GLOBAL JOURNAL OF COMMERCE & MANAGEMENT PERSPECTIVE
(Published By: Global Institute for Research & Education)
www.gifre.org

# The Cost - Benefit Analysis of internal migration, Poverty Reduction and Development in Ghana from 1990 - 2012

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## Abstract

This study provides a comprehensive assessment of the costs and benefits analysis of internal migration in Ghana. It explains the possible mechanisms by which internal migration may impact on the development of Ghanaian economy and the methodologies and empirical implementations by which such impact may be measured. It provides all-inclusive review of the existing literature, and explains the data sets available that allow analysis in the Ghanaian context. It summarises some of the existing work that provides investigation into the costs and benefits of internal migration to the Country. While no simple unifying framework exists that allows the assessments of all consequences of internal migration, economic research has developed many tools to analyse the impact of migration and development on many specific areas.

The research methodology used twenth year period and the prime rate or policy rate of the Bank of Ghana which on average stood at fifteen (15) percent. This was common among the periods over the years. Net Present Value of Migration from region of origin to destination regions. Using the decision rule, if the calculated value was a positive value then it was accepted as a viable project. It was found most migrants do not have jobs in the place of origin and so have to move out in order to get a job.

The findings of this paper indicates that benefits outweighs the cost of the migrants and so there is enough grounds to justified why people move to the urban cities these days. Again, it was possible for every migrant to get something doing in the new place than his/her original place.

It was recommended that existing literature and policy documents often should not overlook the important role that internal migration has played recently in reducing rural poverty. Contrary to conventional wisdom, which often views permanent migration as a hindrance to rural development because it transfers rural resources to urban areas, internal migration (with the help of urban resources) actually expands rural land and labour markets by making more rural land available for tenancy.

Future research must examine this issue of internal migration and development seriously; the government's poverty alleviation strategy must address the needs of the migrants, particularly urban poor migrants who often suffer eviction, ill health and other problems. Instead of applying residential criteria to identify the poor, vulnerable groups can be picked up from the work place, organised as occupational groups and provided with loans, food-for-work, crèche and other facilities on a daily basis.

In conclusion therefore, to reduce the positive and negative impacts of internal migration and development to their equivalent money value Cost-Benefit Analysis determines whether on balance the migration is worthwhile. The equivalent money value is based upon information derived from migrants and labour market choices, the demand and supply schedules for labour affected by the movement.

***Keywords:*** cost-benefit, internal migration, development, insurance, discount rate, Net Present Value.

## 1.0. Introduction

Benefit-cost analysis (BCA) is a technique for evaluating a project or investment by comparing the economic benefits with the economic costs of the activity. However, this method has been applied in labour migration economics to determine the decision to migrate internally. Benefit-cost analysis has several objectives. First, BCA can be used to evaluate the economic merit of internal migration. Second the results from a series of benefit-cost analyses can be used to compare competing alternatives. BCA can be used to assess migration decisions, to examine the worth of public investments, or to assess the wisdom of using natural resources or staying in the rural or urban areas. Ultimately, BCA aims to examine potential actions with the objective of increasing social welfare of the migrants.

It is reasonable to suppose that the fixed costs associated with individual migration decisions are substantial. The extraordinary events may create incentives to move that are large relative to these fixed costs of migration, in contrast (perhaps) to the incentives created by the effects of marginal changes in public policy in more normal times.

The empirical literature on policy-induced migration in Canada provides mixed evidence on the question at hand. Although there is some empirical evidence that public policy has affected migration patterns to some extent, notably in the work of Courchene (1970), Winer and Gauthier (1982), Shaw (1986) and Day (1992), in the pre-1995 literature on Canada as a whole reviewed extensively in Day and Winer (1994), there is no consensus concerning the empirical significance and quantitative importance of the relationship.

More recently, Lin (1995) uses the Labour Market Activity Survey for the 1988-90 periods and finds that interprovincial migration does not depend on receipt of unemployment insurance or social assistance. On the other hand, using the Longitudinal Administrative Data (LAD) set based on tax files for 1982-95, Finnie (2000) finds that the receipt

of insurance is associated with a significant increase in out-migration of prime-aged men and women (the quantitative importance of the effect is not computed).

