Wages income mobility in Indian labour market: the post-reform scenario

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Abstract

Improvement in the living conditions of workers is an important objective of development planners and India is no exception. The crux of this lies in returns from work, or wage level. While non-wage aspects are important, wage level is the most pertinent indicator of condition of workers and increase in real wage level signals improvement in condition of labour market. Though most studies compare wages at different points of time from cross-sectional data, they provide an aggregative view without control for variables that are particular to the household/family. Contrary to this, intergenerational mobility in wage income following life cycle theory observes direction & quantum of movement of workers' wage relative to their parents, therefore filtering out household characteristics, and providing better measure of workers' conditions and its trends over time. Another important aspect that can be explored by looking at intergenerational wage mobility is related to the issue of equality. Stickiness of wage income with respect to parental income leads to persistence of income inequality across generations and questions the notional objective of equity in opportunity and openness of any society. Historically some groups are belonging to lower strata of society due to economic and or social discrimination leading to lower income and asset possession as well as capability formation which excluded them from the process of capability formation and income-earning. This exclusion and backwardness surpass the boundary of the current generation and spills over to successive generations as well. As a result Intergenerational Mobility is very low among backward classes. Also of importance is to enquire whether economic liberalization and structural reforms have had any impact on the intergenerational income mobility – has mobility today more than that in the 1990s? In this paper we explore these issues, throwing light on a hitherto neglected area of research in Indian labour market studies – intergenerational income mobility, desegregated across social classes and comparing pre-reform and post-reform results. We observe *that wage income mobility between generations have been generally low in India. Though such stickiness over generations is declining over time, especially in the post-reform period, stickiness is still higher for excluded social classes. Improvement over the last decade has occurred mainly for the scheduled castes and not for the tribals who are much more spatially isolated and hence outside the orbit of economic dynamics.*

JEL Classification: J62, J31

I. Introduction

Improvement in the living conditions of workers is an important objective of development planners and India is no exception. Several policies have been taken over time to safeguard interest of workers and to provide decent conditions of work. However, the crux of the matter lies in returns from work, or wage level. While non-wage aspects are important, wage level is

the most pertinent indicator of condition of workers and increase in real wage level signals improvement in condition of labour market. Though most studies compare wages at different points of time from cross-sectional data, they provide an aggregative view without control for variables that are particular to the household/family. Contrary to this, intergenerational mobility in wage income following life cycle theory observes direction & quantum of movement of workers' wage relative to their parents, therefore filtering out household characteristics, and providing better measure of workers' conditions and its trends over time. Another important aspect that can be explored by looking at intergenerational wage mobility is related to the issue of equality. Stickiness of wage income with respect to parental income leads to persistence of income inequality across generations and questions the notional objective of equity in opportunity and openness of any society. Historically some groups are belonging to lower strata of society due to economic and or social discrimination leading to lower income and asset possession as well as capability formation which excluded them from the process of capability formation and income-earning. This exclusion and backwardness surpass the boundary of the current generation and spills over to successive generations as well. As a result Intergenerational Mobility is very low among backward classes. With the modernization of society, though the premium on education and skill has increased immensely, not only India but the rich countries also experienced absolute decline in wage income for the less skilled workers. After the opening of the economy nature of job market changes ; on the one hand access to new form of job increases with higher return to human capital and on the other hand with squeezing of formal sector in India the gap between top of the distribution and bottom increases. Also of importance is to enquire whether economic liberalization and structural reforms have had any impact on the intergenerational income mobility – are workers today *more* better off than their parents compared to workers in the 1990s?

In this context the paper tries to find out the relationship between a person's current wage income/outcome with his family background, more specifically the parental income situation. The moot questions that have been addressed in this paper are – whether income levels have improved over generation; and, whether there is any social discrimination in wage income mobility. We have concentrated on wage income to link this issue of income mobility with the labour market – to reflect the trends in wage income and labour market situation. The paper thus throws light on a hitherto neglected area of research in Indian labour market

studies – intergenerational income mobility, desegregated across social classes and comparing pre-reform and post-reform results.

