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Kerala's Migrant Households: Dimensions of Economic Mobility

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Abstract: *This paper analyses economic mobility as an evaluating criteria in gauging the nature and extent of improvement in economic position of households having migrants in terms of remittances and extent of economic mobility. Using panel data from Kerala Migration Surveys, we estimate the quantum of improvement in standards of living of migrant households in Kerala through transition matrices and statistical and econometric techniques. We find that for emigrant households in Kerala between 2003 and 2008, there was significant upward mobility.*

Keywords: *Economic mobility, Standard of Living, Migration*

1. INTRODUCTION

Migration has become an all-pervasive phenomenon in Kerala's economy and there exists wide literature which shows that migration and economic mobility go hand in hand. To what extent migration has been instrumental in ensuring households' economic mobility is a matter of deeper introspection. This study analyses economic mobility as a dynamic indicator for effectively gauging changes in a household's economic position over time due to migration.

Kerala has a long history of emigration which can be traced back to colonial and even pre-colonial times. The Kerala-Gulf connection is not of recent origin; emigration from Kerala to the Middle East for employment and trade began in the 1920s. The importance of Indians in the Gulf countries can be ascertained with the fact that majority of the key technical positions in the British oil Companies were held by Indians (Gopinathan and Nair, 1998). Till today, 85 percent of the emigration flow from Kerala is to the Gulf countries. The major destination for Kerala emigrants have been Saudi Arabia, Oman and UAE (KMS 2008).

Emigration has been an integral part of Kerala and it is the 'the single most dynamic factor which has contributed highest to the social wellbeing in Kerala' (Zachariah et al, 2002). We attempt to find evidence of economic mobility and quantify it. We also look at household characteristics of the households that have experienced upward economic mobility, with a view to studying the impact of migration on migrant households in terms of their standards of living.

2. DATA AND APPROACH

This study uses the Kerala migration survey data (KMS), which provides excellent panel data to study the dynamics of migration and economic mobility. The Centre for Development Studies, Trivandrum conducts periodic surveys on diverse aspects of migration from Kerala starting from 1998. This paper uses panel data from the period 2003 to 2008 to track more recent developments using transition and mobility matrices for migrant households in terms of remittances they receive and also relating it with their standards of living calculated using an index of assets to show the relevance of economic mobility.

The paper is structured as follows. The first section discusses Kerala's migration experience. The second section discusses aspects of economic mobility in terms of remittances. The final section assesses economic mobility of such households in terms of standard of living.

3. KERALA'S MIGRATION EXPERIENCE: TRANSITION OR MOBILITY MATRIX ANALYSIS

Traditionally, welfare impact of migration on the household can be analysed by looking at the extent of economic mobility and its distributional outcomes. Questions such as 'who benefited from migration process and how much',

simply cannot be answered through cross-sectional data. When the objective is to study welfare impacts of migration at the household level, it becomes important to track households through time. The precise goal of this paper is to study economic mobility and the dynamic change in well-being of migrant households/individuals across time.

Our economic mobility analyses relies on panel data i.e. longitudinal data from the Kerala Migration Surveys between 2003 and 2008. It tracks the same households/individuals over time and economic variables (such as income, consumption, expenditure, remittances, assets, etc.) are reported for two or more points in time. We analyse economic mobility through transition matrices. Given the fact that choice of group would influence the results to a great extent, it becomes imperative to rationally select either quintile or deciles. We have selected quintiles as the unit of study to give greater weight to larger changes in income. Larger the change in income, greater would be the welfare impact of such economic mobility on the well-being of the individual/households. Even though there may be mobility within the quintile groups, such mobility would generally not be very significant in impacting the well-being of the individual/households.

There are numerous advantages of using the transition matrix analysis, but the most important is its unique ability to summarize mobility across various points in the distribution. The quintile comparison clearly portrays income change in a simplistic manner. In the transition matrix all the households are pooled together and are divided accordingly by income class. Another advantage of the transition matrix is that the income classes need not be of the same size, this gives the freedom to determine income classes and analyse mobility in their light.

Income transition matrix analysis measures the distribution of the household from one quintile group in 2003 to another quintile group in time 2008. Income mobility can be gauged just by looking simply at each cell. For instance, if we take $cell_{15,}$ it represents the percentage of households who were in the 1st quintile in 2003 and moved to 5th quintile in 2008. Households that moved from one quintile to another quintile from 2003 to 2008 will henceforth be called "mobile". There can be both upward mobility and downward mobility.

On the aggregate level, we can look at the overall mobility just by looking at how many households experienced upward mobility and how many experienced downward mobility. Those that remain in the same quintile group in the both 2003 and 2008 are referred to as "immobile". The situation of maximum mobility is where all households move up the diagonal and no household experienced downward mobility in both time periods. This scenario can be seen on a transition matrix where the leading diagonal has no household in it. On the contrary, there can be a scenario where there is least mobility where all households remain in the same income class in both time periods. This can be seen on a transition matrix where all households remain on the leading diagonal.

4. MOBILITY MATRICES TO CAPTURE ECONOMIC MOBILITY

Mobility as income growth in terms of remittances refers to changes in quantum of remittances received by each household between 2003 and 2008, where one household's level of change in remittances may be quantified by movement across quintile groups. To study the economic mobility of households which have migrants, the study looks at mobility matrices (which are effectively similar to the transition matrices explained in the preceding section). These matrices measure the mobility of migrant households (households with outmigrants and/or emigrants) from a lower economic class to higher. This is done here in terms of five classes as described below:

C1: Income range of households between 0 and Rs 25000

C2: Income range of households between Rs 25000 and Rs 50000

C3: Income range of households between Rs 50000 and Rs 75000

C4: Income range of households between Rs 75000 and Rs 100000

C5: Income range of households above Rs 100000

The economic mobility of households with migrants is first seen in terms of the remittances received by such households; i.e. a household having out-migrant(s) and/or emigrant(s) [1] is said to be upwardly economically mobile

[1] Out-migrants are those who have migrated outside the state, while emigrants are those who have migrated outside the country.

if the remittances received are high enough to move the household from a lower income class to a higher income class.

The first category of migrant households for which economic mobility in terms of remittances received is seen is for households which had emigrants in 2003 as well as in 2008 i.e. households which were EMI in 2003 and remained EMI in 2008.

Table 1: *Economic Mobility in terms of Remittances*

2003\2008	C1	C2	C3	C4	C5	PERCENT
C1	7.14	11.61	8.04	6.25	7.59	40.63
C2	4.91	5.80	9.38	4.02	6.25	30.36
C3	0.89	2.68	4.91	1.79	3.57	13.84
C4	1.34	1.34	1.34	2.68	0.45	7.14
C5	1.34	2.23	0.45	2.23	1.79	8.04
PERCENT	15.63	23.66	24.11	16.96	19.64	100.00

Source: *Authors' estimations using KMS Panel 2003-2008*

For the Emigrant [EMI] households which remained EMI households at the end of the period, upward economic mobility in terms of remittances received can be explained as follows. The diagonal represents the households that did not move; any movements below the diagonal are downwardly mobile and any movements above the diagonals are upwardly mobile. Of the total sample of households, 7.14 percent remained in C1 class, 5.80 remained in C2 class, 4.91 remained in C3 class and 2.68 percent and 1.79 percent of the households remained in C4 and C5 classes respectively. Overall only 22.32 percent of the households remained static in their initial position, while around 18.85 percent of the households experienced downward mobility. Thus we do find a decently high degree of economic mobility since the total number of households that moved up in income quintiles is 58.83 percent.

