Intergenerational Mobility and Long-term Socio-economic Change in Pakistan

IVO C. HAVINGA, FAIZ MOHAMMAD and SULEIMAN I. COHEN*

INTRODUCTION

Development process may entail changes in the socio-economic positions of people from one generation to the other. In Pakistan, no attempt has so far been made to study the lines on which people gain upward mobility or the factors which are involved in this process. This paper is an attempt in this direction. By using data from primary sources, we aim at explaining the income and wealth positions of Pakistanis from different generations in terms of their endowments of social, human and physical capital and other socio-economic characteristics. The assessment of incidence and nature of such mobility would enable us to identify the processes through which different socio-economic groups attempt to improve their positions in a changing society.

To open up this new area of research in Pakistan, a nation-wide survey was conducted, covering 1200 respondents in the major industrialized cities of the country. This paper presents some of the important findings of that survey. An exhaustive analysis of mobility in Pakistan will be presented in a report which is to follow this paper [4].

The paper is organized as follows. Section I outlines the methodological framework of the paper. This is followed by a description of the sample survey in Section II. Section III contains empirical findings and their analysis. Section IV presents some tentative conclusions of the study.

I. METHODOLOGICAL FRAMEWORK

Theoretical Framework

A methodology suitable for analysing mobility needs a theoretical framework which must take into account the two forms which mobility can take: (a) intergenerational mobility and (b) intragenerational mobility. In the case of intergenerational mobility, the focus of analysis is on mobility between the past and the present

generations, but in the case of intragenerational mobility it is the mobility within one and the same generation that constitutes the object of study.

For obvious reasons, the focus of the analysis should be on mobility within families. There the mobility is determined by two types of mechanisms: (a) the transmission of tastes, preferences and socio-economic positions within the family and (b) the influence of the socio-economic development of the 'outside' environment. Admittedly, these two mechanisms are, to a large extent, interconnected and can hardly be disentangled. However, on theoretical grounds this distinction needs to be made.

In principle, a comprehensive study of major socio-economic mobility trends in a society like Pakistan can be operationalized by including the socio-economic profile of: (a) the father and the father-in-law of the past generations, (b) the respondent and his wife and brothers, and (c) the sons and daughters of the respondent. These 'actors' in the mobility analysis are shown in Figure 1.

In this figure, the upper three boxes illustrate the interaction of the socio-economic positions among three generations of one family resulting from their endowments of social, human and physical capital. The lower box shows the influence of overall development, such as political events, government policies, and technological, economic and social trends on the positions of different generations.
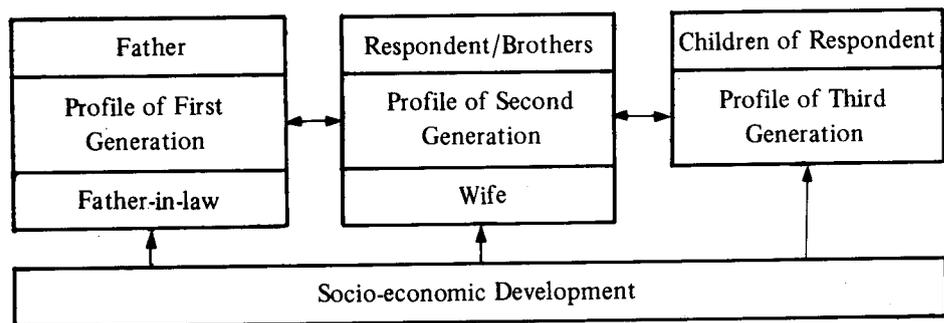

Fig. 1. **Theoretical Framework for the Analysis of Mobility Patterns**

Analytical Framework

In accordance with the theoretical framework, the pilot survey gathered a wealth of information on socio-economic characteristics of the 6 actors shown in Figure 1.

Within this framework, the paper would first try to describe the profiles of father and sons in terms of their geographical, educational, demographic, occupational and financial characteristics, and then point out the changes in these profiles that have occurred from one generation to the other. Elements of a profile may tend

to be associated with one another; for example, income level of a person may be associated with his educational achievements. Such associations could provide a stylization of the kind of environment in which an actor operates. The analytical framework developed here will attempt to describe such environment by using intercorrelations for two actors: (a) sons and (b) fathers. By comparing the two types of intercorrelations, one could monitor changes taking place over time in the socio-economic environments faced by different generations.