II. Review of Literature

Internationally there is a substantial literature on intergenerational income mobility, mostly from developed countries [seeSolon (1999) for a good review]. Researchers like Becker & Tom (1979), Solon (1992), Bjorklund&Jantti (1997), Buron (1994), Couch &Lillard (1994), Eide& Showalter (1997), Mulligan (1997), Minicozzi (1997) have tried to find out intergenerational income elasticity for USA data [see Mazumder (2001) for a brief review]. Naturally the estimates vary considerably and though any simplification is difficult and impossible, most of the estimates of intergenerational elasticity of USA falls in a range between 0.3 and 0.5.From these estimates Solon (1999) argued that 0.4 is a reasonable average estimate of the intergenerational elasticity in long run earnings for men in USA which is more than double of Becker and Tom(1979) estimated. This indicates USA society is not as mobile as it was supposed earlier. Solon (1999) also reviewed studies on other countries though comparison between them is not possibledue to different methodologies and nature of data. The estimates of elasticity of son's earning with respect to parental income for different countries have been as follows: 0.42 for UK (Aitkinson et al., 1983), 0.28 for Sweden (Bjorklund&Jantti, 1997), 0.17 for Canada (Corak&Heisz, 1998),0.11 for Germany (Couch & Dunn, 1997), 0.14 for UK (Gustafsson, 1994), 0.22 for Finland (Jantti&Osterbacka, 1996), 0.22 for Malaysia (Lillard and Kilburn, 1995), 0.34 for Germany (Weigand, 1997).Black and Devereux (2010) in their vast review work discussed recent developments in intergenerational mobility. According to them after works of Garry Solon (1999) literature on intergenerational mobility has taken a new turn. Earlier research emphasis was on finding estimates of correlation /elasticities, but recent emphasis is on causal relation and mechanism of transmission of intergenerational persistence. Research works, especially from the sociological standpoint have also tried to find optimal amount of intergenerational mobility, arguing that zero intergenerational stickiness may not be optimal.According to Solon (2004) affluent parents invest more on child's education (human capital) and hencezero intergenerational persistence implies no return to human capital investment, which will be suboptimal / unnatural in a market economy.It is acceptable that earning/ reward from higher human capital must be higherotherwise motivation/ incentive / efficiency will be low. But social structure/ institutional arrangement should not be such that

achievement of higher human capital depends only on high private investment. In that case it is not equality of opportunity. So if intergenerational correlation is due to variation in private investment in human capital there is need for government intervention in providing and or financing education.

It is however observed that though a plethora of work has been done at the international level, especially in the developed countries context, the area has remained under-focussed in Indian economic research.While one of the major reasons has been absence of pan-generation data on income and allied factors, it is also true that the issue of intergenerational mobility has not been explored sufficiently in Indian context. The present paper attempts to fill this void in Indian economic literature.

III. Methodology and Database

In studying intergenerational income mobility, basic objective is to examine whether current generation workers are earning more than their parents, after controlling for factors like age, experience, etc. This can be done in a variety of ways.

First, we may simply compute some form of wage income of parents and children, filtering out the effects of age, experience, etc. After that we may examine whether the children's *Isolated Wage* (wage post-filtering) is higher than parent's *Isolated Wage*. If the child's wage is higher (lower) than that of the parent by a specific margin (say 10%), we infer that across generation upward (downward) income mobility has occurred. Otherwise, no mobility has been exhibited. This gives us a measure of *absolute income mobility*.

Second, instead of computing isolated wages as above, we may divide the parents into quintile (or decile) classes according to their wage income and the group membership. Similarly, the children are also divided in quintiles and the group membership is noted. If the child belongs to a higher quintile group than that of the parent, we conclude that upward income mobility has taken place. This requires construction of the Transition Matrix which cross tabulates children's quintile group membership with that of the parents. This method provides us a measure of *Relative Income Mobility* as we compare between relative position of a child within his peers with the relative position of the parent among *their* peers.

Third, we may take the regression based approach where stickiness between child's wage income with that of the parents is computed and *mobility* is derived indirectly from the

stickiness figures. This requires computing a Wage Function which regresses (log of) child's income on (log of) parent's wage income, after filtering out factors like age, education, experience, etc. Essentially, we estimate: $\log(Y_1) = \alpha + \beta \log(Y_0) + \varepsilon$, where Y_0 and Y_1 refers to *Isolated Wage Income* of Parent and Child respectively. The estimated β is the intergenerational elasticity (IGE) or a measure of stickiness, and (1- β) is a measure of intergenerational income mobility. Higher β signifies strong influence of parental wage income on the current generation's wages and hence low mobility. The converse is true for a low β.

Fourth, Correlation coefficient between log of parent's income and child income may also be another measure of intergenerational stickiness, and its complimentary a measure of mobility.IGE and correlation may be same if the standard deviation of log earning is same for both parent and child. Elasticity can be higher in one society than in another because the variance in child's generation is higher in that society. IGE estimation is suitable than Correlation method for practical purpose because it is not biased by measurement error in Y_1.

One practical problem in measuring IGE is that ideally the regressor and the regressand should be permanent incomes, which is very difficult to observe. This necessitates the computation of *isolated wage* of both parents and children, assuming that this new variable would have same measurement error across generations and hence β will be unbiased.