Table 2: *Economic Mobility of Non-migrant Households turning Emigrant Households*

2003\2008	C1	C2	C3	C4	C5	N
C0	27.52	30.28	20.18	9.17	12.84	**109**

Source: *Authors' estimations using KMS Panel 2003-2008*

This row of the matrix represents the non-migrant turned EMI households. With additional income in the form of remittances, these households have moved up to various higher income classes, showing upward economic mobility caused by migration. Since we do not have their economic status prior to migration we cannot for sure tell about their mobility but some would have definitely gained substantially. We do find that in this row, there are 9.17 and 12.84 percent households in classes C4 and C5 respectively.

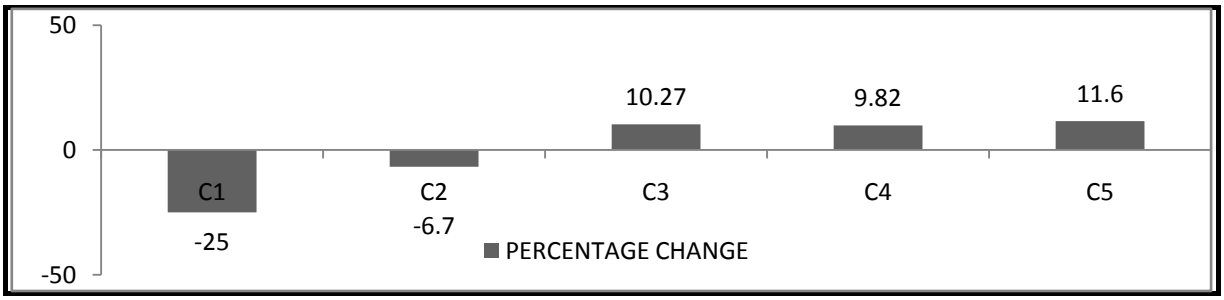


Figure 1: *Aggregate Economic Mobility in terms of Remittances*

Source: *Authors' estimations using KMS Panel 2003-2008*

Figure 1 shows the aggregate economic mobility of households in terms of remittances received by them from members of their family who have emigrated or out-migrated. Remittance is used here as indicative of income, as it is adds to a household's income and clearly brings out the positive side of income mobility. We see that C1 class had 40.63 percentage of sample household in year 2003 which came down to 15.63 percent in year 2008. It is seen that

25 percent of the sample households moved from Class 1 itself. This can indeed be termed as inclusive growth. Unless the bottom quintile moves up in the economic ladder, the economic mobility can hardly be called inclusive and any kind of growth would be exclusive in nature if the lowest quintile groups are stuck in the lowest quintile itself. We also note a decline in C2 class with a smooth increase across the remaining upper classes.

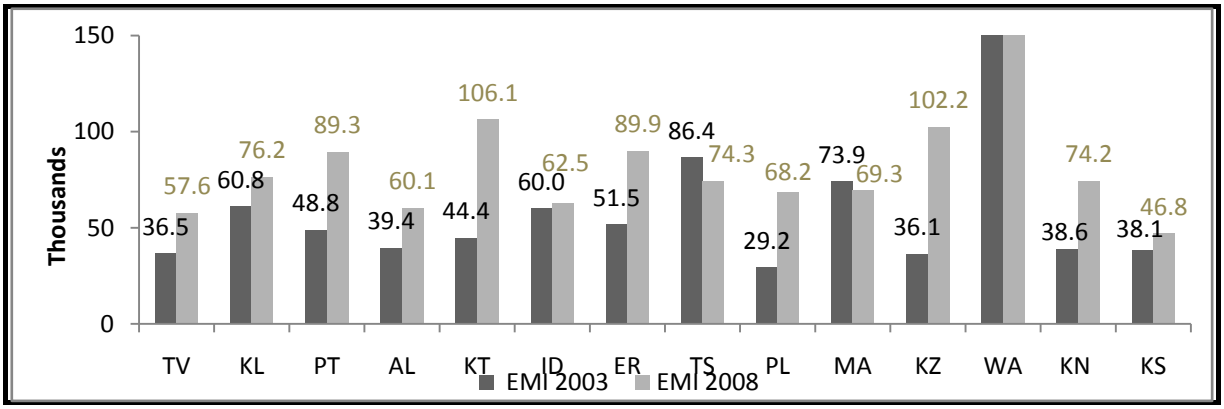


Figure 2: *Average Remittances Received by Panel Households*

Source: *Authors' estimations using KMS Panel 2003-2008*

Figure 2 shows average remittances received by the households in each district of Kerala, in thousands Rupees. When we look at the distribution of the sample households across districts it is also evident that there is a significant rise in most of the districts. There are districts such as Idukki and Malappuram that have marginally come down, but this is not much cause of concern as the fall is insignificant. Average remittance of the emigrant households in the panel increased significantly in districts such as Pathanamthitta, Kottayam, Eranakulam, Palakkad, Kozhikode and Kannur. At this juncture, it has to be stressed that the average increase in the remittances that was presented in the earlier in the section is not limited to a select few districts in Kerala. Remittances received by households even if did not increase significantly, did not fall significantly either. Economic mobility from receiving remittances is still going strong in Kerala as evident from the KMS Panel data.

5. CHARACTERISTICS AND ATTRIBUTES OF THE MIGRANTS EXPERIENCING UPWARD MOBILITY

Educational Attainment of Households that Experienced Upward Economic Mobility

Overall for Kerala, out of the total emigrants, nearly 50 percent possessed secondary level education or higher in the year 2003. Out of those who migrated out to other states, 70 percent of them had secondary level education. However, in 2008, a fall is seen in the education level of both emigrants and out-migrants. Interestingly, in the year 2008 there is increase in the number of persons having educational qualification of degree and above. This change is also accompanied by a rising number of emigrants and out-migrants that have their educational qualifications below secondary level.

