《國文要約》

老年人口의 分布와 人口過程

朴 京 愛
(全北大學校)

本 研究는 1975年에서 1985年에 걸쳐 老年人口의 全體人口에 대한 相對的 比率 및 그 變化를 市·道 單位의 地域的 差異에 焦點을 맞추어 考察한다. 老年人口의 比率에 變化를 준 死亡, 出産 및 人口移動의 人口過程을 65歲 이상의 老年人口와 65歲 미만의 非老年人口의 純人口移動과 自然增加 概念으로 統合하여 分析한다.

1975 − 1980年, 1980 − 1985年 두 期間 동안 서울, 釜山 및 京畿道는 다른 地域에 比해 老年人口의 比率이 相對的으로 낮았으며, 모든 地域이 同 期間 동안 老年人口比率의 增加를 經驗했지만 이러한 變化에 관련된 人口過程의 影響은 時代와 地域에 따라 상당한 差異를 보여 준다. 全 地域에서 非老年人口의 自然增加 影響은 老年人口의 比率을 지속적으로 增加시키는데 反해, 老年人口의 自然增加 影響은 1980年을 기점으로 커다란 對照를 이루어 1980年 이후에만 老年人口比를 增加시킨다. 특히, 1980 − 1985年 동안 非老年人口의 人口移動이 서울, 釜山 및 京畿道의 老年比率은 減少시키고 他 地域의 比率은 增加시켜 모든 地域에서 老年人口比率의 變化를 決定하는 主要 要因으로 作用하였다. 非老年人口의 移動과는 다른 樣相을 나타내는 老年人口의 人口移動 역시 地域의 老年人口比率에 다양한 影響을 주었다. 끝으로, 老年人口의 人口移動 및 老年人口의 集中現像에 수반되는 社會的 結果를 論議한다.

Migration and Distribution : A Critical Examination of the Relative Deprivation Approach to Migration

Hunmin Kim

(Ewha Women's University)

《Contents》

Ⅰ. Introduction

Developments in the theory of migration during the past fifteen years have been predominantly in the direction of expected wage model. The overriding factor motivating migration is the desire to attain an absolute increase in real income. Utility (or satisfaction or welfare) is derived from absolute level of real income. Other perspectives on migration that incorporate factors such as attitudes towards risk, level of education and human capital in general, can be superimposed as they tend to change the value of the absolute level of income — now captured through expected income or lifetime stream of income or otherwise.

While a number of empirical studies partly link migration with distributional aspects (see references cited in Lipton, 1980), theoretical work on migration that explicitly deals with the relationship between migration and distribution needs further development. Some of the studies that link migration and income distribution do not deal with the distributional aspects as a motivation to migrate (Okun, 1968 ; Kuznets, 1979 ; Lipton, 1980 ; Adelman and Robinson, 1977 ; Alonso, 1971 ; Stark and Yitzhaki, 1982). If we accept that people migrate basically to improve their welfare, the concept of welfare in these theories of migration does not include relative position. Since people do not compare themselves with others, concerns for distributional aspects are relevant only as some arbitrarily chosen public goal.

In this paper, we examine the relationship

between migration and income distribution through the relative deprivation model of migration (Stark, 1984). By way of a critical analysis of the relative deprivation approach to migration, an extension to the theory is presented in order to capture the migration - distribution linkage more comprehensively. The relative deprivation approach specifically includes distributional aspects both as causes and consequences of migration and is linked to a specific measure of social welfare.

First, the concept of relative deprivation will be discussed. Then, in Section III we discuss some of the basic ideas in Stark's model, and in Section IV relative deprivation approach with an extended reference group will be presented. In Section V implications on income distribution from changes in relative deprivation resulting from migration are derived through the examination of the properties of relative deprivation.

II. The Concept of Relative Deprivation

The term relative deprivation first appeared in THE AMERICAN SOLDIER (Stouffer, 1949), a social psychology study of the American army in World War II. The concept was later defined more rigorously by Runciman(1966) in his study of the perception of inequalities in British society.