We have used the first three methods for examining intergenerational income mobility in Indian labour market.In order to measure income mobility we have used weekly wage data and restricted our study to the male workers only. Since our database is at household level, this means that we have used only those pair of data where both father-son (only male) are currently employed against wage, i.e. Wage Employed (Worked as regular salaried/wage employee, Worked as casual wage labour in public works, Worked as casual wage labour in other types of works, Did not work due to sickness but had regular salaried/ wage employment, Did not work due to other reasons but had regular salaried wage employment).

The study has used the National Sample Survey Organisation (NSSO) database on employment and unemployment (unit level records) for the 50th, 61st, and 66th Rounds, pertaining to the years 1993, 2004, and 2009 respectively. Family records have been superimposed on personal records so as to obtain multi-generational data on education, occupation, earnings and other socio-economic parameters. Thereafter, the data has been

processed to provide us with the necessary information on intergenerational mobility in terms of wage income separately for different social classes. Only male persons aged 20 years or above have been included in our study to allow them to complete the full educational cycle.

A note on the database seems necessary at this point. NSSO data for 1993 distinguishes between STs, SCs, and Others (whom we call General Caste or GEN), while the 2004 data provides information for OBCs separately from the GENs. Thus, there are some comparability problems in the data, which are, however, not insurmountable. With this background, we now explore the situation.

IV. Wage Income Mobility in India: Matrix Approach

As noted earlier, weekly wage of father and child at the time of survey cannot simply be compared because the point of time considered in collecting wage income are different for father and child in their life-cycle. Father's wage will contain impact of age and experience which need to be isolated for both father and children. This kind of impacts shall vary across occupation – some occupation may provide premium to age/ experience (like those engaged in service, administration, technical and professional) , other may negatively treat age (manual types of job). So impact isolation must be separately done for each generation and each occupation.

A double isolation method is used here where both father and child's *Isolated Wage Income* is derived after controlling for age, experience, and occupation. This is done by regressing actual wage income of son (father) on respective Age, Age squared, Age cubic separately for each occupation classification. Using the regression results *estimated* wage is calculated separately for child and father, providing us with *Isolated Wage* figures. Thus what we are left with is the influence of educational achievements within income. Let us now examine the results.

a) Absolute Income Mobility

We define upward mobility if *isolated wage* of child is higher than that of his father by a specific proportion sincea meagre rise in wage for child compared to his father cannot be termed as upward mobility. We accept as upward income mobility if child's wage income is at least 10 per cent higher than his father, whereas if it is 10 per cent lower than his father,downward mobility is said to have occurred. If child's wage income is within 10 per cent above or below that of the father, we considered income mobility to be absent.

It is observed that absolute wage income mobility has been low and only about 22-25 per cent of 20+ male workers have higher wage income than that of their father. On the other hand about two-third of such workers have lower wage income compared to their father, after controlling for age, experience, occupation, etc., while the rest of them have not shown any noteworthy change. These low upward mobility in absolute wage income figures is consistent over the period 1993 to 2009, rather it decreases by 3 percentage points from 1993 to 2009, though during this period Indian economy grew significantly. It therefore seems that the post-reform period of high economic growth has not been able to improve the condition of the wage workers vis-à-vis their parents by much. If any, majority have had lower status than their parents at comparable position in their life cycle, while the proportion of workers having higher income compared to their parents has declined over this period. This indicates presence of a labour market with low returns from work.

b) Relative Income Mobility

As mentioned earlier we have also used transitional matrix approach to derive wage income mobility. We have computed quintile membership of fathers and sons with respect to both *actual wage income* and *isolated wage income*. Cross tabulation of quintile groups of father and child gives us the transitional mobility matrix. Obviously the diagonal element of the matrix represent no change in relative mobility status whereas the sum of upper right portion of off diagonal element represent upward mobility when father quintile groups are placed in rows and child quintile groups are placed in columns. Similarly the sum of lower left portion of off diagonal elements represents downward mobility.

Relative Income mobility in terms of *actual wage*was close to 20 per cent in 1999, increased to 26 per cent in 2004, but decreased sharply thereafter to 18 per cent in 2009. Similar picture is observed in case of relative income mobility in terms of *isolated wage,*though the figures are higher than absolute wage mobility.

It is thus evident that income mobility in India has been low and definitely declining in the second quinquenna of the post-reform period, i.e. during 2004-2009 period.

c) Mobility and Social Group

Table 8 gives us the all the three measures of upward mobility figures across different social groups over the period 1993 to 2009. We tried to understand whether modern Indian labour market discriminates against different social groups resulting in different income mobility

across social groups. It is observed that over the period of study, upward mobility remains low for all the social groups. However, even within such low average mobility, socially excluded groups like the STs and the SCs have lower mobility compared to that of advanced class (the General castes) in most of the years. In fact, the gap between the General castes and the STs has increased marginally in the post-reform period. Strikingly though, the SCs have enjoyed substantially higher absolute income mobility than the rest in recent years, though in terms of relative income mobility, their situation is no better.