However, neither of these interesting contributions takes the generosity of the unemployment insurance system into account, and there remains the possibility that the insurance dummy variable used acts as a proxy for employment opportunities rather than reflecting the operation of the unemployment insurance system itself. Audas and McDonald (2003), using the Survey of Labour and Income Dynamics for 1993-1999 and a similar treatment of labour market attachment as in Day and Winer (2001), show that the relationship between unemployment insurance and migration depends on the degree of attachment to the labour market.

They find some evidence that receipt of insurance payments inhibits migration of people who are moderately attached to the labour market, and that the tightening of the rules after 1996 may have given marginally attached workers a stronger incentive to leave high unemployment regions. No quantitative magnitudes of these effects are reported.
Considering the literature in above as a whole then, it is reasonable to conclude that the empirical importance of policy-induced migration remains to be confirmed.

In Ghana, migration decision can be made by individuals, families or an extended family network. In contrast to individual migrants, the decision of family migrants is only partly driven by their own social and economic considerations (Mincer, 1978), and the opportunities and restrictions of all family members tend to influence such decisions. Thus it might not be sufficient to examine only individual motivations to understand migration decisions. It might even be that such decisions to migrate may have been proposed by the extended family and other similar networks. It is therefore possible for a member of the network to be sent away to work in a location which is characterised by better economic climate to provide some sort of social insurance for the extended family Benefit-cost analysis is simply rational decision-making. People use it every day, and it is older than written history.

Our natural grasp of costs and benefits is sometimes inadequate, however, when the alternatives are complex or the data uncertain. Then we need formal techniques to keep our thinking clear, systematic and rational. These techniques constitute a model for doing benefit-cost analysis. They include a variety of methods:

identifying alternatives; defining alternatives in a way that allows fair comparison; adjusting for occurrence of costs and benefits at different times; calculating cedi values for things that are not usually expressed in cedis; coping with uncertainty in the data; and summing up a complex pattern of costs and benefits to guide decision-making.

It is important to keep in mind that techniques are only tools. They are not the essence. The essence is the clarity of the analyst understands of the options. Against economic instability and hardships at home.

## 1.2. Statement of the problem

The concepts poverty reduction and migration and development have for all time been consistent. At the same time as international migration has received more attention in modern debates on migration, internal migration is far more significant in terms of the numbers of people involved and perhaps even the quantum of internal remittances that the people send home and the potential that it offers for poverty reduction, development, yet it does not attract much attention from policy-makers and governments. In addition, there must be winners and losers in the internal migration debate in terms of economic growth and development for Ghana. This study intends to find solution to the problem of cost-benefit analysis of internal migration, poverty reduction and development in Ghana.

Even when the measurements of costs and benefits of internal migration and development are complete, they might not speak for themselves until they are put in a framework. Benefit-cost analysis provides that framework. It can be used wherever a decision is needed and is not limited to any particular academic discipline, such as economics or sociology, or to any particular field of public or private endeavour. It is a mixture of several techniques from the management, financial and social sciences fields.

As far as possible, benefit-cost analysis puts both costs and benefits into standard units (in cedi terms) so that we can be compare directly. In some cases, it is difficult to put the benefits into cedis, so we use cost-effectiveness analysis, which is a cost-minimization technique. For example, there might be two highway-crossing upgrade options that will result in the same saving of lives. In this case, we choose between the options on the basis of minimum cost.

Regardless of the aim, all benefit-cost analyses have several properties in common. A BCA begins with a problem to be solved. For example, a community may have the goal of alleviating poverty and promoting development through migration in an area. Various activities that might solve the particular problem are then identified. As an example, alternative activity to alleviate poverty in an area might include a internal migration and development. The costs and benefits of these activities would be identified, calculated, and compared. Decisions are typically not made solely on the basis of BCA, but BCA is useful and sometimes required by law. Without a doubt, results from a BCA can be used to raise the level of public debate surrounding internal migration.