According to Runciman,

"···A is relatively deprived of X when (i) he does not have X, (ii) he sees some other person or persons, which may include himself at some previous or expected time, as having X (whether or not this is or will be in fact the case), (iii) he wants X and (iv) he sees

it feasible that he should have X". (p. 10)

Interpreting "X" as income, relative deprivation is clearly a case of interpersonal comparison of incomes. The comparison is made, not necessarily with the entire population in the nation, but with those in one's mental map, a subgroup in a nation that is one's reference group.

Runciman specifies further that,

"The magnitude of a relative deprivation is the extent of the difference between the desired situation and that of the person desiring it (as he sees it). The frequency of a relative deprivation is the proportion of a group who feel it". (p. 10)

In addition, a person's relative deprivation increases with the proportion of those in the reference group who have X which he or she does not have and wants to have.

Following Runciman's definition, Yitzhaki gave a formal mathematical expression of the concept or relative deprivation (Yitzhaki, 19 79) :

$$RD(y_i) = \int_{y_i}^{y^*} [1-F(z)] \, dz$$

where, $RD(y_i)$ is the relative deprivation of individual i with income y, $F(z)$ is the cumulative income distribution, and y^* is the highest income in that distribution. RD is a decreasing function of income. For those with the lowest income in the group, RD is at the maximum which is equal to average income. As for the part of cumulative income distribution below y_i, Yitzhaki defined it as the relative satisfaction of i :

$$RS(y_i) = \int_0^{y^*} [1-F(z)] \, dz$$

Consequently, $RD(y_i) + RS(y_i) = M$, average income.[1]

Hey and Lambert (1980) later arrived at an identical expression of relative deprivation as above, starting with the definition of the deprivation of a person with income y relative to a person with income z as ;

$$D(y;z) = \begin{cases} z-y & \text{if } y<z \\ 0 & \text{if } y>z \end{cases}$$

Using Atkinson's (1970) equation of the Lorenz curve function, Yitzhaki showed that the total relative deprivation in the society is :

$$TD = \int_0^{y*} RD(z) f(z) dz = MG$$

where TD is the sum of the relative deprivations of all persons in the society, $f(z)$ is the frequency distribution of income, M is average income and G is the Gini coefficient.[2] (Total satisfaction in the society is $M(1-G)$).

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1) According to Atkinson (1970),

$$M\phi(y_i) = y_i F(y_i) - \int_0^{y_i} F(z) dz$$

Yitzhaki defined relative satisfaction as :
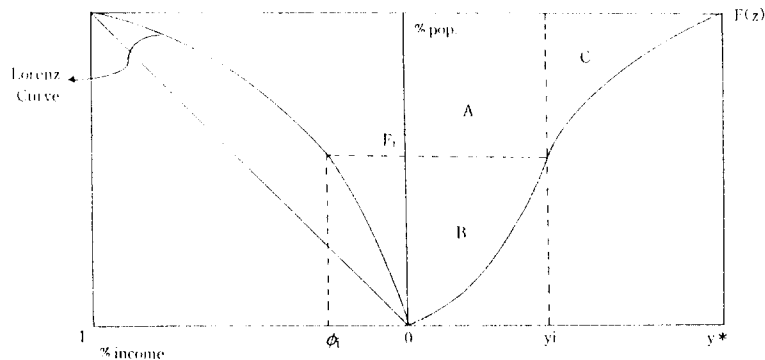
$$RS(y_i) = \int_0^{y_i} [1-F(z)] dz$$

By substitution,

$$RS(y_i) = y_i [1-F(y_i)] + M\phi(y_i)$$

The first term on the right hand side of the above equation is equal to the area A in the graph below and the second term, area B.

Similarly, relative deprivation can be expressed as:

$$RD(y_i) = M[1-\phi(y_i)] - y_i[1-F(y_i)]$$

RD as expressed above is the area C in the graph. Thus, $M = A + B + C$

2) Again, from Atkinson,

$$MG = \int_0^{y*} [y_i F(y_i) - M\phi(y_i)] f(z) dz$$

Then, TD can be expressed as:

$$TD = \int_0^{y*} \{M[1-\phi(y_i)] - y_i[1-F(y_i)]\} f(z) dz$$
$$= \int_0^{y*} [y_i F(y_i) - M\phi(y_i)] f(z) dz + \int_0^{y*} (M-y_i) f(z) dz$$
$$= MG + 0 = MG$$

Thus, the concept of relative deprivation for the whole society can be quantified by the Gini coefficient. The total relative deprivation, MG, can be a policy target in trying to reduce inequalities in the society.