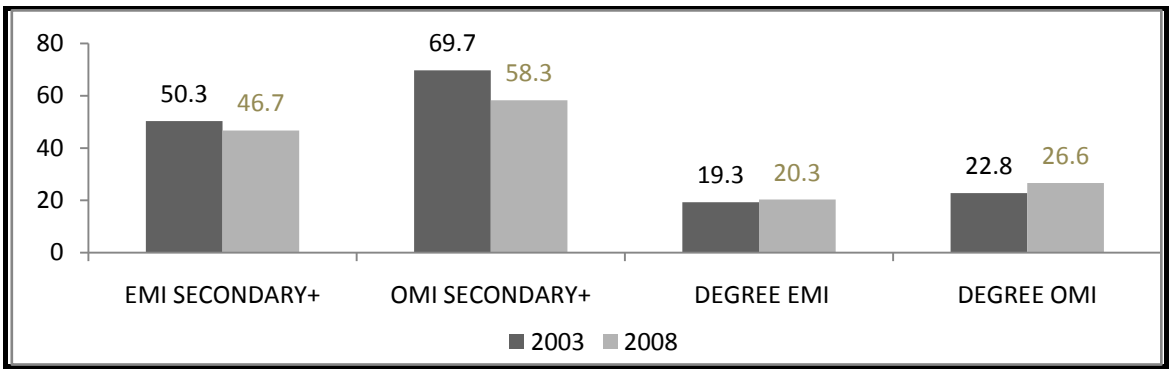


Figure 3: *Educational Characteristics all Migrants:*

Source: *Authors' estimations using KMS Panel 2003-2008*

For the panel analysis of migrant households which experienced some level of upward economic mobility, are distributed as per the educational level of the migrant. ED01 refers to education level below secondary. ED 02 refers to secondary level education and ED 03 refers to education level of degree and above. Put simply, what we can gauge from this analysis is about those who moved across income classes and what level of education they possessed.

Table 3: *Educational Characteristics of the Individuals that Experienced Upward Economic Mobility*

	Educational Attainment			
	EDU01	**EDU02**	**EDU03**	**N**
C1-C2	11.5	61.5	26.9	**100 (26)**
C1-C3	16.7	66.7	16.7	**100 (18)**
C1-C4		78.6	21.4	**100 (14)**
C1-C5	5.9	88.2	5.9	**100 (17)**
C2-C3	9.5	76.2	14.3	**100 (21)**
C2-C4		88.9	11.1	**100 (9)**
C2-C5	14.3	50.0	35.7	**100 (14)**
C3-C4		50.0	50.0	**100 (4)**
C3-C5	25.0	37.5	37.5	**100 (8)**
C4-C5			100.0	**100 (1)**

Source: *Authors' estimations using KMS Panel 2003-2008*

The table shows that out of 26 households in C1, 11.5 percent of migrants from such households having below secondary education moved up from income class C1 to C2; out of 18 households, 16.7 per cent of them went from C1 to C3; and out of 17 households, 5.9 per cent of them moved up from C1 to C5. Similarly, out of 26 households, 61.5 per cent of migrants having educational qualification of higher secondary moved up from C1 to C2; out of 18 households, 66.7 per cent moved up from C1 to C3; out of 14 households, 78.6 per cent moved up from C1 to C4; and out of 17 households, 88.2 percent moved up from C1 to C5. Also, out of 26 households, 26.9 per cent of migrants having educational qualification of a degree moved up from C1 to C2; out of 18 households, 16.7 per cent moved up from C1 to C3; out of 14 households, 21.4 per cent moved up from C1 to C4; and out of 17 households, 5.9 per cent moved up from C1 to C5. In a similar vein, out of 21 households, 9.5 per cent migrants having education below secondary moved up from C2 to C3 while 76.2 per cent having higher secondary education moved up from C2 to C3 and 14.3 per cent with degrees moved up from C2 to C3. A similar trend is seen for those moving up from C2 to C4 and C5 and from C3 to C4 and C5, showing the importance of educational qualification in determining the upward economic mobility of households.

Religious Classification of Households that Experienced Upward Economic Mobility

This section looks at the religion of the migrant households. Keeping in mind the sample sizes in the data, the religions we concern ourselves with in this section are Hindus, Muslims and Christians. Figure 4 shows average remittances received by emigrant households by religion for 2003 and 2008 in thousands Rupees.

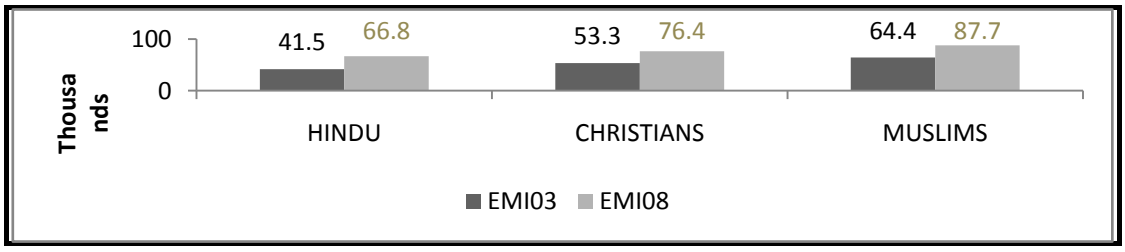


Figure 4:*Average Remittances Received By Emigrant Households [All] by Religion*

Source: *Authors' estimations using KMS Panel 2003-2008*

This clearly shows that the average level of remittances received by the Muslim emigrant household is higher than both Christians and Hindus for both 2003 as well as 2008. Even the increase in the average remittances has been in almost the same proportion, preserving the remittance gap across religion. Thus when we look at the percentage

increase it would seem that the average increase in remittances has been greatest for Hindu households due to lower base. Thus, to access the background of emigrants, their religious group is taken into consideration in analysing mobility across each religious group.

Table 4: *Religious Background of the Individuals that Experienced Upward Economic Mobility*

UPWARD MOBILITY				
RELIGION	**HINDU**	**CHRISTIAN**	**MUSLIM**	**TOTAL% (N)**
C1-C2	50	26.9	23.1	**100 (26)**
C1-C3	26	11.1	33.3	**100 (18)**
C1-C4	50	14.3	35.7	**100 (14)**
C1-C5	35.3	23.5	41.2	**100 (17)**
C2-C3	38.1	4.8	57.1	**100 (21)**
C2-C4	33.3	33.3	33.3	**100 (9)**
C2-C5	35.7	21.4	42.9	**100 (14)**
C3-C4	50	25.0	25.0	**100 (4)**
C3-C5	37.5	12.5	50.0	**100 (8)**
C4-C5	100			**100 (1)**

Source: *Authors' estimations using KMS Panel 2003-2008*

The table shows economic mobility of migrant households by their religion as a characteristic of such migrants. Out of 26 migrant households in C1, 50 per cent of Hindu households moved up from C1 to C2, 26.9 per cent of Christian households went up from C1 to C2 and 23.1 per cent of Muslim households moved up from C1 to C2. Similarly, out of 17 migrant households in C1, 35.3 per cent of Hindu households moved up from C1 to C5, 23.5 per cent Christian households moved up from C1 to C5 and 41.2 per cent Muslim households moved up from C1 to C5. In a similar vein, the upward mobility of migrant households by religion is seen from classes C2 to C3, C4 and C5 and from C3 to C4 and C5.