V. Income Mobility: Regression Approach

To find out the intergenerational wage income elasticity we have used regression approach where log of *isolated wage income* of child is regressed on log of *isolated wage income* of father. In the first model we have used dummy intercept variables for taking into consideration the impact of different caste group in determining the base wage. We have taken the General Castes as the control group.

Model 1:

$$Y_1 = \alpha + \beta Y_0 + \theta\ (Social\ groups\ dummies) + error\ term$$

where $Y_1$and $Y_0$are log of isolated wage income of son and father respectively.

The coefficient β represents impact of father's wage income on that of child's. A higher value for the coefficient implies stronger parental effect on the children, higher intergenerational stickiness, and therefore less mobility. θdenote base level differences between social groups regarding weekly wage income.

Model 2:

$$Y_1 = \alpha + \beta Y_0 + \theta\ (Social\ groups\ dummies) + \acute{\theta}\ (interaction\ \ dummies of$$

$$social\ groups\ with\ father's\ isolated\ wage\ ) + error\ term$$

In the second model same regression is done but now including interaction dummies between father's isolated wage income and caste groups. Estimates of $\acute{\theta}$will provide us measures of differential parental impact for different castes.A positive $\acute{\theta}$ will indicate higher parental impact for the backward groups and hence lower mobility for them vis-à-vis the control group or the general caste. The regression results are provided in Table 9 and the derived Base Wages as well as *Persistence* and *Mobility Rates* are provided in Table 10.

If we estimate the base wages from the regression results and compare them among different classes it is observed that for the excluded classes the base wages are much lower than the advanced group. Moreover, in case of Model 1, this gap in base wage compared to advanced group seems to increase for the SCs and the OBCs. For the STsthe gap was substantially higher in 1993,but decreased marginally in 2004 and 2009.

We are however more interested in intergenerational persistence (and mobility) in wage income (Table 10). Results derived from the estimates ofModel 1 show that persistence in father's wage income on child's wage income is as high as 0.55 in 1993, reduced marginally in 2004, and further decreased to 0.38 in 2009. In other words we can say that stickiness in wage income mobility over generations is high in India but it has a declining trend from 1993 to 2009.

The results of Model 2 show that persistence in parental income over generationswas higher for excluded classes compared to advanced group in 1993. But in 2004 and 2009 this persistence is much lower for the SCs than the general caste persons implying significant reduction in stickiness for them. Whereas for OBCs and STs, the same period have witnessed slightly lower intergenerationalincome persistence than advanced group, but the reduction over the period is not as high as it is for the SCs. So it can be said that though the stickiness was much higher for excluded classes during initial year of 1990s the situation improved during the last decade mainly for the SCs, though similar trend is not observed for STs.

VI. Summary and Conclusion

If look into the results as obtained from the three different methods, we may infer the following. Stickiness in wage income across generations is substantially high in India and remained so throughout the post-reform period. Such persistence has been higher for the excluded groups than advanced ones, though recently there have been some improvements for the SC/OBC groups.Mobility rates are therefore low and in can be safely inferred that living conditions of the workers have not improved significantly from their parentsfuring this period. One of the reasons behind higher mobility of excluded classes compare to advanced groups in recent times (2004 and 2009) has been low base wage income of these groups.The labour market thus provides a grim picture in India.Workers' conditions across generations have not been improving satisfactorily, there still exists discrimination across social groups, and returns from wage labour have generally flattened out. This indicate that the last two

decades of structural changes and openness in Indian economy may have led to significant macroeconomic growth, it has not contributed significantly in improving overall labour market situation. Intergenerational stickiness is high indicating working of a vicious trap cycle across generations, which is reflected in increasing social inequality. The state should immediately look at this issue and take steps to translate economic growth into a more visible and inclusive improvement in the lives of the working mass.

References

Becker, G.S. and N. Tomes (1979), "An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility." Journal of Political Economy, 87(6), 1153-1189.

Becker, G.S. and N. Tomes (1986), "Human Capital and the Rise and Fall of Families." Journal of Labor Economics, 4, S1-S39.

Bjorklund, A. and M. Jantti (2000), "Intergenerational Mobility of Socio-economic Status in Comparative Perspective." Nordic Journal of Political Economy, 26(1), 3-33.

Black, Sandra E., Devereux, Paul J., and Salvanes, Kjell G., (2003), "Why the Apple Doesn't Fall Far: Understanding Intergenerational Transmission of Human Capital," IZA Discussion Paper No. 926, November 2003.

