*Social mobility and social tension

*On the Measurement of Social Tensions *Kakwani and Neri 2014 (this is a section extracted from it)

7. Social mobility and social tension

Social mobility is the movement of individuals or groups in economic and social position. The groups may refer to social classes such as the untouchable in India or ethnic and religious groups or even groups based on income, gender, race and age. A society can be said to lack social mobility if some social groups within it are unable to improve their social and economic status and are stuck in low paid jobs even when they work hard. Social barriers generally contribute to immobility in the society.

There is a strong correlation between obtaining an education and increasing one's economic mobility. Despite the increasing availability of education for all, family background continues to play a huge role in determining one's economic success.

There is now a sizable literature on the measurement of income mobility. The measurement of income mobility in this literature is viewed as an extension of measurement of inequality over time. The pioneering work in this area is that of Shorrocks (1978) who developed a mobility index that informs to what extent the relative income of individuals have remained static or changed over time. The larger is the change in relative incomes over time the greater is the income mobility.

If the ranking of individuals by their incomes change in two periods, then this situation is also characterized as achieving income mobility. On the other side, if the ranking of individuals does not change in two periods, then there is no mobility in the society. King (1983) constructed an index which measures changes in the rank orders in the income distribution over time. Fields and Ok (1996, 1999a, 1999b) and Mitra and Ok (1998) viewed mobility in terms of distance between income distributions in two time periods. The measures of mobility proposed in the literature are largely based on the distance between income distributions between different periods. These measures can only be measured from the panel data of the same households, which are seldom available.

In all these studies, mobility is measured by the degree of volatility in individuals' incomes over time; the larger the volatility, the greater the mobility, which may itself contribute to an undesirable source of anxiety in the society. It has been argued in the previous section that volatility in growth causes social tension which results in a lower level of social welfare across time. This view makes the measurement of income mobility not very useful.

In this paper, social mobility is analyzed in terms of relative movement of social groups in their economic status. If the economic status of worse off social groups is improving at a faster rate than better off social groups, then the society may be defined as socially mobile. A society lacks social mobility if the worse off social groups are never able to improve their relative economic situation, which could be due to their family circumstances or other social barriers. This lack of social mobility is viewed here as causing social tension. The following methodology is proposed to measure such social tension.

Suppose a population is divided into k mutually exclusive social groups and a_i is the population share of the ith group, then $\sum_{i=1}^{k} a_i = 1$ must hold. Further, if $f_i(x)$ is the density function of the ith group, then the average social welfare enjoyed by the ith group will be given by

$$W_i = \int_0^\infty u(x)f_i(x)dx \tag{24}$$

where $u(x)$ has been defined in (3) and $W_G = \mu(1 - G)$ where G being the Gini index is the average welfare enjoyed by the whole society. The average welfare enjoyed by any group can then be compared with the average welfare enjoyed by the whole society. This will inform which group is enjoying more (or less) welfare than the whole society.

It can be easily shown that

$$f(x) = \sum_{i=1}^{k} a_i f_i(x) \tag{25}$$

where $f(x)$ is the density function of the entire population. Now substituting (25) into (3) and using (24) gives

$$W_G = \sum_{i=1}^{k} a_i W_i \tag{26}$$

which demonstrates that the social welfare enjoyed by the whole society is the weighted average of the welfare enjoyed by each social group, where the weights is the population share of the social group. $100 \times a_i W_i$ is the percentage contribution of the ith social group to the total social welfare of the society.

The mobility of the society is determined to what extent socially worse off groups progress in relation to the whole society. The gap in economic status of different groups can be measured by the relative mean deviation:

$$RMD = \frac{1}{2W_G} \sum_{i=1}^{k} a_i |W_i - W_G| \tag{27}$$

The RMD is equal to 0 if all groups enjoy exactly the same welfare and equal to 1 if all groups except one have welfare equal to 0 and only one group enjoys all the welfare. It is possible that the relative welfare of some groups is negative because the average income earned by the group is less than the average deprivation suffered in which case the RMD can exceed 1. The negative welfare of a group implies that the group is extremely worse off in the society.

The society is defined to be mobile if the worse off groups improve their welfare more than the better off groups or in other words gap in economic status measured by social welfare decreases over time. The degree of mobility may be measured by the rate at which the RMD is declining over time. The increase in RMD over time implies that the worse of groups are relatively becoming even more worse off. An immobile society is the one when the some groups are never able to improve their economic status relative to whole society. Such situation causes social tension.