## 1.3. Research Methodology

### 1.3.1. The Micro Approach

The comprehensive migration flows represent the outcome of the underlying individual decision-making process. Modeling migration as a human behaviour is, therefore, a complementary more than an alternative approach. Rational individuals maximise their expected utility function, as a result, the decision of whether to migrate or not depends on the cost-benefit computation.

The maximising behaviour was first addressed by Hicks (1932) who argued that “differences in net economic advantages are the main causes of migration”.

Sjaastad (1962) developed a micro model where migration decision is modeled as an investment in human capital, heterogeneity among individuals is also emphasized. A large part of the migration literature evolved following the work of Sjaastad (1962). The migration decision in the interregional migration context is represented by the following expression:

$$\text{NPVMijo} = \sum_{t=i}^{T} \frac{(Bj - Bi)}{(1+r)t} - \sum_{t-i}^{T} \frac{(cj - ci)}{(1+r)t} \quad \text{.....1}$$

$$\sum_{t=i}^{T} P_u(t) \frac{w_u}{(1+r)^t} - c \succ \sum_{t-i}^{T} \frac{w_r}{(1+r)^t} \quad \text{.....2}$$

where $P_u$ is the employment rate in the urban sector, namely, the probability to earn the wage $w_u$, the term c denotes the migration costs and $w_r$ is the wage in the rural sector. In contrast with the classical two sectors model (Lewis, 1954) Harris-Todaro model does not assume full employment and is thus able to explain the continuation of rural-to-urban migration even in presence of rising urban unemployment. More generally, a higher wage in a different place may not be enough to encourage migration if it is not coupled with a low unemployment rate.

However, a key question that the Harris-Todaro model was not able to answer is why, even when the condition in (2) is satisfied, only some individuals migrate while others do not. The assumption that only the expected income is important and the consequent omission of any other form of influence appears very restrictive. In this sense, the migration literature evolved merging the Harris-Todaro expected utility maximisation approach with the human capital model, (Sjaastad, 1962) in order to account for the role of personal characteristics.

In fact, at the same Todaro (1980) pointed out, migrants "tend to be disproportionately young, better educated, less risk averse". Different surveys in migration research emphasis the important role of personal characteristics in migration research (Greenwood, 1975, 1985, 1997; Cadwallader, 1992; Plane and Bitter, 1997; Cushing and Poot, 2004). Another significant development in the migration behavioural literature points to the observed unit, which is the decision maker. Mincer (1978) argues that migration decisions are taken by families rather than by the single individual. Later on, Stark and Bloom (1985) present the "new economics of labour migration". The making-decision process of migration involves groups of individuals with different preferences (e.g., families).

Moreover, the collective decision-making not only maximizes the expected income but also minimizes risks related to different market imperfections. A recent development in micro theory model is the dynamic approach of networks models (Carrington, 1996; Bauer and Zimmermann, 1995, 1997).The idea is that migrants create networks in the destination places, which reduce the migration costs for new migrants and therefore favour future migration.

In essence, micro modeling theory emphasizes the role of heterogeneity of migrants, that is, the human capital aspect, and the complexity underlying the decision-making process.

**1.3.2. Decision rules**

| NPV | Decision |
|---|---|
| Project A | +GHc3 Accept |
| Project B | +GHc Indifferent |
| Project C | - GHc Reject |

A decision rule tells us whether an investment is worthwhile and whether one investment is better than another in this case internal migration.

**1.3.3. Criticisms**

While BCA can be useful, there are some difficulties with its application. First, it requires that the analyst assign monetary values to all benefits and costs. As we know, however, there are numerous benefits and costs which are intangible and therefore difficult to value. While the value of timber may be easy to calculate, the value of environment impact may not.

Another drawback with BCA is the fact that results can be very sensitive to the choice of the discount rate. The entire result from a complex BCA may hinge on the choice of a single number for the discount rate. For this reason, BCA can be very controversial. The rate that is chosen can radically change the outcome of analysis.

Finally, an important drawback with BCA is that while most benefits and costs that arise in the present are known, many that arise in the future are unknown. A BCA must be conducted using information that is available. This information will be limited by our current knowledge of benefits and costs. Some future benefits and costs cannot conceive, much less measured. However, the role of uncertainty plagues not only BCA but also most other decision-making methods.