Bowles, Samuel and Herbert Gintis (2002) – "The Inheritance of Inequality", The Journal of Economic Perspectives, Vol. 16, No. 3 (Summer, 2002), pp. 3-30.

Corak, Miles (ed). (2004) : Generational Income Mobility in North America and Europe, Book published by Cambridge University Press ISBN 0 521 82760 4

Driver, Edwin D. (1962) – "Caste and Occupational Structure in Central India", Social Forces, Vol. 41, No. 1 (Oct., 1962), pp. 26-31

Erikson, R. and J.H. Goldthorpe (1992), The Constant Flux: A Study of Class Mobility in Industrial Societies, Oxford: Clarendon Press.

Erikson, R. and J.H. Goldthorpe (2002), "Intergenerational Inequality: A Sociological Perspective", The Journal of Economic Perspectives, Vol. 16, No. 3 (Summer, 2002), pp. 31-44.

Gang, Ira N. & Zimmermann, Klaus F., (1999), "Is Child like Parent? Educational Attainment and Ethnic Origin", IZA Discussion Papers No. 57, 1999

Mazumder, B. (2001), "Earnings Mobility in the US: A New Look at Intergenerational Inequality." Center for Labor Research, University of California, Berkeley, Working Paper No. 34, March.

Ray, Jhilam and Majumder, Rajarshi (2010), "Educational and occupational mobility across generations in india: social and regional dimensions" . The Indian Journal of Labour Economics, Vol. 53, No. 4, 2010

Solon, G.R. (1992), "Intergenerational Income Mobility in the United States." American Economic Review, 82(3), 393-408.

Solon, G.R. (1999), "Intergenerational Mobility in the Labour Market", in Orley C. Ashenfelter and Devid Card, Eds., Handbook of Labour Economics, Vol 3A. Amsterdam: North Holland, 1999,pp 1761-1800

Solon, G.R. Lee, Chul-In (2006) : "Trends in Intergenerational Income Mobility".,NBER working Paper, http:/www.nber.org/papers/ w12007.

Srinivasan, K., and Kumar, Sanjay. "Economic and Caste Criteria in Definition of Backwardness." Economic and Political Weekly, 34 (16 October 1999): 3052-3057.

Takahiro Ito. 2007. "Caste Discrimination and Transaction Costs in the Labor Market: Evidence from Rural North India", Discussion Paper Series No.200, Institute of Economic Research, Hitotsubashi University, Japan

Vaid, Divya.(2007) " Caste and Class in India – An Analysis" Paper for CIQLE Workshop, Sept. 2007

World Bank (2000), "World Development Report 2000-2001: Attacking Poverty", World Bank.

Table 1

Transitional Matrix of *Actual Wage* in India:1993

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	14.9	**5.4**	**2.4**	**0.6**	**0.3**
2	5.0	18.4	**4.2**	**0.9**	**0.1**
3	3.0	4.3	12.3	**3.5**	**0.4**
4	2.3	1.8	3.2	6.5	**1.7**
5 (Topmost)	0.7	0.7	0.8	2.5	4.0
Upward Mobility			19.5		
Zero Mobility/Static			56.1		
Downward Mobility			24.5		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 2

Transitional Matrix of *Isolated Wage* in India:1993

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	8.2	**4.3**	**2.4**	**2.4**	**0.8**
2	4.2	11.5	**5.7**	**2.0**	**0.6**
3	3.1	4.3	14.5	**3.5**	**0.6**
4	2.6	2.3	3.1	8.7	**3.5**
5 (Topmost)	1.8	1.2	0.8	1.8	5.9
Upward Mobility			25.9		
Zero Mobility/Static			48.8		
Downward Mobility			25.3		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 3

Transitional Matrix of *Actual Wage* in India: 2004

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	16.9	**6.5**	**2.6**	**0.9**	**0.1**
2	4.8	13.3	**3.8**	**1.8**	**0.2**
3	2.4	5.2	12.7	**7.3**	**0.6**
4	1.0	1.5	2.8	6.1	**2.2**
5 (Topmost)	0.5	0.6	1.1	2.0	3.1
Upward Mobility			26.1		
Zero Mobility/Static			52.0		
Downward Mobility			21.9		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 4

Transitional Matrix of *Isolated Wage* in India: 2004

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	6.5	**4.9**	**3.5**	**2.9**	**1.4**
2	3.8	11.7	**6.4**	**2.7**	**1.0**
3	2.3	4.8	12.8	**5.4**	**1.1**
4	2.4	2.0	2.8	9.9	**2.9**
5 (Topmost)	1.6	1.2	0.9	1.3	4.0
Upward Mobility			32.2		
Zero Mobility/Static			44.9		
Downward Mobility			22.9		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 5