III. Migration Under Relative Deprivation

Applying the concept of relative deprivation to migration, Stark(1984) formulates migration as being motivated by the desire to be better off relative to a reference group with which migrants associate. Unlike previous theories which take only absolute betterment as the motivating factor, the relative deprivation model of migration holds that people compare their incomes to those of others in the referent society. In this model, people consider their relative income positions in the group with which they associate when evaluating their satisfaction or deprivation. They migrate in order to improve their relative positions in their reference group, thus reducing (increasing) their level of deprivation (satisfaction). In other words, the decision to migrate bears a functional relationship to the income distribution of the particular reference group.

Within an origin place, say a rural village, those whose income are at the lower side of the village income scale feel relatively deprived enough to be motivated to migrate to another place where they can earn a higher income. The important assumption in this model is that those who migrate retain the origin society, the rural village, as their reference group, regardless of their new location. By earning a sufficiently higher income in a new location, most likely a city, the migrants' relative position in the income scale of their reference group is raised, thus reducing their relative deprivation.

As the people at the lower end of income distribution move out of the village, those who remain feel more relatively deprived since the relative frequency of people with higher income in the village increases. Given the definition, $RD(y) = \int_y^{y^*} [1 - F(z)] \, dz$, $F(z)$ decreases and $1 - F(z)$ increases as people with income y move out. Consequently, some of those who remained will also migrate as their relative deprivation increases enough to motivate migration. The process continues until only those who do not feel relatively deprived enough to migrate remain in the village.[3]

If the decision to migrate follows the criterion of whether $RD(y) > RD(\hat{y}) + d$, where $\hat{y}$ is average income of the village, then migration is motivated for those whose relative deprivation is sufficiently greater — by more than

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3) One can argue that relative position is not the only factor motivating migration. Other factors that are considered to play significant roles can be incorporated through a utility function approach. As shown in Stark (1984), the relative deprivation approach can be combined with the absolute income approach by expressing utility as a function of both absolute income and relative deprivation associated with that income. Since the major purpose of this paper is to analyse the role of distribution in migration and the subsequent impact of migration on distribution, my focus is on relative deprivation throughout.

d' — than that of average income. As people move out, $RD(\hat{y})$ in the village decreases — since $\hat{y}$ increases — inducing some of those who remained to meet the criterion of being motivated to migrate. In case of $d = 0$, only those with the highest income will remain at equilibrium, since their relative deprivation is zero.[5]

The outcome of migration motivated by relative deprivation, according to Stark, is attainment of a "collectively preferred state" whereby the villagers ultimately remaining behind feel no relative deprivation, migrants are able to reduce the level of relative deprivation they felt prior to departure, and the urban residents either feel no change in relative deprivation if migrants have the same income distribution as that of the urbanites or feel less relative deprivation if migrants are at the bottom end of the urban income distribution scale.

Applying the definition of total relative deprivation in the society, $TD = \int_0^{y*} RD(z) f(z) \, dz$, we can evaluate the impact of migration on the society's perception of inequalities or relative deprivation. The relative deprivation approach provides an important explanation to some of the empirically observed phenomena which the established migration theories failed to predict: why migration is not the highest from the poorest villages, why migration rate is higher from villages where income distribution by size is more unequal, and why from these villages the very poor have the highest propensity to migrate (Stark, 1984).

The relative deprivation approach offers a novel explanation for the perpetuating tendency of migration and for the persistence in equilibrium of urban - rural wage differentials. It also presents a new condition under which migration would cease: while the urban rural wage differential is a necessary condition for migration, migration can stop even in the presence of the wage differential as long as those who remain in the village feel no relative deprivation, or close to it.

IV. Relative Deprivation with Extended Reference Group

One of the central concepts in the relative deprivation approach to migration is that of a reference group. The assumption is that villagers regard the village as their reference group irrespective of their location. Even after migrating they continue to relate to the remaining village community as their reference

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4) "d" can be interpreted either as a cost factor incurred in migration or as some perception discrepency in that people think they have matched with average income when they are close enough (by "d") to it.