Table 5: *Overall Distribution by Religion and Remittance Class*

CHRISTIANS	**2003**	**2008**	**HINDU**	**2003**	**2008**	**MUSLIMS**	**2003**	**2008**
C1	44.29	15.38	**C1**	47.59	23.72	**C1**	31.3	13.91
C2	25.71	27.47	**C2**	29.66	30.23	**C2**	32.17	20.53
C3	15.71	17.58	**C3**	13.79	20.47	**C3**	15.65	31.13
C4	7.14	18.68	**C4**	5.52	11.63	**C4**	7.83	16.56
C5	7.14	20.88	**C5**	3.45	13.95	**C5**	13.04	17.88
	100.0	100.0		100.0	100.0		100.0	100.0

Source: *Authors' estimations using KMS Panel 2003-2008*

Table 5 gives the overall distribution of migrant households' income classes across religion and time. We see that the maximum increase is seen for Christians at C5, for Hindus at C5 and for Muslims at C3. Figure 5 further clarifies these findings.

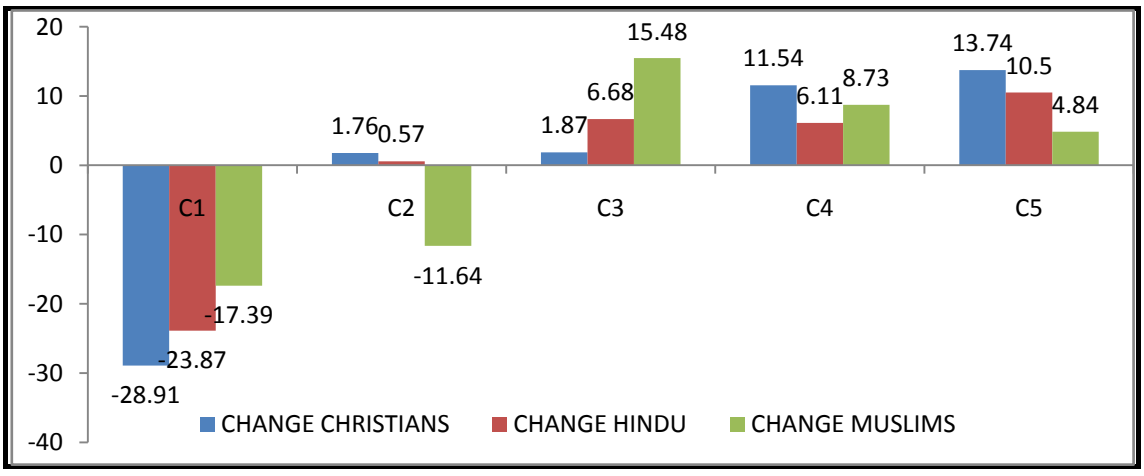


Figure 5: *Aggregate Change in the Distribution of Households across Income Class by Religion*

Source: *Authors' estimations using KMS Panel 2003-2008*

It is evident from Figure 5 that all these religions have gained differently over time. While Muslims' increase is in the middle C3 class, the Christians gained in C5 class. Muslims and Christians have a similar percentage of people exiting lower class but Christians from lower class benefited the most. Hindus also exited lower class but they moved almost evenly across C3, C4 and C5 classes.

6. MEASURING CHANGE IN INEQUALITY OVER 2003 AND 2008

Economic mobility refers to how much income or remittance each household receives in the given two points which in our case is 2003 and 2008. In the previous section we focussed on the movement of the households' income distribution over time. Regarding the transition matrix approach, it neglects the changes economic mobility that may be there within each class and would nevertheless always underestimate to some extent the quantum of economic mobility.

Economic well-being of the households depends upon their level of income. Income growth is itself welfare enhancing, but the impact of growth process must also be analysed in terms of distributional outcomes. As income changes over time household economic positions also keep on changing. This section brings out this change in income distribution over the period 2003 and 2008. If income distribution becomes even over time, such growth process will have a higher welfare impact than the growth process that make the distribution of the income more uneven. Magnitude of income change is simply not sufficient in reflecting the well-being; their income must also improve with respect to the highest earning class.

Transition matrix does not tell us the economic position of the individual households in terms of the entire distribution. When one section of society's income growth is relatively higher than other section there is bound to be rise in inequality. Thus even though both sections have experienced income mobility, gain of one section clearly surpasses the other section. Our objective is to see the distributional aspect of economic mobility. It is evident that there has been a significant rise in the average remittance received by the household. Has this increase been limited to only one section or group or is it that the benefits are spread across the society? Has the income level of the households (remittance) become even or is there a rising rift between the households in terms of remittances received?

7. ECONOMIC MOBILITY INDICES

Economic Mobility is known for its equalizing effect on longer-term income. The main motivations for studying economic mobility is to analyse that to what extent household's incomes are being distributed equally or not when compared to the initial distribution. Krugman (1992) points out that if income mobility is very high then income inequality at any given point of time would be relatively unimportant since there would be high chance of distribution being even as time passes. Researchers on economic mobility have for long made this point in the income mobility analysis (Shorrocks (1978), Maasoumi and Zandvakili (1986), Atkinson Bourguignon, and Morrisson (1992), Slemrod (1992), and Jarvis and Jenkins (1998)). The Shorrock's Index (1978) compares Gini of the average income between the periods with the weighted average of the Gini in each period. A value of one would mean no mobility at all, while 0 would indicate perfect mobility. Shorrock's measure for remittances for KMS Panel 2003-2008 comes out to be 0.406 which indicates that there is significant mobility.

Similarly, Chakravarty, Dutta and Weymark (CDW) Index (1985) measures relative income mobility. If the mobility index is positive, the mobility process is socially desirable, given if and only if average incomes are more equally distributed than initial incomes were. For them, an initial distribution of income exhibits complete relative immobility if and only if the income shares are the same for all individuals in all time periods. If the average income in the final year is distributed more evenly than what was experienced in the initial period, then such kind of income mobility is said to have equalization effect income distribution. Such type of economic mobility would have greater impact on increasing the economic well-being both from individual and social perspective. A CDW measure for remittances in the KMS panel gives a measure of 0.431 which not only states that there has been mobility but even that the mobility was welfare enhancing.

8. INEQUALITY INDICES

At the same time inequality measures are also complimented with the Economic Mobility indices. For instance, Gini is often used as a measure of inequality of the distribution but it has its own limitations but by far it is considered to be by far the most popular measure of income inequality. Gini coefficient values range from 0 to 1, where coefficient 0 represents a perfectly equal society and coefficient 1 represents perfectly unequal society.

Percentile ratios are another well used class of measure used in the inequality studies. These are amongst the simplest measures that convey the message effectively and simplest possible manner. These statistics are seemingly easy to interpret measuring the spread of incomes across the distribution. Take for example; P90/P10 ratio is the ratio of income at the 90th percentile to that of 10th percentile. It can be simply put to use in analysing the extent of inequality in the society. All these indices tell the story of declining inequality and rising mobility.

