



The effect of urbanization on income generating capacity: The mediating role of housing problem

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Abstract

As urbanization has occurred without the attendant growth and development spillovers in underdeveloped nations including Ethiopia, the phenomenon brought undesirable social and economic consequences. This paper looks at the effect of urbanization on income generating capacity of citizens emphasizing the mediating role of housing problem. We present an innovative approach that sheds light on understanding the contemporary urban problems associated with unmanaged urbanization and the options to mitigate those negative consequences in the Ethiopian context, especially in Amhara region. Structural Equation Modeling was used to run mediation analysis through decomposing the direct and indirect effects of one variable on the other. Correlation and regression analyses were also carried out to measure the direction and magnitude of the effect of the independent variable on the dependent. Regression analysis results indicate the existence of a significant direct effect of urbanization on limitations in income generating capacity of citizens. The mediation analysis result shows housing problem doesn't play the mediating role between urbanization and limitations in income generating capacity. That is, urbanization has a significant direct effect on income generating capacity limitations rather than being mediated by housing problem. The paper recommends taking policy measures to include development agendas of small and medium towns into regional plans as they absorb the influx to large cities and can help migrants experience the challenging complex urban life step by step. In addition, a policy intervention in the area of land tenure system and real estate development is required before the housing problems get worse. Awareness creation for the rural people on the demerits of migrating to cities is also worth considering as it helps the migrants reconcile their expectations with the reality. Moreover, devising mechanisms to make the youth beneficial from the available job opportunities by encouraging employers so that they recruit the youth rather than over subscribe the vacancies is essential.

Keywords: income generating, housing problem, social and economic consequences

1. Introduction

Research findings clearly indicate people with low and unstable incomes that live in settlements with inadequate infrastructure are the byproducts of unmanaged urbanization. This is true in many low and middle income countries. Informal sector activities and casual labour are the major source of employment opportunities for the urban poor. This type of employment can only provide low and irregular earnings. "In low-income nations, informal employment accounts for half to three-quarters of all non-agricultural employment. The global economic crisis that started in 2008 has had a devastating impact on informal sector workers, leading to rising costs for food, fuel and transport and increased competition from workers laid off from formal sector jobs. Food insecurity is the most severe impact of the crisis" (Tacoli C., 2013) [9].

From the labour market it is possible to see that the youth are suffering a lot than the adult people from unemployment and which is long-term unemployment. Young people are not given the appropriate market-oriented skills, opportunities and information that are necessary to join the labour market. This in turn has an impact on their income generating capacity. The long-term unemployed often face a number of pronounced barriers to finding work. For a start, the period they have spent out of work can itself create problems because of issues with confidence as well as negative signaling to employers. The

more time a person spends away from the workforce, the more reluctant employers become to hire that person. The rationale behind their decision posits that skills can deteriorate once a person is out of work for a prolonged period. Employers may also assume negative attitudes towards people with a significant gap in their résumé, often believing them to be less productive than other applicants.

Young people face higher rates of labour market turnover, and spend time moving between jobs before settling on a stable career path. The main 'scarring' effects of periods of joblessness are an increased likelihood of unemployment at a later age, and a lower earnings potential. Evidence suggests that young people suffer a 'wage penalty' (the difference between the actual wage earned and that earned by comparable people who have not experienced unemployment) on their return to work. At the worst case, unemployment increases the probability of illness, mental stress, helplessness, and depletion of self-esteem, which can all lead to depression and finally loss of income generating capacity.

Even the available job opportunities in the market usually require a lengthy work experience while the youth do not have it and this is often their central barrier to employment and income generating capacity.

