

A PROPOSED RURAL-URBAN MIGRATION DECISION MODEL: THEORETICAL EXPLANATION

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Abstract

This paper is a theoretical study of rural-urban migration decision model as it has occurred in many low-income economies. It explains migration decision condition and the rural urban migration equilibrium condition for both skilled and unskilled workers. This proposed model also includes urban informal sector in case of analyzing the interlinkage of rural and urban in the development process. According to this study, urban unemployment occurs only in the urban formal sector where wages has institutional lower bound. This explains that urban unemployment means unemployment among skilled workers in urban area. Proposed model shows that subsidy in both urban and rural sector is feasible policy to combat the unemployment problem in urban area.

Introduction

While the problem of underemployment in the agrarian and subsistence sector has for long been a major focus in the economic analyses of LDCs, the subject of urban unemployment has been relatively neglected; indeed it cannot occur in the Lewis model and in others of that genre. Yet the problem demands serious theoretical attention because here conventional remedies have often surprised governments by accentuating rather than curing the problem (Basu 1997). It is important to construct a pragmatic theory of migration decision and rural urban labor distribution which can be used for policy purposes. The literature on migration goes back over a hundred years, to two papers by the British demographer Ravenstein in 1885 and Lee in 1966 who mainly reviewed Ravenstein's work and proposed his own. Mainly Harris-Todaro model, proposed in 1969 provided an interesting analysis of migration and unemployment in LDCs.

Salvatore (1981) reveals that it is theoretically and empirically preferable to base internal labor migration on the relative difference in rural-urban real income streams and rates of unemployment, taken as separate and independent variables, rather than on the difference in the expected real income streams as postulated by the very influential and often quoted Todaro model.

Fan and Stark (2008), shows new general-equilibrium model that links together rural-to-urban migration, the externality effect of the average level of human capital, and agglomeration economies refers that in developing countries, unrestricted rural-to-urban migration reduces the average income of both rural and urban dwellers in equilibrium. Various measures aimed at curtailing rural-to-urban migration by unskilled workers can lead to a Pareto improvement

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for both the urban and rural dwellers. In addition, the government can raise social welfare by reducing the migration of skilled workers to the city. Moreover, without a restriction on rural-to-urban migration, a government's efforts to increase educational expenditure and thereby the number of skilled workers may not increase wage rates in the rural or urban areas.

Generally, in most of the less developed countries, we can see that skilled workers engage in urban formal sector where the wage is higher as compare to rural sector and urban informal sector. In contrast, unskilled workers who migrate to urban area can not get job in urban formal sector. They get their job in urban informal sector and wage of this sector is lower than that of urban formal sector. For this reason, it is important to include this concept in migration decision model. This study is an effort to develop a migration decision model which will explain following concepts: skilled and unskilled workers, urban informal sector and urban unemployment situation.

Migration Decision Model (MDM)

There are two sectors in the economy: the rural (R) and the urban (U). Urban sector can be divided into two parts: formal (UF) and informal (UI). They produce Y_R , Y_{UF} , and Y_{UI} units of output and employ L_R , L_{FE} and L_{IE} units of labor. Because this a short-run model with fixed capital endowment in each sector, output in each sector is supposed to be a function of labor:

Rural Sector:

$$Y_R = f(L_R) \quad \text{where, } f'(L_R) > 0, f''(L_R) < 0$$

Urban Sector:

$$\text{Urban formal sector: } Y_{UF} = f(L_{FE}) \quad \text{where, } f'(L_{FE}) > 0, f''(L_{FE}) < 0$$

$$\text{Urban informal sector: } Y_{UI} = f(L_{IE}) \quad \text{where, } f'(L_{IE}) > 0, f''(L_{IE}) < 0$$

Labor can be divided into two divisions such as skilled labor and unskilled labor. Here, we are assuming that skilled workers can get job only in urban formal sector. However, unskilled workers can have job opportunities only in urban informal sector. So, L_{FE} denotes number of skilled workers employed in urban formal sector; on the other hand, number of unskilled workers employed in urban informal sector is L_{IE} .

The total labor units available in the economy are fixed at L .

Hence,

$$L = L_R + L_F + L_I \quad L_R, L_F, L_I \geq 0$$

L_F is the total number of skilled workers in urban area and total number of unskilled labor force in urban area is denoted by L_I . Here, $L_F > L_{FE}$ which explains unemployment among skilled workers in the city area.

Let us assume, for simplicity, that all three sectors produce the same good (though by different techniques). This leaves the entire major MDM results unaltered. We are also assuming that adult person migrates from rural to urban area who is leaving his or her family in rural area and he is responsible to bear the living cost of his family in rural area

Migration decision of unskilled workers

Rural unskilled workers will like to migrate in urban area if

$$f'(L_R) < [S^* (L_{IE}^*) / (L_I)]$$

Where,

S^{\wedge} = average saving by the unskilled workers employed in urban informal sector

L^*_{IE} = number of employed unskilled workers who can save money

$(L^*_{IE})/(L_I)$ = probability of saving by engaged unskilled workers in urban informal sector.

$S^{\wedge} (L^*_{IE})/(L_I)$ = expected saving² by unskilled workers

From the above equation, we can see that unskilled workers will migrate to urban area when expected saving in urban area will be greater than rural average income. Actually, it is not possible for an unskilled worker of rural area to know the average saving by the unskilled workers employed in urban informal sector and also the number of employed workers who are not skilled and can save money. However, they collect information regarding average income and average living cost in urban area from their relatives and friends who have already migrated to urban area which means that they are using sampling technique in order calculate their expected saving. Indeed, they search out only the employment situation of unskilled workers in the city and they don't need any information regarding opportunities for skilled workers since they are unskilled workers.