Table 6- *Inequality Indices*

MEASURES	2008	VALUES
Percentile ratios	p90/p10	7.1
	p75/p25	2.222
GINI		0.39797
	2003	
Percentile ratios	p90/p10	8.333
	p75/p25	3
GINI		0.49932

Source: *Authors' estimations using KMS Panel 2003-2008*

As suggested by Friedman (1962), higher earnings and mobility represents a dynamic and efficient economy and provides for equality of opportunity. In an economy where there is stagnation and no mobility, there would be very less opportunity for the poorer households to improve their income position. Thus one might say that economic mobility may amount to inequality so economic mobility cannot be necessarily good, but lack of economic mobility is definitely bad. With lack of economic opportunity, households and individuals would always be stuck at the lower end of the distribution. Policy and institutions should thus take proactive steps in enhancing economic mobility.

9. STANDARD OF LIVING INDEX

Income and consumption are not the only dimensions that determine the well being of households. In this section, the impact of emigration is assessed in terms of mobility in the standard of living, for which an index is created based on the quality and quantity of goods and services available to the households/individuals.

Studies on impact of migration largely restrict themselves to remittance and consumption analysis mainly due to data limitations. However, it is observed in many studies that migration has led to the improvement in the standard of living measured in terms of asset dimension, but analysing how much improvement is our quest. How many migrant households improved their standards of living? Is there any significant difference between migrant and non-migrant households? Are these differences between migrant and non-migrant all pervasive across Kerala? These are some of the questions that will be answered and explored further in this section.

Households with emigrants are likely to have a higher standards of living or assets than households that have no emigrants ceteris paribus. Standard of living does depend upon the income of the household and income of the emigrant household is mainly attributed to remittance flow. It would be relatively safe to assume that increase in remittance would lead to the increase in the standard of living. Remittances will enhance the welfare of the entire household since the assets purchased by households are often used by all members together.

Standard of Living and Well-being

Haas (2003) in his study finds that the average income of the emigrant household was 2.5 times higher than that of non-migrant households. Emigration not only improved the financial situation of the households but also improved their living conditions. Asset based measures reflect the productive capacity of the households and it can be used in identifying the vulnerable ones that are below the minimum standard of living. A sudden drop in income would not result in a lower standard of living since income has transitory component, whereas change in the standard of living is a long term phenomenon since assets can only be accumulated over time. Thus an asset based indicator is

definitely an ideal indicator when the change is to be seen over a longer period since it gives a better snapshot of the change than income indicators (Moser and Felton, 2007).

Possession of assets also reflects the long term prospect of households or individuals in terms of their well-being (Carter and Barrwtt, 2006). Income is only a means, not an end in itself; individuals use income extensively in accumulating assets to achieve a higher level of living (Harttgen and Vollmer, 2011).Ownership of assets is strongly associated with the income and consumption level, high level of income is also reflected in the high level of ownership of assets. Banerjee and Newman (1993) and Galor and Zeira (1993) stressed the level of investment in physical and human capital depends upon the wealth distribution given credit market imperfections. Asset or lack of assets is important in considering the material well-being and social exclusion (Sullivan, Turner and Danziger, 2008; Nolan and Whelan, 2010)

Even in the developed countries it is seen that initial wealth has a significant bearing on the individual to move up on the economic ladder or to invest in the enterprise that can facilitate them to climb up in the economic ladder (Blanchflower and Oswald, 1997; Bardhan et al, 1999). The economic condition of the households depends of the large extent of the real and financial asset holdings (Harttgen and Vollmer, 2011). Assets have always been considered as important determinants in the differential outcome in terms of education and health in many of the international studies (Gwatkin et al 2000, Bollen et al 2002). Harttgen and Vollmer (2011) though at the same time identify that the asset index can be used in approximating income levels in determining the standard of living asset index cannot be a replacement of income or consumption index.

Thus, each has its own importance and one cannot be used as a substitute of one another, they are complementary to one another trying to show the level of well-being of the households. Asset indicators give a fair understanding of the living standards when the accompanying data on income or expenditure is unavailable (Adato, Carter and May, 2006). When the future growth is concerned, it is asset inequality that matters more than income inequality in determining the subsequent growth in income. It has a stronger impact on the ability of the individuals to move up on the economic ladder. Thus a household suffering from high deprivation would be worse off from the perspective of economic mobility than the household with sufficient asset but lower income level (see Birdsall and Londono, 1997).

Standard of Living: An Alternative to Income Dimension

Income also forms very a unreliable variable for comparisons and considering this as the sole measure of standard of living will therefore again be less reliable (Moser and Felton 2007). A money metric measure of standard of living would rely on the income as the determinant of well-being such that poorer households can be defined in the material standard of living indices measured in terms of income or consumption (Falkingham and Namzie 2001).

However, this is of limited means and there is an apparent need to move towards a broader measure of well-being in terms of standard of living using measures in non- monetary terms that can be used as a proxy for income (Krieger et al. 1997). Asset based indices of standard of living as an alternative to money metric measure have been developed in understanding household socioeconomic position (Filmer and Pritchett 1998, Sahn and Stifel 2001; 2003, Schellenberg et al 2003, Tarozzi and Mahajan 2005, Ainsworth and Filmer 2006).

The use of asset index in comparing the standard of living has been used since long, but became highly popular only after the popular work of Filmer and Pritchett in 1998. There have been considerable debates in measuring discrete data in the literature (Olsson, 1979; Bollen and Barb, 1981; Johnson and Creech, 1983). These types of data violate distributional assumptions that continuous data is expected to have. Discrete data also at the same time have high skewness and kurtosis, since it is highly possible that a single category may be having most of the observations. Principal Component Analysis (PCA) is the most popular method in analyzing these discrete data. Filmer& Pritchett (1998, 2001) used PCA in constructing socioeconomic indices using discrete variables on household assets, sanitation facilities, housing conditions. The methodology was quickly picked up by the World Bank (Gwatkin, Rustein, Johnson, Suliman & Wagstaff 2003, Gwatkin, Rutstein, Johnson, Suliman, and Wagstaff & Amouzou 2007).

Our Methodology

PCA is used effectively only in multivariate normal data and can be used only for continuous data and not for categorical variables which we intend to use. Thus to suitably augment this issue a modified version of PCA (polychoric PCA) was used. Studies using dichotomous data in construction of standard of living Index use PCA with polychoric adjustments (see Kolenikov and Angeles, 2009).

Measuring household income and consumption is difficult as they are often unavailable as also in the case of KMS. But, there are other proxies in determining economic position or wealth of the household, which can then be indexed to represent the household level of well-being. Possession of assets, household durable goods and living conditions of the households are among many dimensions that can essentially serve as the standard of living index. Standard of living represents the socioeconomic status of a household. There are multiple dimensions in measuring standard of living among which is the availability of goods or assets in the household which can be a measure of the well-being of the households.

These are easier to report and measure and quantify, whereas imputing income or expenditure may present some biased estimates. At the same time, to make the standard of living unbiased and reliable it is essential to use as many proxy variables that can be relied upon. Most surveys use dimensions on housing condition, source of drinking water, cooking fuel, sanitation, availability of electricity, number bedrooms in the dwelling etc. Durable goods list range from car, motorcycle, television, refrigerator, telephone connection, internet connection to other household goods (see Filmer and Pritchett (2001)).