The other way round the ever increasing urban population creates pressure on availability of affordable houses. The concern of urban problems brought by the fast urbanization

such as - how to accommodate the increasing number of new residents in urban areas- has been touched by many scholars (Yang 1993; Kojima 1995; Yeung and Shen 2004) ^[12, 6, 11]. The process of urbanization, mainly depicted as a migration of population from rural areas to cities, often has a stimulating effect on urban housing markets (Kottis 1971) ^[7]. In large parts of the developing world migration was prevented or limited by laws imposed during colonial times; at independence many of these rules were relaxed, allowing the “dam to burst” and rapid urbanization (Davis, 2006).

These factors lead to rapid and vast rural-to urban migration: “Every day close to 200,000 people leave the world’s rural regions and heading to cities. That’s 130 people arriving every minute; two every second” (Neuwirth in Swift 2006). The truth is urban places do not have the capacity to accommodate the influx with an affordable housing and the result being the formation of slums.

The lack of access to an affordable housing has its own profound negative effect on income generating capacity of urban dwellers. “A growing body of evidence suggests that living in decent, affordable housing may provide a “platform” from which low-income families can get jobs, build their incomes, and achieve financial security.

Simply living in decent, affordable housing constitutes a critical support for work because families living in unaffordable housing are financially insecure, vulnerable to unexpected increases in other costs, and more likely to move frequently (Mills *et al.* 2006) ^[8]. This insecurity may make it more difficult for them to get and keep jobs, work extra hours, or advance to higher wages.

On the other hand, the extra income freed up when housing is affordable may enable families to pay for reliable child care, transportation to a better job, additional training, or professional clothing—all investments that can enhance employment success”.

Throughout history land has been and is going to be the most important resource to human beings. Its ever increasing price proves this fact. For governments like Ethiopia the largest revenue is obtained from the sale of land. Controlling land gives an upper hand in most of the matters in the society. The value it has made land and housing questions controversial over years in almost all societies in the world (Maina, 2007). “Similarly, housing is one of the necessities for human beings. For a long time, however, it has remained a critical problem, which millions of poor people in the developing countries lack, Ethiopia being no exception (Bihon, 2007) ^[3].

A lot of problems impede the urban poor to access an affordable land/housing as it is stated by Abuye (2006) ^[11]. “In practice, although urban land policy tried to bring good sense in the land allocation process and the putting in place of various policy strategies that seek to address the needs of the poor, a number of challenges have observed. For example, land supply constraints, a rise in prices and demand for urban land, bureaucratic tendencies, weak monitoring and evaluation mechanisms, inadequate databank systems, shortage of financial resources, lack of participation by the poor, inadequate official records about poverty, the poor’s lack of ability to pay for the land lack of transparency in service delivery, poor are being less active / not engaged in the land delivery process, most land allocation procedure based on the

bidding system which favors the most affluent, existing standards requirements are still too high for the chronically poor and etc (Abuye, 2006) ^[11].

Ethiopia’s persistent urban poverty has made urban land and housing policy the subjects of ongoing debate. In Ethiopia, the right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the state and in the peoples of Ethiopia. Land is a common property of the nations, nationalities and peoples of Ethiopia and shall not be subject to sale. Yet social justice, urban renewal and development, the provision of decent dwellings and healthy conditions for the people can only be achieved if land is used in the interests of society as a whole.

The absolute state ownerships of asset by the government of Ethiopia was able to bring significant solution for the ever-increasing poverty. This reality has put pressure on state to move from a command to a market oriented (free market) economy. This situation was the starting point for the urban leasehold tenure system in Ethiopia (Zelalem, 2012) ^[13].

Though it was believed that the land lease system helps to expand investment and urban land development by transferring urban land for a fair price consistent with the principles of free market, the reality is different. It was assumed that the housing market alone would meet the demand for affordable housing of the low-income population. To realize this, the government has provided urban land at highly subsidized rates. Despite such effort made by government, the practice indicates the private sector has failed to deliver affordable housing at the large scale as required (UN-HABITAT, 2007) ^[10].

As can be easily understood by looking at the Amhara region urban land lease proclamation which states urban land for housing development shall be held by lease hold through tender or auction availability of serviced land and its affordability to the low income people is very limited in region. According to the urban land lease law, urban land is granted for the highest bidder considering amount of down payment and the duration to fully settle the lease amount at the same time.