5) For a simpler version of migration motivated by relative deprivation, see Stark (1984). In this case, people compare their income not to everyone else's in the village but only to village average income. They are relatively deprived and motivated to migrate if their income is less that $\hat{y} - d$, where $\hat{y}$ is average income. The perpetuating process and the societal outcome in terms of deprivation is the same as in the model presented above.

group. Consequently, the relevant income statistic with which the villagers and migrants compare their incomes is that based on the incomes of those remaining in the village. Thus, another assumption follows, although not made explicit in Stark's paper: those who remain do not include migrants in their reference group and migrants do not include other migrants in their reference group. In Stark's model of asymmetric reference group, only a push factor causes migration.

We can extend this concept of reference group by thinking of a case where the remaining villager are engaged in comparisons not only among themselves but also with former village folks who migrated. This would be a case of a closed reference group in that if person A is in person B's reference group, B is also in A's reference group (Yitzhaki, 1982). In this case, the relevant income statistic is not a village characteristic but that based on village income (incomes of those who remain) and the migrants' new incomes.

Including migrants' new incomes in the income statistic that determine relative deprivation, if the migrants' new incomes are higher than the highest village income — a possible income level of the remaining villagers at equilibrium — the relative deprivation of villagers will have increased. Those in the village with the highest income also become potential migrants and migration does not reach an equilibrium until all villagers migrate. Even if the migrants' urban incomes were not necessarily higher than the village highest income, the equilibrium point would be at a higher income than as indicated in Stark's analysis.

Is it likely that villagers include migrants in their reference group and compare the migrants' newly acquired status in assessing their own position? If the migrants' reference group consists of a community not on a geographic map but on their mental map, the remaining villagers could do so, especially in cases where information about migrants is available to villagers. It follows, then, that the subsequent increase in the relative deprivation of remaining villagers, that renders migration to perpetuate, is derived not only from the remaining villagers' income distribution but also from the migrants based income statistic — a pull factor that is created after an initial migration

One may question if the villagers have sufficient information on urban opportunities and migrants' successes. Many cases support that they do indeed, especially in villages where migration is perpetuating. Collingnon (1974) indicates that rural people who remain are as aware of urban opportunities as those who actually migrate. He indicates that the question to ask is not why migrate but why not migrate. A relative deprivation approach with the villagers' reference group extented to include the migrants may provide a clue to this question. That is, people have both the remaining villagers and the migrants in their reference group. Although migration may bring higher incomes and improve their relative position *vis-a-vis* the villagers, they do not migrate because their relative position among the urban migrants may get worse.

Another difference between the migrants and the remaining villagers implied in Stark's work is in the dynamics of the income statistic

of the reference group they use in assessing their relative positions. While the latter continuously adapt to the changes in the income statistic of the villagers, the former only consider "the base line situation – that which prevailed in the village at the time of their departure" (Stark, 1984; p. 479). As migration induces increases in village average income, those who did not initially migrate become more relatively deprived and eventually migrate to improve their relative position.

Do the migrants also feel greater relative deprivation as their origin village average income rises after they have left ? If so, do they seek yet another move to obtain a higher income – a possible case of return migration or repeat migration ? Or, do the migrants' urban incomes increase at a matching pace so that the increasing village average income does not change the level of relative deprivation migrants feel with respect to the village ?

If the migrants' relative deprivation is also affected by the changing village income as out migration proceeds in the village of origin, they will eventually compare their urban incomes to the village income at equilibrium, or when migration has ceased. The migrants' relative deprivation derived from the new and higher village income at equilibrium would have to be less than that which they felt prior to migration, if Stark's assertion of a collectively preferred state is to hold.

Thus, an important question arises regarding the urban income level and distribution of migrants and their relation to the new village income at equilibrium. Depending on this relation, the final outcome of relative deprivation approach to migration could be very different from that contended by Stark.

Firstly, if migrants' urban income is higher than the village average income at equilibrium and if those remaining in the village include migrants in their reference group, the villagers' relative deprivation is certainly not zero, but has increased.

Secondly, if migrants continue to compare their position to the changing village income and if their urban income is less than the village average income at equilibrium, the migrants' relative deprivation is not certain to be less than that which they felt prior to departure. The reduction in relative deprivation the migrants can achieve is short lived and as the village average income rises, the migrants could end up at a deteriorated position relatively.