8.5 Social Immobility (Empirical)

In this section, social mobility is measured by the following three alternative divisions of the society:

1. Social groups by income: poor, middle class and rich
2. Social groups by age: children, adults and elderly.
3. Social groups by race: white, black/colored and others.

As discussed before a society is defined to be mobile if the worse off groups improve their welfare more than the better off groups or in other words gap in economic status measured by social welfare decreases over time. The degree of mobility is measured by the rate at which the relative mean deviation (RMD) is declining over time. The increase in RMD over time implies that the worse off groups are relatively becoming even more worse off. A perfectly immobile society is the one when the some groups are never able to improve their economic status relative to the whole society. Such a situation causes social tension.

Table 6 presents the estimates of RMD for the three alternative social divisions. The RMD for the social groups divided by income (poor, middle class and rich) is greater than 1, which signifies that there is a very large gap in social welfare among the these groups. The RMD for social groups divided by age and race in turn is much less than 1 signifying much smaller gaps in their social welfare.

The growth rates of RMD presented in the last three rows in Table 6 inform that social mobility had a decreasing trend in the 1990s between 1992 and 2001 but then the tide reversed. In the new millennium period of 2001-2012, the social mobility began improving: the relatively worse off social groups improved their welfare more than the average welfare.

Table 6: Relative mean deviation by social classes: Brazil 1993-2012			
	Income	Age	Race
1992	1.22	0.29	0.53
1993	1.32	0.30	0.58
1995	1.31	0.31	0.58
1996	1.33	0.30	0.58
1997	1.32	0.30	0.59
1998	1.31	0.31	0.59
1999	1.28	0.30	0.57
2001	1.28	0.31	0.58
2002	1.25	0.30	0.54
2003	1.23	0.30	0.55
2004	1.17	0.28	0.50
2005	1.15	0.28	0.50
2006	1.12	0.27	0.48
2007	1.09	0.27	0.47
2008	1.05	0.25	0.43
2009	1.03	0.25	0.42
2011	0.98	0.23	0.38
2012	0.97	0.23	0.40
Growth rates: 1992-2001	0.19	0.68	0.52
Growth rates: 2001-2012	-2.63	-3.04	-3.61
Growth rates: 1992-2012	-1.56	-1.32	-2.05

Source: PNAD/IBGE. Prepared by the author.

Figure 9: RMD for the social groups by income, age and race in Brazil 1992-2012
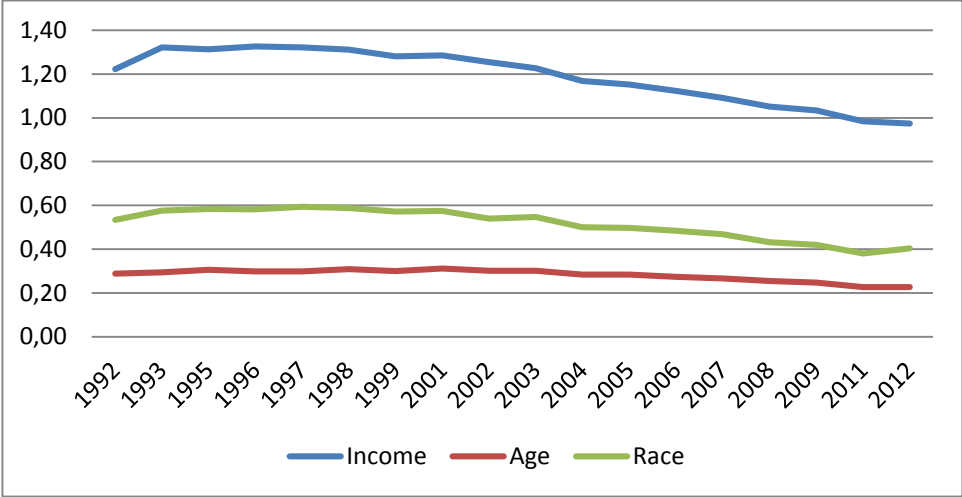
Source: PNAD/IBGE. Prepared by the author.

Conclusions

Social Mobility - An immobile society is one in which some groups are never able to improve their economic status relative to the whole society. Social mobility measured in this repeated cross-sectional environment is interpreted as how the relative welfare of disadvantaged groups such as children and afro-descendent move with respect to the movements in overall social welfare. After 2001, social mobility began improving: the relatively worse off social groups improved their welfare more than the society as a whole