Transitional Matrix of *Actual Wage* in India: 2009

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	17.1	**2.7**	**1.1**	**0.5**	**0.3**
2	3.8	19.7	**2.2**	**0.9**	**0.2**
3	2.3	4.0	10.6	**6.5**	**0.7**
4	1.4	2.1	3.3	7.1	**3.1**
5 (Topmost)	0.7	0.5	1.5	2.7	5.4
Upward Mobility			18.1		
Zero Mobility/Static			59.9		
Downward Mobility			22.1		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 6

Transitional Matrix of *Isolated Wage* in India: 2009

Quintile Group of Father	***Quintile Group of Child***				
	(Lowest) 1	2	3	4	5 (Topmost)
(Lowest) 1	8.0	**6.4**	**2.0**	**1.9**	**1.2**
2	2.7	12.1	**5.2**	**1.5**	**0.7**
3	1.4	3.6	13.5	**5.6**	**0.5**
4	1.2	1.8	3.0	11.4	**4.3**
5 (Topmost)	1.4	1.2	1.7	2.6	5.1
Upward Mobility			29.3		
Zero Mobility/Static			50.1		
Downward Mobility			20.6		

Source: Author's calculations;
Note: Bold figures indicate upward movement;

Table 7

Upward Wage Income Mobility in India: 1993-2009

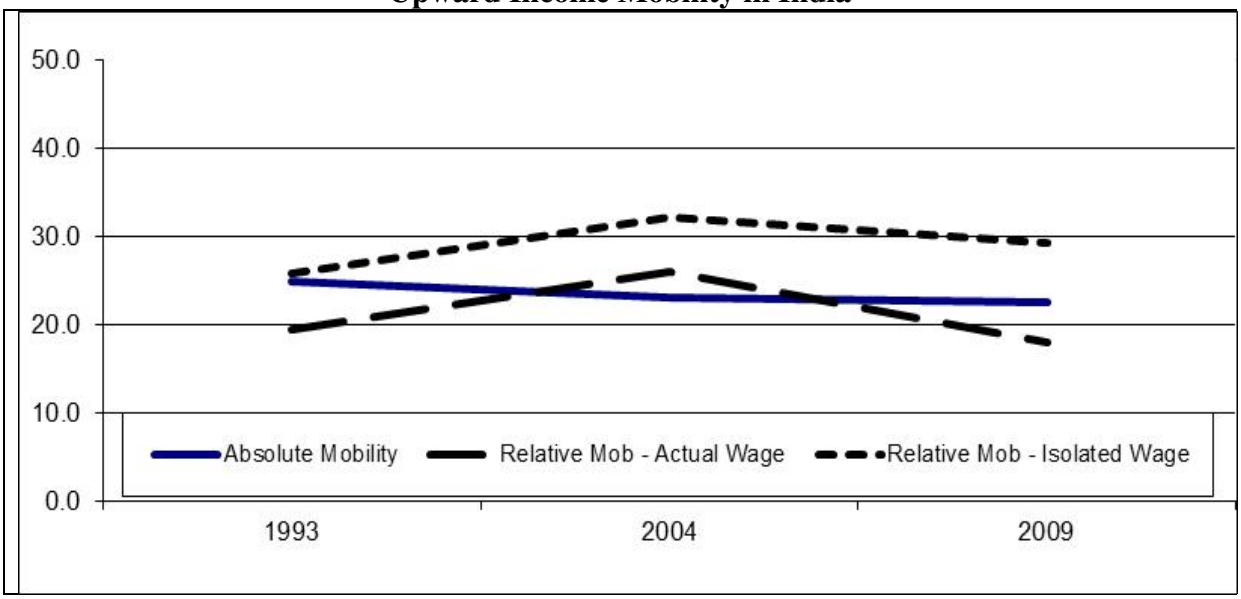
Measures of Mobility	*1993*	*2004*	*2009*
AbsoluteMobility – Isolated Wage[1]	25.0	23.1	22.5
Relative Mobility – Actual Wage[2]	19.5	26.1	18.1
Relative Mobility – Isolated Wage[3]	25.9	32.2	29.3

Source: Author's calculations;

Note: 1 – derived from method 1; 2 & 3 – derived from method 2 using Tables 1-6;

Figure 1

Upward Income Mobility in India



Source: Author's calculations;