## 1.4. Presentation of Results

The actual results which is in the excel form has been placed at the appendix portion of the paper. The issue as to whether internal migration has been beneficial to the individual and for that matter the entire was proved to beneficial following the calculations we have done using the formula in methodology section.

Following the decision rule which we have established also indicates that a positive value of the calculated value demonstrates that the projects or investment is worth undertaking. From the results obtained above that are Bj – Ci, Where Bj is the benefits the individuals will gain from the destination region and Ci is also the cost of migration in origin of the migrants.

Bj – Ci =

GHc1270 –GHc 159.2764 = Ghc1, 111 per year, that is the gain the individual migrant will get if he/she travels or migrants into the cities assuming he/she is employed. If the person was not initially employed, he or she will now get job to do thus improving upon the status of the person.

Moreover, the collective decision-making not only maximizes the expected income but also minimizes risks related to different market imperfections. A recent development in micro theory model is the dynamic approach of networks models (Carrington, 1996; Bauer and Zimmermann, 1995, 1997).The idea is that migrants create networks in the destination places, which reduce the migration costs for new migrants and therefore favour future migration.

Another significant development in the migration behavioural literature points to the observed unit, which is the decision maker. Mincer (1978) argues that migration decisions are taken by families rather than by the single individual. Later on, Stark and Bloom (1985) present the "new economics of labour migration".

Harris and Todaro (1970) introduce imperfections in the labour market in the context of internal migration from rural to urban areas. Unemployment rate and wage differentials between the rural and the urban sectors are the key elements of migration. The employment rate in the urban sector represents the probability to find a job and individuals maximise the expected utility function. Thus the individual is assumed to be risk neutral, decides to migrate from the rural to the urban sector if and only if:

$$\sum_{t=i}^{T} P_u(t)\frac{w_u}{(1+r)^t} - c \succ \sum_{t-i}^{T}\frac{w_r}{(1+r)^t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

where $P_u$ is the employment rate in the urban sector, namely, the probability to earn the wage $w_u$, the term c denotes the migration costs and $w_r$ is the wage in the rural sector. In contrast with the classical two sectors model (Lewis, 1954) Harris-Todaro model does not assume full employment and is thus able to explain the continuation of rural-to-urban migration even in presence of rising urban unemployment. More generally, a higher wage in a different place may not be enough to encourage migration if it is not coupled with a low unemployment rate.

## 1.5. Conclusion

In order to reduce the positive and negative impacts of internal migration and development to their equivalent money value Cost-Benefit Analysis determines whether on balance the migration is worthwhile. The equivalent money value is based upon information derived from migrants and labour market choices, the demand and supply schedules for labour affected by the movement. Care must be taken to properly allow for such things as inflation. When all this has been considered a worthwhile migration is one for which the discounted value of the benefits exceeds the discounted value of the costs, the net benefits are positive. This is equivalent to the benefit/cost ratio being greater than one and the internal rate of return being greater than the cost of capital.

## 1.6. Recommendations

First, existing literature and policy documents often overlook the important role that internal migration has played recently in reducing rural poverty. Contrary to conventional wisdom, which often views permanent migration as a hindrance to rural development because it transfers rural resources to urban areas, internal migration (with the help of urban resources) actually expands rural land and labour markets by making more rural land available for tenancy.

Future research must examine this issue of internal migration and development seriously; the government's poverty alleviation strategy must address the needs of the migrants, particularly urban poor migrants who often suffer eviction, ill health and other problems. Instead of applying residential criteria to identify the poor, vulnerable groups can be picked up from the work place, organised as occupational groups and provided with loans, food-for-work, crèche and other facilities on a daily basis.

In addition, remittances from internal migration are generating both direct and indirect benefits with short- term, long-term and multiplier effects on rural poverty alleviation, regional development and the overall development of the country. However, remittances remain largely a private affair, which is transacted between and among families and friends. In contrast to land-poor households, rural landowning households often derive greater benefits from remittances as they have greater capital endowments which enable them to invest in profitable businesses. If internal remittances can be converted to schemes such as the Deposit Pension Scheme (DPS), there is greater likelihood of institutionalising remittances, thereby increasing the administrative and financial sectors, and liberalization and de-control of business practices. Local governments should be encouraged to deliver education, health and basic services both to the poor and non-poor with the help of NGOs and the private sector. As pro-poor drivers, civil society and independent research institutions must monitor the quality of services and the funds released once they meet the performance criteria.