In order to incorporate the above points, relative deprivation is redefined whereby the migrant are included :

$$RD(y_i) = a \int_{y_i}^{y^*v} [1 - Fv(z)] \, dz +$$
$$(1-a) \int_{y_i}^{y^*m} [1 - Fm(z)] \, dz$$

$Fv(z)$: cumulative income distribution in village

y^*v : highest income in village

$Fm(z)$: cumulative income distribution of migrants

y^*m : highest income of migrants

$0 \leq a \leq 1$

The relative deprivation of individual i, in this migration model, is a weighted combination of the income statistics of both the remaining villagers and migrants. In a village where no migration has taken place $Fm(z)$ is zero – which is an unlikely situation to exist today.

The weight 'a' is likely to be a function of time. Prior to migration, an individual may have a much stronger affiliation to those in the village, with 'a' close to 1. After migration the affiliation towards the remaining villagers may become weaker and, given a sufficient time period, 'a' could become close to zero.

It should be noted that migration motivated by the desire to improve one's relative position among the current and former village folks requires that the destination place can offer higher earnings. As in the expected wage model, higher earnings (whether a migrant actually obtains them or not) is a necessary condition for migration. If a city (destination place) consists entirely of migrants and if a $=$ 0.5, then it is a case of expected wage model, a special case in relative deprivation model of migration.[6]

The RD above reflects the villagers evaluating their relative position with respect to both the villagers and the migrants. Even for a villager whose income is close to y^*v, if his/her level of income is at the lower end of $Fm(z)$, he/she could also have an incentive to migrate.

The expression of RD above also reflects the migrants comparing their income to the changing village income statistic and among the migrants themselves. When an individual migrates and earns a higher income, y', RD (y') will certainly be less than RD(y) for a given value of a. Since $1-Fv(z)$ changes as migration takes place, a migrant who is still quite strongly affiliated to the village (large

value of 'a') could eventually have RD(y') —with a new $1-Fv(z)$—greater than RD(y) which was his/her level of relative deprivation prior to departure.

Thus, in this version of the model, it is not clear whether migrants eventually do achieve a reduction in relative deprivation which they sought. Even if they do initially, their relative deprivation could rise as the mean income of the origin village rises. They could seek another move if their relative deprivation is greater than that before departure when they were earning a lower income in the village. Commonly observed patterns in migration such as repeat migration and migration by stages can be explained by this model.

The question remains regarding how the relative deprivation of urbanites (as opposed to migrants and villagers) are affected with migrants coming into their community. Stark asserts that urban residents' relative deprivation decreases or remains unchanged only if the migrants end up at the bottom of urban income distribution or if their income distribution perfectly matches the existing urban income distribution. Accepting that the former case is more likely than the latter, how long will the migrants remain at the bottom end of urban income distribution? Is the pace of income growth of migrants in urban areas slower or equal to that of the urbanites? If not, urban residents will start feeling greater relative deprivation as migrants' positions improve faster than theirs. Are the migrants

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6) This is because expected wage model of migration where only absolute income is considered can be thought of as a case of migrating to improve one's relative position in a reference group that includes the whole rural and urban population, with equal weights attached to each.

included in the reference group of urban residents at all ?

To be able to answer these questions, we need to know the relationship between the migrants income and urban residents income. We also need to know reference group formation of the urban residents. As Lipton (1980) points out, "The impact (of migration) on distribution among townspeople is little known" (p. 3).

V. An Examination of the Properties of Relative Deprivation in the Context of Migration

In this part, the properties of relative deprivation and of relative satisfaction will be examined. In deriving their properties, the possible changes in relative deprivation or satisfaction and the implication on income distribution brought about by migration will be analysed. The relative deprivation model of migration, where both the villagers and the migrants are included in the reference group, is used for the analysis.

The relative deprivation (RD) and the relative satisfaction (RS) functions of a person i with income y are defined by Yitzhaki (1979) as the following :

$$RD(y_i) = \int_{y_i}^{y^*} [1-F(z)] \, dz$$

$$RS(y_i) = \int_0^{y_i} [1-F(z)] \, dz$$

$$RD(y_i) + RS(y_i) = M$$

where, y^* is the highest income in the reference group of i, $F(z)$ is the cumulative income distribution of the group and M is average income.