Table 8

Different Measures of Upward Wage Income Mobility in India

Social Group	1993			2004			2009		
	Absolute Mobility	*Relative Mobility*		*Absolute Mobility*	*Relative Mobility*		*Absolute Mobility*	*Relative Mobility*	
		Actual Wage	*Isolated Wage*		*Actual Wage*	*Isolated Wage*		*Actual Wage*	*Isolated Wage*
ST	26.8	15.8	19.7	24.5	18.5	23.8	21.5	12.5	22.1
SC	26.0	16.2	18.5	22.9	21.0	24.2	24.6	15.3	21.5
OBC	na	na	na	22.9	21.9	24.6	22.9	16.1	21.1
GEN	24.3	16.4	21.6	23.4	19.2	24.3	20.3	15.2	26.1
All	25.0	16.3	20.6	23.1	20.7	24.3	22.5	15.3	22.7

Source: Author's calculations;

Table 9

Regression Results of Wage Function

Dependent Variable:Ln_isolated _wage_child	*1993*		*2004*		*2009*	
	Model 1	***Model 2***	***Model 1***	***Model 2***	***Model 1***	***Model 2***
(Constant)	3.725	4.338	2.635	2.436	3.738	3.058
	781.824	773.275	909.050	535.580	964.994	430.970
ln_isolated_wage_father	0.553**	0.485**	0.469**	0.506**	0.384**	0.488**
	1046.335	783.391	996.818	634.658	732.264	464.593
ST_dummy	-0.369**	-2.568**	-0.538**	0.902**	-0.141**	1.655**
	-153.920	-142.302	-181.565	90.532	-46.850	156.820
SC_dummy	-0.174**	-2.061**	-0.288**	0.135**	-0.467**	0.163**
	-114.431	-193.937	-157.017	20.958	-229.172	17.657
OBC_dummy			-0.258**	-0.228**	-0.343**	0.384**
			-143.426	-39.210	-194.541	43.185
Wage_father*ST dummy		0.257**		-0.323**		-0.334**
		(120.86)		(152.57)		(179.05)
Wage_father*SC dummy		0.216**		-0.083		-0.093
		(178.69)		(68.51)		(63.87)
Wage_father*OBC dummy				-0.001		-0.109
				(1.08)		(81.69)

Source: Author's calculations;

Note: Figures in parenthesis are t-ratios; 88 denotes significance at 1 per cent level.

Table 10

Derived Base Wages, Persistence and Mobility Rates

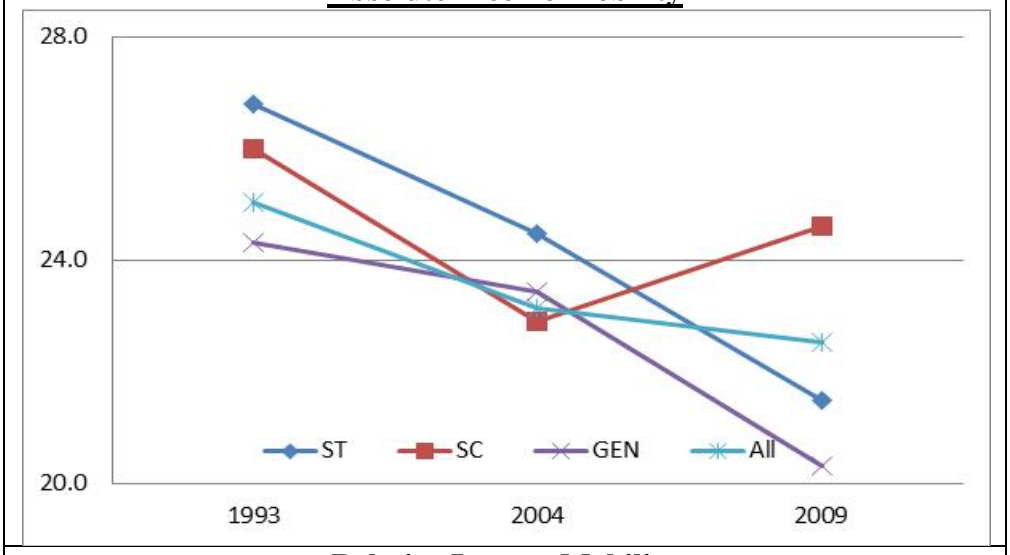
Indicator	1993		2004		2009	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Base Wage in Rs. Per Week						
General Caste	287		294		294	
OBC			231		210	
SC	238		230		182	
ST	196		105		252	
Persistence Rates (Elasticity with Father's Income)						
Aggregate	0.553		0.469		0.384	
General Caste		0.485		0.506		0.488
OBC		-		0.505		0.378
SC		0.742		0.183		0.154
ST		0.701		0.422		0.395
Mobility Indices (Inverse of Persistence Rates)						
Aggregate	1.8		2.1		2.6	
General Caste		2.1		2.0		2.0
OBC		-		2.0		2.6
SC		1.3		5.5		6.5
ST		1.4		2.4		2.5