Migration equilibrium will be attained which means that unskilled workers from rural will not migrate to urban area if

$$f'(L_R) = [S^{\wedge} \cdot (L^*_{IE}) / (L_I)]$$

Migration decision of skilled workers

Similarly, rural skilled workers will migrate in urban area if

$$f'(L_R) < [S^- \cdot (L^*_{FE}) / (L_F)]$$

Where,

S^- = average saving by the skilled workers employed in urban formal sector

L^*_{FE} = number of employed skilled workers who can save money

$(L^*_{FE}) / (L_F)$ = probability of saving by engaged skilled workers in urban formal sector.

$S^- \cdot (L^*_{FE}) / (L_F)$ = expected saving by skilled workers

Skilled workers in rural area will collect information in the same way as unskilled workers do. They will take news about the employment opportunities in urban formal sector since these types of jobs are suitable and also relevant for them.

In this case equilibrium will be achieved when

$$f'(L_R) = [S^- \cdot (L^*_{FE}) / (L_F)]$$

² Expected saving= Expected income-Expected living cost in urban area

Comparison between expected saving of skilled workers and unskilled workers

$$1. \quad S^- > S^+$$

Condition 1 will be true since workers in formal sector can earn more money than that of informal sector.

$$2. \quad [(L^*_{FE})/(L_F)] > [(L^*_{IE})/(L_I)]$$

Probability of skilled workers who are engaged in formal sector can able to have positive amount of money after subtracting living cost in urban area from their income is higher than that of unskilled worker engaged in urban informal sector.

$$3. \quad [S^- \cdot (L^*_{FE})/(L_F)] > [S^+ \cdot (L^*_{IE})/(L_I)]$$

If condition 1 and 2 are true then definitely condition 3 will be fulfilled.

$$4. \quad f'(L_R) < [S^+ \cdot (L^*_{IE})/(L_I)] < [S^- \cdot (L^*_{FE})/(L_F)]$$

From the above all these conditions, we can say that expected saving for unskilled workers is higher than rural average income although it is lower than skilled workers' expected saving.

Implications of the model

Unemployment situation

According to Harris Todaro Migration Model, wages were higher in urban formal sector jobs than in rural traditional sector jobs. And in order to be hired for a formal sector job, it was necessary to be physically present in the urban areas where the formal sector jobs are located. As a consequence of the first two features, more workers search for formal sector jobs than are hired. Employers hire some of the searchers but not all of them. Those not hired end up unemployed (Fields 2007). But proposed MDM explains that there are mainly two major sectors in urban area: urban formal sector and urban informal sector. On the basis of MDM, only skilled workers will like to get job in the urban formal sector and unskilled workers in urban informal sector. Wages in urban formal sector has political and institutional lower bound. On the other hand, both in rural and urban informal sector, wages are flexible. Here, wages rise and fall according to supply and demand. This flexibility ensures that there is no unemployment in rural and urban informal sector. It means that unemployment problem exists only in urban formal sector and among the skilled workers who has migrated in urban area which implicitly denotes urban unemployment as urban skilled workers unemployment.

Policy issues

Let we consider the use of unemployment subsidy to the urban sector. It may appear that this ought to work. But there is an obvious flaw in this policy. Such a policy would increase skilled labor force in urban area by more than the number of new jobs created in urban formal sector, thereby raising the number of urban unemployed. Thus, the solution to urban unemployment would not be urban employment creation in urban formal sector. The second policy option considered is a policy of rural development. If such a program can increase the rural traditional sector wage especially for skilled workers, unemployment will then fall.

Conclusion

The rural-to-urban migration has created a problem for urban governments and this in its turn has led to strongly biased policies against migrants. Rural-to-urban migration should be viewed fairly. On the one hand it has supplemented the labor shortage in urban areas, and on the other hand it sometimes gets out of control, and therefore it has created problems in urban areas especially urban unemployment. From the above model, it is clear that unskilled workers will migrate from rural to urban area if expected urban saving or the real wage (adjusted with living cost) in urban informal sector is higher than rural income. On the other hand, skilled workers migrate to urban area if expected urban saving in formal sector is higher than average rural income. This proposed model also reveals that wage in the urban formal sector is higher than that of both urban informal and rural. But unemployment problem only exists in urban formal sector due to inflexibility of wages. Introduction of urban informal sector in this model has removed one of the major pitfalls of Harris Todaro Migration Model.

References

- Harris, J. and Todaro, M. (1970). Migration, Unemployment, and Development: A Two-Sector Analysis. *American Economic Review*, 60,126-142.
- Salvator, D. (1981). A Theoretical and Empirical Evaluation and Extension of the Todaro Migration Model. *Regional Science and Urban Economics*, 11(4), 499-508.
- Basu, K. (1997). Analytical Development Economics. The MIT Press
- Fields, G. (2007). Harris Todaro Model. *Working paper*, Cornell University ILR School, USA.
- Fan, C.S. & Stark, O. (2008). Rural-to-Urban Migration, Human Capital, and Agglomeration. *Journal of Economic Behavior and Organization*, 68, 234–247.
- Lucas, R. E. (2004). Life Earnings and Rural-Urban Migration. *Journal of Political Economy*, 112 (1).
- Michael, S. (2006). Are Migration Policies That Induce Skilled (Unskilled) Migration Beneficial (Harmful) For The Host Country? *Center for Economic Studies and the IFO Institute for Economic Research*, Cyprus.