Any study of long-term socio-economic changes in population groups needs to define measures of mobility. In this respect, the unit of analysis for defining mobility can be the family or the individual within the family. In the first case, one can see how mobile the family is as a whole in terms of its performance regarding wealth, income, working status, occupation and place of residence. In the second case, the focus is on the individual. It is also possible to distinguish between intergenerational and intragenerational performances. In the former case, we look into differences between the past and the present generations, whereas in the latter case, mobility is defined within one and the same generation.

These four levels of mobility analysis are presented in Figure 2.

Scope of Analysis	Unit of Analysis	
	Individual	Family
1. Intergenerational	RI	RF
2. Intragenerational	AI	AF

Fig. 2. **Levels of Mobility Analysis**

The mathematical formulations of the four mobility indicators can be expressed as follows:

$$RI_i = \frac{C_{ij}}{C_{kj}} \quad i = 1, 2 \ldots\ldots\ldots n; \qquad j = 1, \ldots\ldots, m \qquad \ldots \quad (1)$$

$$RF_j = \frac{\bar{C}_j}{C_{kj}} \cdot \quad i = 1, 2 \ldots\ldots\ldots n; \qquad j = 1, \ldots\ldots, m \qquad \ldots \quad (2)$$

$$\text{of which } \bar{C}_j = \sum_{i=1}^{n} \frac{C_{ij}}{n}$$

$$AI_i = \frac{C_{ij}}{C_j} \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \quad (3)$$

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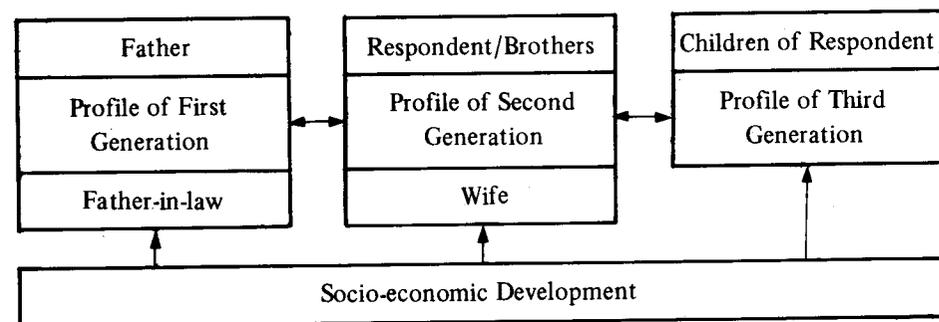

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$$\text{of which } \bar{C}_j \;=\; \sum_{i=1}^{n} \frac{C_{ij}}{n}$$

$$AI_i \;=\; \frac{C_{ij}}{C} \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \qquad \ldots \quad (3)$$

$$AF_j = [\frac{(\overset{n}{\underset{i=1}{\Sigma}} C_{ij} - \bar{C}_j)^2}{n}]^{1/2} \quad \dots \quad \dots \quad \dots \quad \dots \quad (4)$$

where C stands for a characteristics of mobility; i for the ith individual (son) from the present generation; j for family; and k for individual (father) from the past generation.

The relations (1) to (3) are ratios, whereas the fourth one is standard deviation. The ratio (RI) measures the mobility of an individual (son) of the present generation compared with that of his father, whereas the second ratio (RF) expresses this relation between the average performance of all individuals (sons) of the present generation and that of their fathers. The third ratio (AI), however, compares within one generation the average performance of all individuals (sons) in a family against the performance of each individual in the same family. Finally, the fourth relation (AF) is the standard deviation of a characteristic within the same family.

With regard to the interpretation of the values of the four mobility indicators, it is noted that in the cases of ratios (1) to (3), upward (positive) mobility is observed when the values of the indicators are above 1 and downward (negative) mobility is indicated when the values of the indicators are below 1. In the case of the fourth indicator (AF), which is in principle an inequality measurement, high values signify high mobility and vice versa.