From the above equations, it follows that ;

$$RD(y_i) = M [1-\phi(y_i)] - y_i [1-F(y_i)]$$

$$RS(y_i) = y_i [1-F(y_i)] + M\phi(y_i)$$

where, $\phi(y_i)$ is the value of the Lorenz curve.

The properties of $RD(y_i)$ are[7] :

1. The higher the income, the lower the $RD(y_i)$.

2. $RD(y_i)$ and $RS(y_i)$ do not change when income is transferred among those who are all poorer than i or all richer than i ($\phi(y_i)$ and $F(y)$ do not change).

3. The individual's deprivation decreases when income is transferred from someone richer than she/he is to someone poorer ($\phi(y_i)$ increases), provided that her/his rank in the income distribution does not change.

4. An increase (decrease) in the income of someone richer than individual i will not change the latter's satisfaction, but it will increase(decrease) her/his deprivation ($M\phi(y)$ does not change, M changes). Correspondingly, an increase in the income of someone poorer than individual i will increase the latter's satisfaction and will not change her/his deprivation.

As the first three properties are rather obvious, only the fourth property will be proved. Three following definitions are used:

$$F(y_i) = \int_0^{y_i} f(u) \, du$$

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7) Yitzhaki states the properties of satisfaction which are analogous to those of deprivation. Since migration is motivated by deprivation, discussing the properties for deprivation is more appropriate for this study.

$$\phi(y_i) = 1/M \int_0^{y_i} u\, f(u)\,du,$$

$$M = \int_0^{y*} u\, f(u)\,du,$$

where, f(u) is the frequency distribution of income ranging from the lowest to the highest income.

If those richer than y_i get increased income, f(u) to the right of y_i changes, left of y_i remaining constant. Thus, $F(y_i)$ and $M\phi(y_i)$ are constant. Consequently, $RS(y_i)$ as defined previously, is unchanged. Since average income definitely increases, $RD(y_i)$ must increase.

If those poorer than y_i get increased income, provided that the rank of y_i remains constant, f(u) to the right side of y_i does not change. Then,

$$\int_0^{y*} u\, f(u)\,du = \int_{y_i}^{y*} u\, f(u)\,du - \int_0^{y_i} u\, f(u)\,du$$
$$= M[1 - \phi(y_i)] \text{ remains the same}$$

Consequently, $RD(y_i)$, as defined previously, does not change. With average income increased, $RS(y_i)$ must increase.

We can think of the changes in income of some people as being the result of migration. From a village, if someone poorer than individual i migrates and earns a higher income than her/his village income, property 4 applies. Applying property 4, individual i, who is in the village, will experience an increase in

RS but no change in RD, provided her/his rank in the income distribution remains the same; that is, the migrant's new income does not exceed the income of individual i. Thus, only those in the village with incomes less than the migrant's new incom will experience an increase in RD, perpetuating the migration process.

The above conclusion can be obtained by employing the RD equation for migration model. The RD in the relative deprivation approach to migration is:

$$RD(y_i) = a \int_{y_i}^{y*v} [1 - Fv(z)]\, dz + (1-a)$$
$$\int_{y_i}^{y*m} [1 - Fm(z)]\, dz$$

Let $RDv = \int_{y_i}^{y*v} [1 - Fv(z)]\, dz,$

and $RDm = \int_{y_i}^{y*m} [1 - Fm(z)]\, dz$

Then, $RD(y_i) = a(RDv) + (1-a)(RDm)$

If a migrant's new income is lower than that of an individual i in the village, changes in $RD(y_i)$ as the result of someone migrating cannot be predicted. Whether $RD(y_i)$ will increase or decrease will depend on the value of 'a' and the shapes of Fv and Fm. However, if a migrant's new income is higher than that of the individual i in the village, the latter will definitely experience an increase in RD.