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## *Appendix*

| year | t | bi | bj | bj-bi | (1+r)^t | | t | ci | cj | cj-ci | (1 + r)^t |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1990 | 0 | 120 | 280 | 160 | 1 | 160 | 0 | 80 | 128 | 48 | 1 |
| 1991 | 1 | 180 | 346 | 166 | 1.15 | 144.34783 | 1 | 90 | 342 | 252 | 1.15 |
| 1992 | 2 | 244 | 542 | 298 | 1.3225 | 225.33081 | 2 | 100 | 240 | 140 | 1.3225 |
| 1993 | 3 | 180 | 320 | 140 | 1.520875 | 92.052273 | 3 | 120 | 246 | 126 | 1.520875 |
| 1994 | 4 | 164 | 240 | 76 | 1.7490063 | 43.453247 | 4 | 140 | 346 | 206 | 1.7490063 |
| 1995 | 5 | 80 | 180 | 100 | 2.0113572 | 49.717674 | 5 | 145 | 245 | 100 | 2.0113572 |
| 1996 | 6 | 90 | 352 | 262 | 2.3130608 | 113.26983 | 6 | 86 | 286 | 200 | 2.3130608 |
| 1997 | 7 | 42 | 420 | 378 | 2.6600199 | 142.1042 | 7 | 56 | 386 | 330 | 2.6600199 |
| 1998 | 8 | 183 | 240 | 57 | 3.0590229 | 18.633401 | 8 | 122 | 412 | 290 | 3.0590229 |
| 1999 | 9 | 186 | 422 | 236 | 3.5178763 | 67.085929 | 9 | 182 | 518 | 336 | 3.5178763 |
| 2000 | 10 | 162 | 253 | 91 | 4.0455577 | 22.493808 | 10 | 112 | 324 | 212 | 4.0455577 |
| 2001 | 11 | 264 | 254 | -10 | 4.6523914 | -2.149432 | 11 | 160 | 542 | 382 | 4.6523914 |
| 2002 | 12 | 180 | 284 | 104 | 5.3502501 | 19.438344 | 12 | 120 | 422 | 302 | 5.3502501 |
| 2003 | 13 | 250 | 326 | 76 | 6.1527876 | 12.352125 | 13 | 98 | 188 | 90 | 6.1527876 |
| 2004 | 14 | 192 | 468 | 276 | 7.0757058 | 39.00671 | 14 | 124 | 198 | 74 | 7.0757058 |
| 2005 | 15 | 196 | 368 | 172 | 8.1370616 | 21.137851 | 15 | 121 | 221 | 100 | 8.1370616 |
| 2006 | 16 | 168 | 266 | 98 | 9.3576209 | 10.472747 | 16 | 160 | 365 | 205 | 9.3576209 |
| 2007 | 17 | 165 | 368 | 203 | 10.761264 | 18.863955 | 17 | 144 | 286 | 142 | 10.761264 |
| 2008 | 18 | 200 | 426 | 226 | 12.375454 | 18.261957 | 18 | 164 | 298 | 134 | 12.375454 |
| 2009 | 19 | 216 | 542 | 326 | 14.231772 | 22.906495 | 19 | 186 | 196 | 10 | 14.231772 |
| 2010 | 20 | 240 | 429 | 189 | 16.366537 | 11.547953 | 20 | 212 | 328 | 116 | 16.366537 |
| 2011 | 21 | 218 | 542 | 324 | 18.821518 | 17.214339 | 21 | 198 | 228 | 30 | 18.821518 |
| 2012 | 22 | 222 | 288 | 66 | 21.644746 | 3.0492389 | 22 | 142 | 368 | 226 | 21.644746 |
| | | | | | | 1270.5913 | | | | | 159.27638 |