To estimate these indicators, one could, in principle, use a number of characteristics of an individual, important among which could be income, wealth, occupation, working status and place of residence of a person. But not all of these characteristics can be easily expressed in standardized units and made comparable with some degree of accuracy. Income and wealth are perhaps the only two characteristics which can easily be made comparable across individuals over time and space. Therefore, this paper limits the analysis only to these two characteristics. In the forthcoming report [4], an attempt will be made to utilize the other characteristics.

To estimate the wealth of an individual, however, is not an easy task. Not all forms of wealth can be accounted for, particularly when an individual is asked to disclose his wealth. Experience has shown that the individual is less reluctant to provide information on the accumulated wealth in terms of land, houses and plots (residential and commercial). Therefore the total wealth of the individual is estimated from these three types of wealth. Moreover, the income of the individual was estimated by totalling the incomes from his main job as well as from other jobs and investment, to calculate total factor income.

Although this analytical framework has comprehensively discussed the applicable mobility indicators by four levels of analysis, the *focus of this paper will be only on the intergenerational aspect of mobility*. Our mobility analysis will, therefore, focus on *RI* and *RF*.

II. DATA COLLECTION

Since ours is a pilot study, we are not interested here in analysing the magnitude of mobility as such. Instead, our interest is in studying the nature and shape of the transition process. In view of this, we did not try to select an essentially random sample. Especially in a country like Pakistan, which has experienced a gradual transition from a traditional agrarian society to a modern industrialized and service-oriented society in the last three decades, it is appropriate to select those pockets of the labour market where mobility and social changes are expected to have gained momentum. Therefore, the study makes use of a selective sample and not a random sample: while selecting the sample of respondents, we focused on male individuals engaged in the modern, non-agricultural sector of the economy, and residing in the major industrialized cities of Pakistan.

In all, 1200 respondents from 10 major city districts[1] were selected to provide information about their own personal characteristics as well as about the personal characteristics of other 'actors' of the family. The distribution of the urban and rural non-agricultural male working force in the 10 city districts was generated as a proxy for distributing the 1200 respondents. The focus on the modern segment of the labour market was incorporated by selecting 70 percent wage-earners and 30 percent non-wage-earners within each district, which is a reversion of the actual distribution of the overall pattern observed in the labour market of Pakistan in 1982 [2;3]. The distribution of respondents by sectors of production was derived from the overall sectoral distribution in Pakistan by making the necessary adjustment for the agricultural sector. This is to say, the agricultural sector was dropped and the sectoral distribution was recalculated to one hundred percent.

Finally, the survey was directed at respondents who were older than 40 years of age and they were interviewed at the places of their work. The reason for going for a particular age group was to make sure that the respondents had children of a mature age, and also that almost all males of the second generation were actively engaged in the labour force.

III. EMPIRICAL RESULTS AND ANALYSIS

Socio-economic Profiles of 'Actors'

The profile descriptions are based on the socio-economic characteristics presented in Tables 1 and 2. In Table 2, a distinction has been made between all sons and those whose fathers are alive and working as well as between all fathers and those alive and working, a distinction which is needed later in the analysis. In Table 1 this

[1] These city districts were Islamabad/Rawalpindi, Lahore, Gujranwala, Faisalabad, Karachi, Hyderabad, Peshawar, Mardan and Quetta.