Researchers have used many proxy variables in computation of standard of living measure such as housing quality, access to water and sanitation facility and ownership of select consumer durables/assets (Lloyd and Brandon 1994). Sahn and stifle (2001) support the use of asset based indicator over expenditure or income based indicators since measuring the availability of assets is easier than computing income and expenditure and it contain less reporting bias and at the same time accuracy and validity of asset data is always better than expenditure or income data. Polychoric PCA easily converts the subjective categorical attribute to provide the score which is easily comparable, apart from this number of dimensions a can also be reduced without much loss of the information. This helps in easier understanding and computation at the same time it provides an accurate picture of the household well-being than simple aggregation (Smith, 2002).

Mobility in Standard of Living (SLI)

To measure the 'upward' economic mobility of migrant households in terms of improvements in their standards of living, the following parameters were taken: Housing facility, Fuel used for cooking, Assets possessed including Motorcycle, Car, Telephone, Television, DVD and Refrigerator. These are all qualitative variables in the KMS panel dataset for 2003-08 and are categorical variables. Therefore to create a meaningful index with appropriate weights for each of these parameters, each variable was rank ordered from least good to the best indicator. The variables were defined in the following manner:

Housing Facility: this takes value 1 if the house is kutcha or poor and value 2 if it is good, very good or luxurious

Fuel used for Cooking: takes value 1 if wood, kerosene or other such sources were used, and value 2 if electricity or LPG was used

Assets Possessed: these took value 1 if not possessed by household and value 2 if possessed. These include motorcycle, car, telephone, television, DVD and refrigerator.

Polychoric PCA for SLI index

Following such an ordering, the Polychoric Principal Component Analysis was performed and weights were assigned to each parameter and scores were generated for the index so generated. The first three Eigen values obtained on estimating the Polychoric PCA were recorded as 4.041576, 0.645365 and 0.538958. These explained 67.35 per cent, 10 per cent and 8.9 per cent of the variance respectively. Using Stata, the scores for each variable was estimated and combined into an index using the *predict* command. The Standard of Living Index was thus estimated using Polychoric PCA on the above-mentioned categorical variables arranged in ranked order from worst to best possibility so as to attach meaningful weights to each factor in explaining the variability and hence estimates the importance to be attached to each variable, thus yielding the final index. The scores for the SLI index are presented in the following table.

CASE I: Mobility in standard of living of Households That were Emigrant Households and remained Emigrant Households

Table 7: *Mobility in Standard of Living*

2003\2008	C1	C2	C3	C4	C5	PERCENT
C1	0.70	3.85	1.05	3.85	0.70	10.14
C2	0.35	2.10	3.85	4.90	7.69	18.88
C3		2.45	1.75	9.09	7.34	20.63
C4		1.05	1.75	11.19	20.63	34.62
C5				3.85	11.19	15.03
PERCENT	1.05	9.44	8.39	32.87	47.55	100.00

Source: *Authors' estimations using KMS Panel 2003-2008*

For the EMI households which remained EMI households at the end of the period, upward economic mobility in terms of standard of living can be explained as follows. The diagonal represents the households that did not move; any movement below the diagonal are downwardly mobile and any movement above the diagonal are upwardly mobile. Of the total sample of households, 0.7 percent of the household remained in C1 class, 2.10 percent remained in C2 class, 1.75 remained in C3 class and similarly 11.19 percent and 11.19 percent of the household remained in C4 and C5 classes respectively. Overall only 15.74 percent of households remained static in their initial position, whereas only 6.45 percent of the households experienced downward mobility. There is persistence of high degree of economic mobility since 77.81 percent of the total number of households moved up in standard of living quintile, with the highest gain in C5.

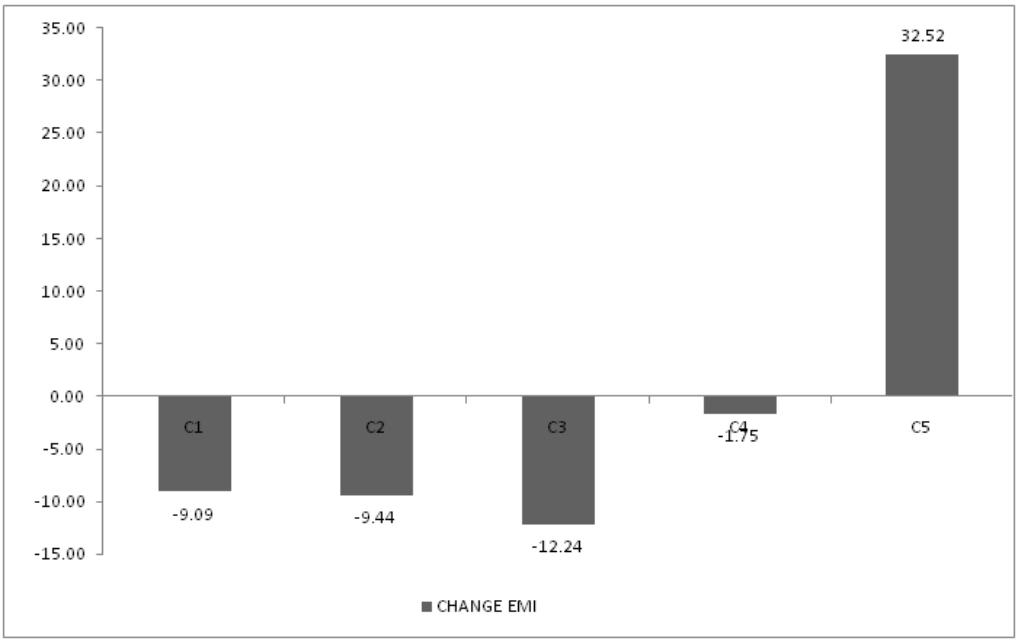


Figure 6: *Mobility of standard of living for EMI- EMI Aggregate*

Source: *Authors' estimations using KMS Panel 2003-2008*

Case II. Non Migrant Households turning Emigrant Households

Table 8: *Mobility of standard of living for Non EMI Households turning EMI Households*

2003\2008	C1	C2	C3	C4	C5	PERCENT
C1	4.38	13.14	10.95	5.84	5.11	39.42
C2	0.73	6.57	6.57	9.49	2.92	26.28
C3			1.46	2.92	4.38	8.76
C4			2.92	6.57	5.84	15.33
C5			0.73	2.19	7.30	10.22

PERCENT	5.11	19.71	22.63	27.01	25.55	100.00

Source: *Authors' estimations using KMS Panel 2003-2008*

For the Non Migrant households that had become EMI households before the end of the period, upward economic mobility in terms of standard of living can be explained as follows. The diagonal represents the households that did not move, any movement below the diagonal are downwardly mobile and any movements above the diagonal are upwardly mobile. Of the total sample of households, 4.38 percent of the household remained in C1 class, 6.57 percent remained in C2 class, 1.46 remained in C3 class and similarly 6.57 percent and 7.30 percent of the households remained in C4 and C5 classes respectively. Overall only 26.38 percent of households remained static in their initial position, whereas only 8.03 percent of the households experienced downward mobility. We find a high degree of economic mobility as 65.59 percent of the total number of households moved up in standard of living quintile. Thus changing economic position from being non-migrant to migrant, there is no decline in standard of living index. Thus even if there are almost a quarter of the households that did remain at their initial positions, emigration did not let them slide down in standards of living.