From this it is straight forward the way of allocating urban land will benefit only the high income citizens and marginalizes the poor. This fact is frequently stated by officials at the land administration office as well as citizens. For example the price of land per m² for 2010 in Bahir dar for housing development rose up to 45,000 birr. At the same time the price of a house charged by real estate developers is very expensive, though they take the land at a very subsidized price only 68 birr per m² to construct and distribute an affordable house to the people.

Even the land given by the government to citizens organized in the form of housing and environment development associations based on certain parameters is not enough to address the need of land demanders. A lot of associations wait for the land for many years (sometimes goes to 8 years) but only few will get the land. All these show the fact that there is limited access to affordable land and house in the region.

Hence it is apparent that the rapid phase of urbanization has multi-dimensional social and economic problems. The main essence of this paper is, there for, to investigate those interlinked problems in the Ethiopian context and contribute

to the debate in the literature concerning the consequences and or benefits of urbanization.

2. Data collection and The method of analysis

A household survey was conducted in 2009 in three cities of Amhara region: Bahir Dar (the capital of the region), Gondar, and Dessie, with a sample of 622 households. These sample units were chosen from a total population of 170456 using a proportionate stratified sampling method. The return rate is 80.39 percent.

2.1 Specification of the model

A logistic regression model has been estimated to elicit the effect of urbanization on income generating capacity of households. The model uses income generating capacity among the households as the dichotomous dependent variable. The model is given by;

$$\text{Ln} [p/ (1-p)] = b_0 + b_1(x)$$

Where: Ln = the natural logarithm

P= the short form of p(y=1) - the probability that the dependent variable exists p/ (1-p) = the odds for p(y=1)

Ln [p/ (1-p)] = natural logarithm of the odds for p(y=1)

The model is based on the following hypotheses: a) Urbanization is a factor influencing income generating capacity of citizens. Thus, it is hypothesized that the ever increasing urbanization would negatively affect or reduce citizens income generating capacity. B) Housing problem mediates the relationship between urbanization and income generating capacity. Concerning mediation analysis the approach used by Baron and Keny (1986) [2] is followed. Four conditions must be fulfilled to evidence a mediating effect (Baron and Keny, 1986) [2]. First, the independent variable

must significantly impact the dependent variable. Second, the independent variable must have impact on the mediator. Third, the mediator must impact the dependent variable. Finally, the effect of the independent variable on the dependent variable becomes less when the mediator is controlled, as shown by the change in regression coefficient. Full mediation exists when such an effect becomes non-significant.

3. Results and Discussion

3.1 Urbanization and Income generating capacity

Based on the data obtained from 500 households, we have run the binary logistic regression. From the regression analysis, specifically from the table containing the odds ratio, we observe that when there is urbanization (X = 1) the odds of limitations in income generating capacity(Y=1) is 214.6 times greater than the odds of limitations in income generating capacity in the absence of urbanization. To put it the other way, the probability that urbanization causes income generating capacity limitations is $P = (e^{b_0 + b_1(x)} / 1 + e^{b_0 + b_1(x)})$ from the table we see that the values of $b_0 = -0.98$ $b_1 = 5.37$.

$$\text{There for, } p = (e^{-0.98 + 5.37(x)} / 1 + e^{-0.98 + 5.37(x)}) \text{ then for } x=1 \text{ } p = 2.7182^{-0.98 + 5.37(1)} / 1 + 2.7182^{-0.98 + 5.37(1)} = 80.63 / 81.63 = 0.987$$

This shows when there is urbanization the probability that there will be a limitation in income generating capacity is 0.98. The result indicates that if we fail to manage urbanization the probability that citizens will have a limited income generating capacity is higher than the case that there is no urbanization or it is addressed through appropriate policy measures. Hence, we conclude that unmanaged urbanization brings limitations in income generating capacity.