Table 1

Profile of Respondents and Related Persons

Profile Characteristics	Respondents No. of Valid Cases	Respondents %	Fathers No. of Valid Cases	Fathers %	Sons No. of Valid Cases	Sons %
1. Province/Region of Present Residence						
Baluchistan		4.3		2.5		2.7
NWFP		12.5		13.6		11.7
Punjab		49.9		48.7		48.1
Sind		33.4		25.8		30.5
India		N.A.		8.1		1.4
Bangladesh		N.A.		0.1		0.0
Middle East		N.A.		0.2		2.5
Europe		N.A.		0.0		1.3
USA/Canada		N.A.		0.1		1.2
Asia		N.A.		0.8		0.4
Other Countries		N.A.		0.2		0.1
	1199		1192		3714	
2. Place of Birth						
Rural		19.3		24.3		19.8
Urban		80.7		75.7		80.2
	1199		1190		3720	
3. Province/Region of Birth						
Baluchistan		2.9		2.1		2.9
NWFP		13.7		13.6		12.8
Punjab		32.8		25.1		36.3
Sind		6.3		4.9		7.7
India		42.9		53.1		38.9
Bangladesh		0.2		0.2		0.2
Middle East		0.1		0.2		0.0
Asia		1.0		0.9		1.1
Others		0.1		–		0.1
	1198		1195		3713	
4. Working Status						
Employer		16.3		6.3		9.4
Employee (Government)		27.8		24.7		27.1
Employee (Private)		17.2		8.8		19.0
Self-employed		38.8		59.3		42.0
Unpaid Family Worker		N.A.		0.1		1.2
Unemployed		N.A.		0.8		1.4
	1192		1183		3696	
5. Occuaption						
Technical		11.2		4.0		9.6
Non-technical		9.3		6.7		8.3
Managerial		29.3		6.8		17.5
Clerical		10.0		15.8		12.8
Sales		14.3		22.7		21.4
Services		2.8		2.5		2.2
Agricultural		.3		18.6		4.7
Production Workers		22.8		20.4		21.4
Army		–		2.5		1.5

Table 2

Profile of Respondents and Related Persons

Characteristics ↓	All Cases Respondents Mean	Respondents SD/N	Fathers Mean	Fathers SD/N	Sons Mean	Sons SD/N	Cases in which Fathers are Alive Respondents Mean	Respondents SD/N	Fathers Mean	Fathers SD/N	Sons Mean	Sons SD/N
1. Age	49	8 (1184)	46	–	46	10 (3538)	NA	NA	73	9 (315)	40	9 (980)
2. Highest Education	13	5 (1197)	9	7 (1194)	12	5 (3714)	NA	NA	9	7 (330)	13	5 (1007)
3. Income (Main job) (Rs)	6199	7504 (1198)	–	–	5814	8222 (3385)	NA	4402	4402	8476 (205)	7496	7496 (975)
4. Income (Other job and Investment) (Rs)	567	2754 (1196)	–	–	325	2690 (3536)	NA	296	296	1597 (332)	827	827 (1015)
5. Income (from Family Transfers) (Rs)	338	3292 (1197)	–	–	216	2282 (3539)	NA	211	211	802 (332)	448	448 (1015)
6. Value of House Owned (000 Rs)	327	766 (1199)	–	–	294	1146 (3538)	NA	227	227	452 (331)	328	328 (1013)
7. Land Owned (Acres)	4.2	26.4 (1195)	–	–	3.7	2842 (3539)	NA	9.21	30.1	30.1 (332)	1.3	1059 (1016)
8. Value of Land Owned (000 Rs)	122	777 (1194)	–	–	119	877 (3539)	NA	310	310	1102 (332)	33	286 (1016)

Table 2 — (Continued)

Characteristics ↓ \ Actors →	All Cases						Cases in which Fathers are Alive					
	Respondents		Fathers		Sons		Respondents		Fathers		Sons	
	Mean	SD/N	Mean	SD/N	Mean	SD/N	Mean	SD/N	Mean	SD/N	Mean	SD/N
9. Plot Owned (Yards)	58	446 (1195)	–	–	40	324 (3535)	NA	NA	10	116 (331)	21	16.9 (1014)
10. Value of Plot Owned	29	292 (1194)	–	–	16	183 (3534)	NA	NA	15	222 (331)	10	74 (1014)
11. Worked abroad (%)	13.5	NA (1199)	3.1	NA	13.6	NA (3719)	NA	NA	–	–	–	–
12. No. of Years Worked abroad	0.48	1.91 (1199)	0.27	2.6 (1198)	0.81	3.07 (3719)	NA	NA	.52	4.10 (332)	0.77	2.48 (1016)
13. Performed Umra/Haj (%)	26.3	NA (1199)	33.8	NA (1198)	20.6	NA (3721)	NA	NA	43.7	NA (332)	20.1	NA (1016)
14. No. of High-positioned Relative	0.81	1.26 (1199)	0.37	0.92 (1197)	0.67	1.15	NA	NA	.57	1.13	0.64	1.04 (1013)
15. Percentage having High-positioned Relation	43.6	NA (1199)	20.8	NA (1199)	36.8	NA (3722)	NA	NA	–	–	–	'
16. No. of Children	4.63	2.35 (1198)	5.28	2.44 (1195)	3.91	2.54 (3917)	NA	NA	5.83	2.41 (328)	3.34	2.42 (1001)

Source: Survey conducted by the PIDE and the Netherlands Development Corporation in 1985.

discrimination is not incorporated because differences in these characteristics of fathers are minor.