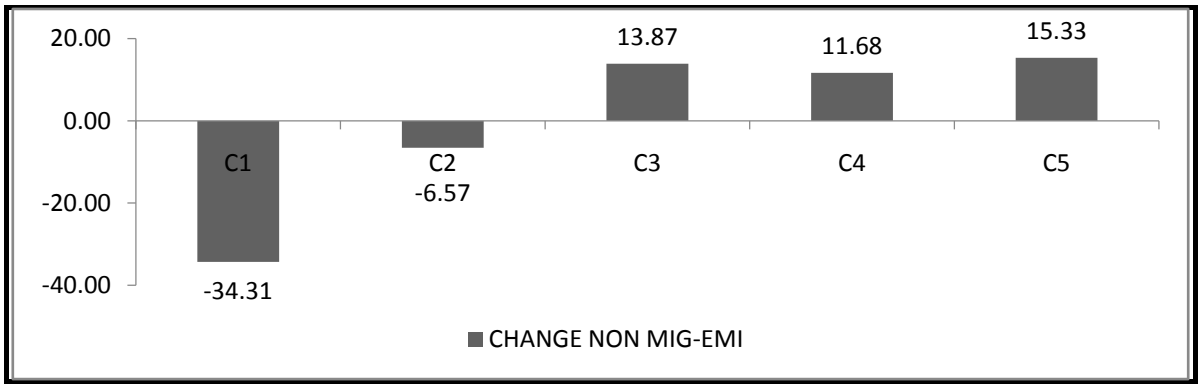


Figure 7: *Mobility of Standard of Living for Non EMI-Households turning EMI Households*

Source: *Authors' estimations using KMS Panel 2003-2008*

Total number of households that were in the bottom class came down drastically post emigration. C1 class was having 39.42 percent of the total sample households that came down to 5.11 percent of the households, a net decrease of 34.31 percent of the households. The fall in C2 was just marginal. Whereas households moving up to another class was almost even with C2 showing increase of 13.87 percent, C2 showed 11.68 percent and C5 15.33 percent. Thus it is evident that it is not that emigration helped every household in to highest economic class in terms of standard of living but it did promote them to be upwardly mobile in all respects.

CASE III- Out-Migrant Households remaining Out-Migrant Households

Table 9: *Mobility of standard of living for OMI Households remaining OMI Households*

2003\2008	C1	C2	C3	C4	C5	PERCENT
C1		4.76	3.17	9.52	1.59	19.05
C2	1.59	3.17	7.94	6.35	3.17	22.22
C3		1.59	3.17	4.76	4.76	14.29
C4		1.59	3.17	7.94	15.87	28.57
C5				1.59	14.29	15.87
PERCENT	1.59	11.11	17.46	30.16	39.68	100.00

Source: *Authors' estimations using KMS Panel 2003-2008*

For the Out-Migrant households that had remained Out-migrant households before the end of the period, upward economic mobility in terms of standard of living can be explained as follows. The diagonal again represents the households that did not move, any movements below the diagonal are downwardly mobile and any movements above the diagonal are upwardly mobile. Of the total sample of households, there were no households in C1 class in 2008. At the same time 3.17 percent remained in C2 class and C3 class, and finally those that remained in C4 were

7.94 percent of the population while those that remained in C5 were 14.29 percent of the sample households. Overall only 28.57 percent of household remained static in their initial position, whereas only 9.53 percent of the households experienced downward mobility. We again find high degree of economic mobility with 61.9 percent of the total number of households moving up in standard of living quintiles.

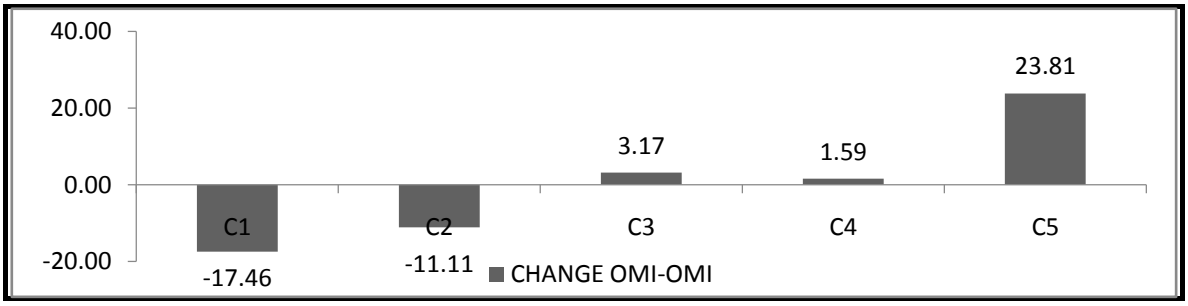


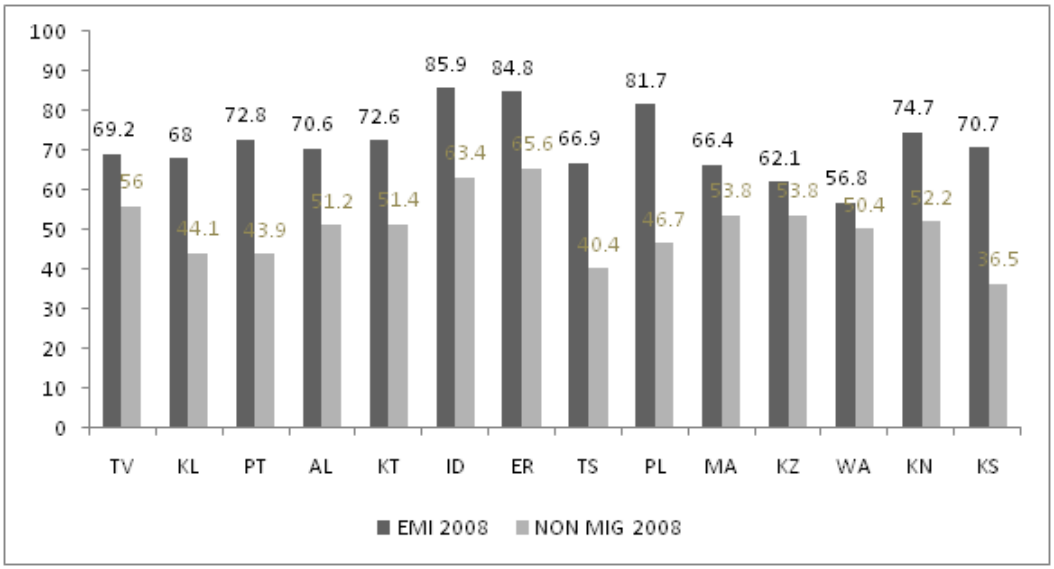
Figure 8: *Mobility of Standard of Living for OMI Households Remaining OMI Households*

Source: *Authors' estimations using KMS Panel 2003-2008*

In Figure 8, 17.46 percent of the households moved out from C1 class whereas 11.11 percent of the population moved out from the C2 class overall. Standard of living index is one of the important indicators of household well-being. Thus altogether 28.57 percent of the households moved out from C1 and C2 class among which 23.81 went to the C5 class. Thus the transfer is highly polarized and extreme. It can be fairly assumed that the bottom quintile class's out-migrants have gained significantly such that they could rise up to the highest quintile group over the period of analysis.