Table 1: Binary logistic regression result of urbanization and income generating capacity limitations

Logistic regression		Number of obs	=	500		
		LR chi2(1)	=	50.10		
		Prob > chi2	=	0.0000		
Log likelihood = -38.812136		Pseudo R2	=	0.3922		
igcc_cat	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
urr_cat	5.369086	.7918778	6.78	0.000	3.817035	6.921138
_cons	-.9808293	.6770032	-1.45	0.147	-2.307731	.3460726

Table 2: Odds ratio of regression of urbanization on income generating capacity

Logistic regression		Number of obs	=	500		
		LR chi2(1)	=	50.10		
		Prob > chi2	=	0.0000		
Log likelihood = -38.812136		Pseudo R2	=	0.3922		
igcc_cat	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
urr_cat	214.6667	169.9898	6.78	0.000	45.46917	1013.473
_cons	.375	.2538762	-1.45	0.147	.0994867	1.413505

3.2 Urbanization and housing problem

Table 3: Regression Coefficient of Urbanization and Housing problem

Logistic regression		Number of obs =		500		
		LR chi2(1) =		30.33		
		Prob > chi2 =		0.0000		
Log likelihood = -25.851131		Pseudo R2 =		0.3697		
hoo_cat	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
urr_cat	4.905275	.8378888	5.85	0.000	3.263043	6.547507
_cons	.1823214	.6055301	0.30	0.763	-1.004496	1.369139

Table 4: Odds ratio of urbanization and Housing problem

Logistic regression		Number of obs =		500		
		LR chi2(1) =		30.33		
		Prob > chi2 =		0.0000		
Log likelihood = -25.851131		Pseudo R2 =		0.3697		
hoo_cat	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
urr_cat	135	113.115	5.85	0.000	26.12893	697.5029
_cons	1.2	.726636	0.30	0.763	.3662293	3.931962

In the same fashion, from the table containing the odds ratio, we observe that as a result of urbanization, the odds of housing problem (Y=1) is 135 times greater than the odds of housing problem in the absence of urbanization. From the computation of the probability $p = \frac{2.7182^{0.182} + 4.91^{(1)}}{1 + 2.7182^{0.182} + 4.91^{(1)}} = \frac{161}{162} = 0.99$, we find that the probability of getting citizens facing a housing problem in urbanized areas is 0.99. This indicates that if there is urbanization there is a high likely hood that citizens will not have access to an affordable housing.

3.3 Housing problem and Limitations in Income Generating Capacity of Citizens

An attempt was also made to test the relationship between lack of access to an affordable housing and limitations in income generating capacity of citizens in the region. The regression results containing the regression coefficient and the odds ratio are presented as follows;

Table 5: Coefficient of regression – Housing problem and Income generating capacity limitations

Logistic regression		Number of obs =		500		
		LR chi2(1) =		27.28		
		Prob > chi2 =		0.0000		
Log likelihood = -50.22097		Pseudo R2 =		0.2136		
igcc_cat	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
hoo_cat	4.493618	.8040615	5.59	0.000	2.917686	6.069549
_cons	-.5108256	.7302967	-0.70	0.484	-1.942181	.9205297

Table 6: Odds ratio of regressing housing problem on income generating capacity limitations

Logistic regression		Number of obs =		500		
		LR chi2(1) =		27.28		
		Prob > chi2 =		0.0000		
Log likelihood = -50.22097		Pseudo R2 =		0.2136		
igcc_cat	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
hoo_cat	89.44444	71.91883	5.59	0.000	18.49844	432.4857
_cons	.6	.438178	-0.70	0.484	.1433909	2.51062

The regression result reveals that the odds of limitations in income generating capacity as a result of housing problem is 89 times greater than the limitations without housing problem. From the regression coefficient we also observe that the

probability that a citizen facing a housing problem will have a limited income generating capacity is 0.98. Thus, we conclude that exposure to housing problem results in limitations in income generating capacity.