	Before Migration	After Migration	RDv	RDm	RD(yi)
Case 1	$y_j < y_i$	$y_j' < y_i$	↑	↓	?
Case 2	$y_j < y_i$	$y_j' > y_i$	↑	↑	↑

Where, y_j : income of person j in the village

y_j' : new income of j after migration

y_i : income of person i in the village

If $y_j > y_i$ before j migrates, then only case 2 applies. Given the value of 'a' and Fv and Fm, if there is a y_i which experiences no change in RD as others migrate, that y_i will be the equilibrium income level of the village for migration to halt.

Now, in comparing the income distributions of before and after migration, what can be said of the relative deprivation and satisfaction at each level of income and of inequality in the whole group? Consider two income distributions, F and G. Let $rd(y) = RDg(y) - RDf(y)$, where $RDg(y)$ is the relative deprivation of income y under the G distribution and $RDf(y)$ is the equivalent under the F distribution.* Then :

$$rd(y) = \int_y^{y*} [F(z) - G(z)] dz$$

Given that the two distributions have the same mean income, the Lorenz curve for $F(z)$ is everywhere above the Lorenz curve for $G(z)$, if and only if $rd(y)$ is nonnegative for all y. The result, according to Hey and Lambert (1980), is that :

"if two distributions have the same mean and if their Lorenz curves do not cross, then under the distribution whose Lorenz curve is higher, there is [less relative deprivation] and more relative satisfaction at each level of income than there is at the same level under the other distribution." (Hey & Lambert, p. 569)

However, if we were to compare the income distributions before and after migration, the mean income is not the same for both cases. In such cases, Hey and Lambert conclude the following:

(1) If mean income is greater under F than under G and if the Lorenz curve for F is everywhere above that for G, then at each income level, there is more relative satisfaction under F than under G. We can say nothing about the relative deprivation, however. It will be lower under F for income levels near the highest income and higher under F for those near the lowest income, than under G.

(2) If mean income is greater under G and under F, and if the reverse Lorenz curve for G is everywhere above that for F, then at each income level, there is less deprivation under F than under G. Nothing can be said of relative satisfaction levels. It will be lower under F for income levels near the highest income and higher under F for those near the lowest income, than under G.

Safely assuming that mean income is greater after migration than before migration, and confining the case to nonintersecting Lorenz curves for before and after migration, we can apply the above results (1) and (2).

If at each income level there is more relative deprivation after migration, then result (2) holds and the post migration distribution is G, with higher Gini coefficient than the distribution before migration, F.

If at each income level there is more relative satisfaction after migration, then result (1) holds. The post migration distribution is F, with lower Gini coefficient than the dis-

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8) Hey and Lambert (1980) use satisfaction in their analysis but deprivation is used for greater relevance to migration.

tribution before migration, G.

In a migration case where result (1) applies, what can be said of relative deprivation at each income level? As mentioned earlier it will be higher for some and lower for others than before migration. The critical income level can be determined only from an empirical study employing actual data.

VI. Summary

The relative deprivation approach to migration provides a solid theoretical and technical basis for studying the relationship between migration and distribution, or people's perception of inequalities. In applying the relative deprivation model, we can analyse the relative deprivation of an individual — whether a migrant or a remaining villager — as well as societal deprivation.

As was discussed above, the changes in relative deprivation of an individual — whether a migrant or a remaining villager— resulting from migration depend on his/her relative positions before and after migration. Conditions under which an individual will experience increased relative deprivation were outlined and it was noted that the decreases in relative deprivation brought about by migration is not as one-directional or universal as Stark (1984) contends.

Relative deprivation is directly linked to an inequality measure, the Gini coefficient, enabling us to examine sectoral, regional or societal inequality. Depending on how each individuals' relative deprivations were affected by migration, we could end up with higher societal income but worsened income distribution.

The relative deprivation approach to migration indeed possesses much potential for further theoretical development, as it was shown in this section, and for empirical testing in the area of migration. As to how "true" the theory would be in the real world, the following quote from Davis (1959) is applicable in this case as well :

"Furthermore, we do not claim that the theory is "true" in the sense that everything now known about human behavior tends to substantiate it. Rather, it is our belief that the system of propositions in logically consistent, has an empirical reference, and can generate hypotheses for testing. Empirical studies of the hypotheses may result in their rejection or, more probably, their limitation to specific circumstances and situations. However, we belive that one of the advantages of such codification is that the assumptions can be confirmed or rejected only when they have been spelled out" (p. 280)

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