	-0.0094945, -0.00758
Ageqs	0.0000824	5.07e-0.6	16.23	0.000	0.0000724, 0.000923
CQ104	-0.0023687	0.0030779	-0.77	0.442	-.0084014,.0036639
CQ19	-.301099	0.0007587	-396.86	0.000	-.3025861, -.299612
Value	0.0000189	6.02e-0.7	31.37	0.000	0.0000177, 0.0000201
GROSS CAL	-1.70e-0.6	8.90e-0.9	-190.66	0.000	-1.72e-0.6, -1.68e-0.6
CQ111	-.0369835	0.0013699	-27.00	0.000	-0.0396685, -0.0342986
Pre	0.0009623	0.0050564	0.17	0.863	-0.0090476, 0.0107731
Sec	0.0004729	0.0080466	0.06	0.953	-.0152942, 0.01624
Ter	0.0350181	0.0048114	7.28	0.000	0.0255879, 0.044451
-cons	10.71039	0.0112637	950.71	0.000	10.68831, 10.73247

Source | SS df MS Number of obs = 439572.
----------+---------- F (10,439561) =28128.84.
Model | 212824.734 10 21282.4734 Prob > F = 0.0000.
Residual | 332574.914439561.756606964 R-squared = 0.3902.
----------+---------- Adj R-squared = 0.3902.
Total | 545399.648439571 1.24075439 Root MSE =.86983.

4.2.2. Hypothesis Testing and Interpretation

As shown in the above table R squared in the model is relatively low with the value 0f 39.02 % this means other things being equal, on the average about 39.02% of variation in the income inequality /expenditure is explained by the explanatory variables included in the model.

The overall significant of the model is tested using F-test against the hypothesis:

$$H_0: \beta_1 = \beta_{2,} = \beta_{3,} = \beta_4 = \beta_5 =, \beta_7 = \beta_8 = \beta_9 = \beta_{10} = 0$$

Since the probability of rejection of F statics is zero so all variables jointly are perfectly significant.

The individual significant.

CQ105, agesq, CQ19, value, CQ111, gross calorie, and ter are statically significant at 1%*, but pre, sec, CQ104 are statically insignificant at 1%* 5%* and 10%*.

4.2.3. Discussion of the Result

The regression result shows that 39.02% of the variation in expenditure /income is explained by independent variables included in the model jointly. To say in other words 39.02%

of the variation in expenditure is explained by the variables included in the model. At f-statics all variables are jointly significant.

As shows in the table the most of the variable are significant to explain the dependent variable. From the result as age, sex, household size, gross-cal and marital status have negative relation with expenditure while the remaining variables like age square, value, numbers of household head with primary education, numbers of household head with secondary education, and numbers of household head with tertiary education are positively related with expenditure/income.

As age of the household head increases by 1% the expenditure/income of the household is going to decrease by 0.85% this is due to the retirement obviously as age increase the income is going to decline especially for those of the household head engaged on blue collar work.

Gender variety have negative impact on income inequality among the household head in this result being male in the household head make to lose the household income by 0.23%. this is due to different program that takes place by government and non-government organization for instance enat bank give credit access without any collateral requirement for female this is direct benefit gain by female household headed, but even such type of positive discrimination is useful to reduce the gender gap but still there is a high gap between the male household headed and female household headed most of the household that is headed by female are live crowded house or in slum condition than headed by male. As the paper shows in the above the expenditure that expend by male household headed are mostly for luxuries commodities while the female headed expend for necessity commodity based on the Engels hypothesis this implies there is a wide inequality between the female household headed and the male household headed or the male headed household headed are better than female household headed in living standard.

As household size increases by 1% the expenditure/income of the household is going to decrease by 30.19% this is due to the increase of the household members the per capita income of the household member is going down due to the coming of new consumer but it's under short run condition under long run condition since the new comer of the household members are earn income and return to previous condition. The household sizes have a great role in the determining the income inequality among the household head for instance two household x and y are the same size, but after one year household size of x add one person while y are stay as its due to this the per capita of income of the household x is decrease and also the investment is also goes to consumption due to this the income of the household x are obviously decrease while the household y per capita income is constant and the investment also are not taken away by consumption due to this the household income are increase. This implies the household x income is decrease while y increases so inequality among of the household x and y are increase.

As gross calorie that is consume by the household head increase by 1% the expenditure/income decrease by 1.7%.

The married household head increases by 1% the expenditure is decrease by 36.98% of the household this means being married have their own problem the main reason is the positive discrimination given by the NGO and government institution.

Primary educated household head increase by 1% the expenditure is also increase by 0.094% while Secondary educated household head increase by 1%the expenditure is increase by 0.04% Tertiary educated household headed increase by 1% the expenditure is increase by 3.5% this result shows that education have positive contribution for income /expenditure of the household The value of goods and service are positive in determining the income/expenditure this means as price goes up expenditure increases obviously then the household head obliged to ask the employer to raise their wage so the employer obliged to increase their wage and the income of the household head increase as we have seen in the above the household head engaged in different employment sector due to this they get different response towards inflation or raising price this lead to vary income among the household heads.

5. Conclusion and Recommendation

5.1. Conclusion

The major objective of the study is to analyze the factor of income inequality in urban part of Ethiopia by using the cross-sectional data analysis of 2010/11 household consumption expenditure survey. The main finding is to know the determining factor of inequality in urban income by taking expenditure as dependent variable instead of gini coefficient of the household. As discussed in the (8development and poverty in Ethiopia 1995/96-2010/11 the gini coefficient is 0.37 for 2010/11 which is a relatively high income differential in urban part of Ethiopia [7].