3.4 Mediation Test Result

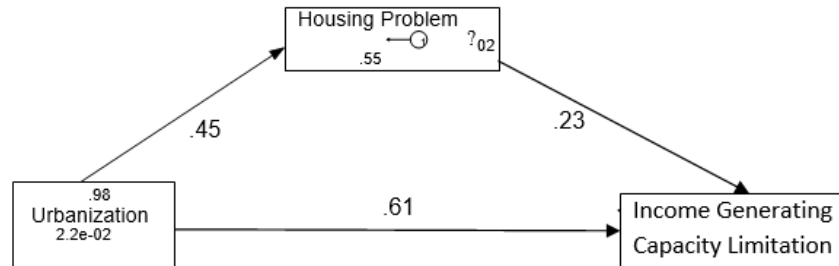


Fig 1: The mediating role of housing problem in the relationship between Urbanization and Income generating capacity limitation

Table 7: Direct and Indirect Effect of Urbanization on Income Generating Capacity

Direct effects						
	OIM					
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Structural hoo_cat <- urr_cat	.4484105	.032578	13.76	0.000	.3845588	.5122622
igcc_cat <- hoo_cat	.232415	.0522736	4.45	0.000	.1299606	.3348694
igcc_cat <- urr_cat	.6107855	.0447156	13.66	0.000	.5231445	.6984265
Indirect effects						
	OIM					
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Structural hoo_cat <- urr_cat	0 (no path)					
igcc_cat <- hoo_cat	0 (no path)					
igcc_cat <- urr_cat	.1042173	.0246326	4.23	0.000	.0559383	.1524963
Total effects						
	OIM					
	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Structural hoo_cat <- urr_cat	.4484105	.032578	13.76	0.000	.3845588	.5122622
igcc_cat <- hoo_cat	.232415	.0522736	4.45	0.000	.1299606	.3348694
igcc_cat <- urr_cat	.7150028	.038825	18.42	0.000	.6389072	.7910984

The decomposition of the direct and indirect effect using Structural Equation Modeling (SEM) as indicated in the table as well as the figure above reveals the direct effect of urbanization on income generating capacity limitations is 0.61 while the indirect effect is 0.104 which makes it obvious that housing problem doesn't play the mediating role between the two variables. This is to mean urbanization has a significant direct effect on income generating capacity limitations rather than influencing it through housing problem.

4. Summary and Conclusion

The primary objective of this study was to assess the magnitude and direction of the effect of urbanization on income generating capacity of citizens as mediated by housing problem in the context of Amhara region. To this end, a binary logistic regression was employed.

The conclusions based on our empirical study may be summarized as follow:

1. Urbanization influences income generating capacity among the households negatively. And there is high level of limitations in income generating capacity of citizens in the region following the speedy urbanization.
2. Urbanization is found to pose a housing problem in the region and the access to affordable housing is great challenge to the citizens.
3. Housing problem does not mediate the relationship between urbanization and limitations in income generating capacity.

5. Policy Implications

The following are possible areas of intervention which might mitigate the negative consequences of urbanization in the region.

High level of exposure to housing problem and income generating capacity limitations is observed in the region following the speedy urbanization. Policy measures need to be taken to include development agendas of small and medium towns into regional plans as they absorb the influx to large cities and can help migrants experience the challenging complex urban life step by step. In addition, a policy intervention in the area of land tenure system and real estate development is required before the housing problem is getting worse. Awareness creation for the rural people on the demerits of migrating to cities is also worth considering as it helps the migrants reconcile their expectations with the reality. Last but not least, identifying ways to make the youth beneficial from the available job opportunities by encouraging and subsidizing employers so that they recruit the youth rather than over subscribe the vacancies is essential. And at the same time creating additional and sustainable employment opportunities to the lower income citizens is important as they are most of the time engaged in informal and irregular economic activities.

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