Source: Author's calculations based on Table 9;

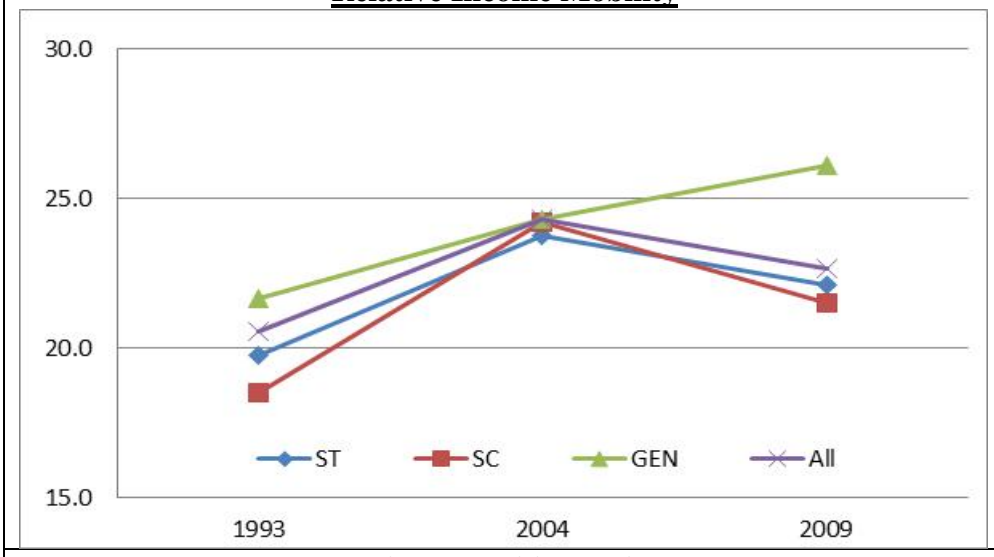
Figure 2

Upward Income Mobility in India across Social Groups

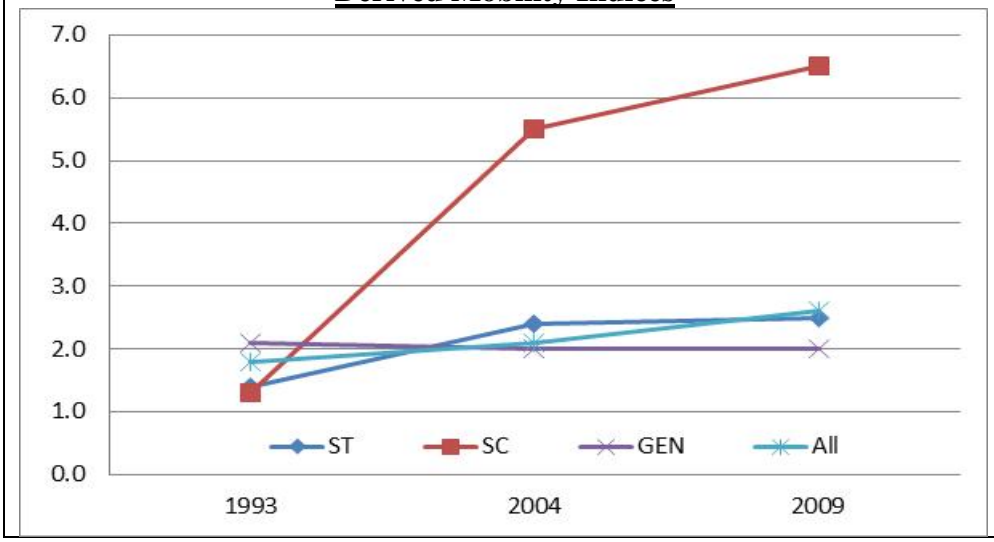
Absolute Income Mobility



Relative Income Mobility



Derived Mobility Indices



Source: Author's calculations;

Table 11

Upward Wage Income Mobility in India across Social Groups

Social Group	*1993*			*2004*			*2009*		
	Absolute Mobility	***Relative Mobility***	***Derived Mobility***	***Absolute Mobility***	***Relative Mobility***	***Derived Mobility***	***Absolute Mobility***	***Relative Mobility***	***Derived Mobility***
ST	26.8	19.7	1.4	24.5	23.8	2.4	21.5	22.1	2.5
SC	26.0	18.5	1.3	22.9	24.2	5.5	24.6	21.5	6.5
OBC	na	na	-	22.9	24.6	2.0	22.9	21.1	2.6
GEN	24.3	21.6	2.1	23.4	24.3	2.0	20.3	26.1	2.0
All	25.0	20.6	1.8	23.1	24.3	2.1	22.5	22.7	2.6

Source: Author's calculations;