By employed Field's regression based decomposition technique to establish the Influencing factor of inequality in urban Ethiopia [4]. The main finding from the survey that contribute to income variation among household are educational level, employment area of household, gender, age of the household head, the household size, the value of the commodity/price has influencing factor to inequality through expenditure. The main finding tells us age, sex, household size, gross-cal and marital status have negative relation with expenditure while the remaining variables like age square, value, numbers of household head with primary education, numbers of household head with secondary education, and numbers of household head with tertiary education are positively related with expenditure/income.

From the finding all variables jointly are perfectly significant but individually age, age square, household size, value of goods and service, msarital status, gross calorie, and numbers household head with tertiary are statically significant at 1%*, but number of household head with primary education, number of household head with

secondary education, sex of the household headed are statically insignificant at 1%* 5%* and 10%*.

The main factor that determine expenditure level the household head in 2010/11 survey education this also the main cause of income gap among the society. The theory as wells the result tells education is big contributing for inequality followed by sex/gender bias and also gender inequality is also one source of inequality is one of the objectives of this paper by using descriptive analysis. Female household heads allocate more of their expenditure to food and housing and utilities. That is, for food, females devote about 1.75% more than males urban. For housing and utilities, female headed households in urban areas spend an additional 6.9%. Male headed households allocated slightly more of the total household expenditure to alcohol, tobacco, chat and coffee/tea, clothing and footwear, transportation and communication. These goods and services tend to be more luxury items, which is in line with the observation that there are more male headed households in the higher quintiles. From this we understand there is income inequality between female headed household and male household headed, but at the level of household headed being male is negative to income of the household because based on result being male in the household head make to lose the household income by 0.23%. this is due to different program that takes place by government and non-government organization for instance enat bank give credit access without any collateral requirement for female this is direct benefit gain by female household headed, but even such type of positive discrimination is useful to reduce the gender gap but still there is a high gap between the male household headed and female household headed most of the household that is headed by female are live crowded house or in slum condition than headed by male. As the paper shows in the above the expenditure that expend by male household headed are mostly for luxuries commodities while the female headed expend for necessity commodity based on the Engels hypothesis this implies there is a wide inequality between the female household headed and the male household headed or the male headed household headed are better than female household headed in living standard.

The other determining variable of income inequality is age based on the finding there is a negative relation between household head age and expenditure this implies those the household of that is headed by old age get lower income than headed by young. The largest consumption on the average by single household head is the largest in Tigray region followed by Amhara and oromiya. While the lowest consumption on the region of Somali. The reason may be politics here.

Most of the head of household engaged in Own-Account work (Self Employed) with the share 0f 44.86% followed by Employed-in public service and Employed-in private enterprise with the percent share of 22.12 and 18.26 respectively, but the share of the average expenditure in the household head is high in employed in chamber of commerce followed by employed in political organization and employed in international organization. But in this working environment that means the number of people employed in political organization is 6% only the same true for the second highly wage payer work area. This implies there is a high income variation among household head.

The unequal involvement of household head in working area has their own contribution to the income gap among the household head as well for the country development in terms of politics social and as a whole level of the living standard of the population.

The whole variables are normally distributed except the tertiary level educated household level according to Gupta If the jointly probability of skiwness and kurtosis (prob>chiz) is greater than 10%.

5.2. Recommendation

Based on the analysis made and conclusion arrived the following policy implication are derived. As it was observed from the estimation results and descriptive analysis. Since education is one important source of inequality. The government of Ethiopia should take measures to encourage low income groups of the society. Like incentives, tax reduction, reduce license requirement costs and create conductive environment for education. These measures should able to encourage the income of low income earned by reducing the opportunity education of education by opening extension school. And also by paying a high amount of salary for those engaged in public service they manage the inequality in urban Ethiopia among household head.

The other thing is gender in contributing for income variation as we have seen in descriptive analysis the more luxuries live the male household head than female household headed. So the the policy maker should design a new way that able to benefit the female other than affirmative like reducing the passing point in exam. But giving more credit access like enat bank it's possible to avoid the income variation between the female household head and male household head.

The other thing government should take to reduce income inequality in creating market based on system that can able to get free information and knowledge to the consumer and producer since most of the activities in our urban part of country is service sector specially trade is take big place of activities. So if the government create o good environment to this sector it contribute to reduce the income inequality (good environment in this case by giving the awareness to the consumer to become rational when they buy goods and service and by protecting the legal traders from the illegal one by giving by disc rouge the informal sector and by giving legal tender for the participant in the informal sector without any precondition like id card, license because this is the difficult thing to get it for them since most of them are migrant from rural area. So by considering this problem the government should give legal tender for the participant of informal sector. Then it's simple to create market based approach and a good environment for this sector).

The government should be fair interims of distributing resource among the region without any racial discrimination

and should give equal infrastructure to all region if the government commit this there should be peace and security in our country otherwise

The other thing should the government take to reduce 0.37 amount of gini coefficient is to the lowest amount the government should continue the policy that is able to reduce income inequality in past fifteen years based on the following report of ministry of finance and development.

The government should do in the promotion of labor intensive activities (use of cobblestone to construct urban roads), promotion of micro and small scale enterprises via the provision of training, credit and business development support, and the distribution of subsidized basic food items to urban poor in times of crisis. Such positive developments in urban areas are because of the urban focused development activities carried out in the country including urban infrastructural development (road, private and condominium housing construction) this have a great contribution to reduce inequality among the household head in urban Ethiopia.

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