Figure 9 shows standard of living of emigrant households versus non migrant households. It also shows out migrant household's standard of living to that of non- migrant households. If a household is an emigrant household it is highly likely that they would be having living standards better than the non-migrant households. The standard of living index shows that across most of the districts there is significant gap between the average SLI Index score between these two groups. Even out-migrant households even they have their average standard of living index score greater than non-migrant Households.

Figure 9: *Standard of Living Differentials across Districts EMI Households and Non-Migrant Households*



Source: *Authors' estimations using KMS Panel 2003-2008*

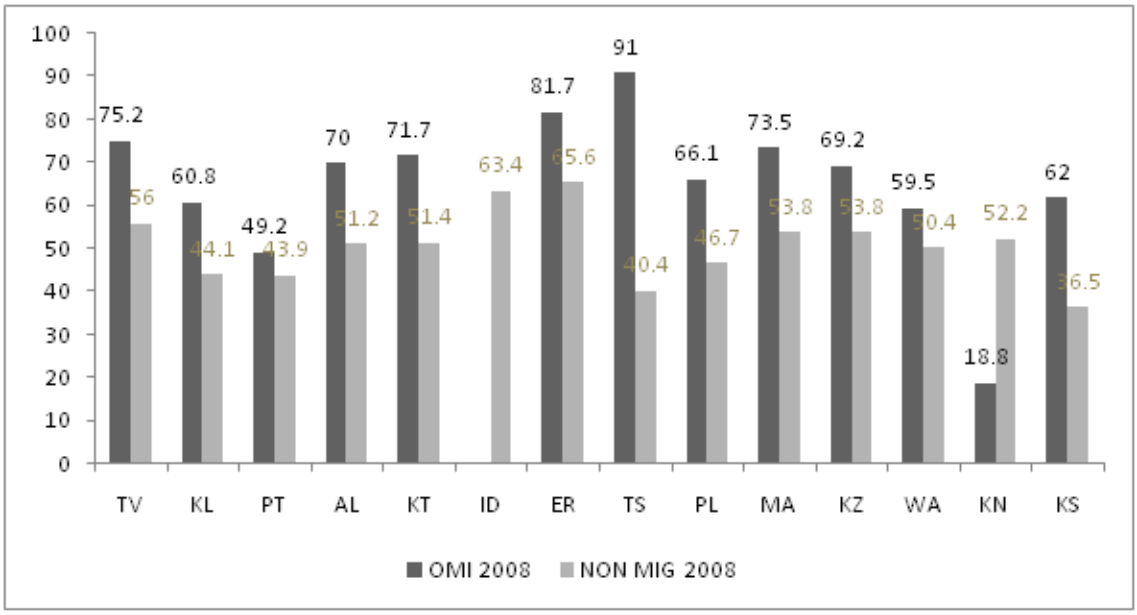


Figure 10: *Standard of Living Differentials across Districts OMI Households and Non-Migrant Households*

Source: *Authors' estimations using KMS Panel 2003-2008*

REGRESSION ANALYSIS: STANDARD OF LIVING

Table 10-*Regression Analysis*

Dependent Variable: Standard of Living Index	
Model	**Pooled OLS/ random effects**
Regressors	coefficient (z value)
Constant	11.3157 (4.70)*
MIGINTEN_03	2.9 (1.71)**
MIGINTEN_08	1.88 (1.52)
HD_OCCUP	0.256 (1.40)
HD_EDU	18.92 (20.22)*
RELIGION	3.11 (4.47)*
REMIT_03	0.005 (3.6)*
REMIT_08	0.006 (4.70)*
R Square	
1 within	0.0243
2 between	0.1957
3 overall	0.193
F STATIC	Prob> chi2 = 0.000*
WALD	chi sq (6)=565.7
f test that all u_i=0	26.45*
Number of Observations	2373

**significant at 5 per cent level, ** significant at 10 per cent level*

To see the impact of migration on economic mobility for such households in the panel from 2003-08, the effect of receiving remittances in both periods, characteristics of the household such as the educational attainment and occupation of the household head, religion and amount of remittances sent and the migration intensity in the periods was seen on the standard of living at the end of the period (2008). This was done through an OLS equivalent to a Random Effects regression model and the results are given below

The results show that a higher migration intensity in 2003 led to a higher standard of living. Although the household head's occupation was not found to be significant, his education levels were found to affect standard of living. This is mainly because head's educational status is also passed on in the family. For instance, if the head were uneducated, the notion of importance of education in better employment and standard of living may not exist in the household. Being a Hindu is found to increase standard of living. While receiving remittances is found to be significant, the impact is not equally high. However, migration intensity, receiving remittances, and head's education status are found to contribute in the eventual increase in standard of living score.

10. CONCLUSION

We track households with migrants and attempt to ascertain their economic mobility reflected in their standards of living. Our findings suggest that for emigrant households (EMI) between 2003 and 2008, there was significant upward mobility in the transition matrices. Mobility has also been seen across religious groups and is found to be higher for Muslims in Kerala. EMI households have shown a shift better than out-migrants. The SLI scores for migrants are more than non-migrants across all religious groups. Investment in healthcare, education and savings and investment levels are significantly higher for migrants as compared to non-migrants.

Remittances were as much as a third (31 per cent) of Kerala's National State Domestic Product in 2008. The importance of remittances in Kerala is evident from the fact that remittances were 1.74 times the revenue receipt of the state, 5.5times of the money Kerala received from the Central Government as a budgetary support. The remittances were sufficient to wipe out 70percent of the state's debt in 2008.

Migration has reduced income inequality in the state since most of the migrants were unskilled workers from lower income backgrounds (Nair 1989, Zachariah et al. 2000, 29). Gulf migration should therefore be viewed as "*an unconventional path to development*" for Kerala (Zachariah et al. 2000). Due to the scale and significance of the migration, the high-migrant areas in Kerala (and to a lesser extent, the state as a whole) experienced a process of rapid economic and social transformation and thus provide excellent case studies of migration-induced development.

Finally to quote Rajan (2003) "*Migration has provided the single most dynamic factor in the otherwise dismal scenario of Kerala in the last quarter of the twentieth century. Kerala, migration must have contributed more to poverty alleviation than any other factor, including agrarian reforms, trade union activities and social welfare legislation".*

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