The profile of sons covers all males of the second generation who are actively engaged in the labour market. This implies that they are either working or looking for a job. Owing to the fact that only those respondents were selected who were older than 40 years, most of the second-generation males are included in this profile analysis of sons. The sample covered a total of 3722 sons (including 1199 respondents), of which 175 had died by the time of the survey. Looking at Table 1, one finds that 38.9 percent of all sons originated from India as compared with 42.9 percent of the respondents. This percentage is compensated for by a higher percentage of sons originating from the four provinces of Pakistan, particularly Punjab and Sind. By place of residence, the sons' distribution in the four provinces of Pakistan is slightly lower because 5.5 percent of the sons are working abroad and 1.4 percent are still residing in India. Admittedly, the percentage of sons working abroad differs from the generally observed level of sons working abroad by 10 percent [3]. Moreover, it is observed that 19.8 percent of sons (the same as for respondents) were born in rural areas.

Regarding the working status, the profile of 'all sons' differs considerably from that of the respondent. Only 9.3 percent of them had the status of an employer as compared with 16.3 percent of the respondents. For the group of employees in the government sector, about the same percentage (27.1 percent) is found for 'all sons' case, but for the status group of employees in the private sector a slightly higher percentage is observed (19.0 percent versus 17.2 percent for all sons). From the above comparison it follows that the percentage of the self-employed is higher (42.0 percent versus 38.8 percent) for all sons. Moreover, 1.2 percent of 'all sons' are unpaid family workers and 1.4 percent are unemployed. These results indicate that the pattern of working status becomes more representative of the actual pattern in the labour force. Moreover, the inference drawn earlier still holds that in comparison with the pattern of fathers, there is a transition from non-wage to wage employment.

As regards the descriptive statistics of 16 characteristics, the focus will be on 'all sons' with a brief comparison with those sons whose fathers are alive and working.

As expected from the selection of respondents 40 years or older at the time of the survey, the average age of 'all sons' is somewhat lower (46 years). The average education is slightly lower than that of the respondents (12.5 years which is 4 percent lower). The income from main job is Rs 5815, which is 7 percent lower than the income of the respondent. To determine this income so that it could correspond to that of fathers we isolated the effect of the deceased sons. Also, the income from other jobs and businesses (Rs 375) is lower by 52 percent. The income from family

transfer (Rs 216) is lower by 56 percent. Looking at wealth characteristics one finds that on average the value of the house owned by sons was Rs 293,558, which is 11 percent lower than that of the respondents. The value of agricultural land (Rs 119,196) and residential urban plot (Rs 16,135) are respectively 2 percent and 80 percent lower than the values for respondents only. The number of children (3.9) is 18 percent lower and the percentage of those sons who performed Umra/Haj is 11 percentage points lower than that of the respondents. The average number of years worked abroad is 0.8 years and the average number of relatives in high positions is 0.7. Only 13.6 percent of the sons have worked abroad with an average of 5.9 years. Although the percentage of respondents who have worked abroad is the same as of the 'all sons' subgroup, the average number of years for those who have worked abroad is 3.5 years. The percentage of 'all sons' who have relatives in high positions is 36.8 percent. This percentage was 43.6 in the case of respondents. However, the average number of relatives of 'all sons' and respondents is the same (1.8). Consequently, it would appear from the above that respondents are ahead of their brothers in education, income from main job, property owned, status and occupational indicators, by 4 percent to 13 percent.

When restricting the sample of all sons (3722 cases) to those sons whose fathers are alive and working (1016 cases), one observes a general decline in the performances of most characteristics. Only years of education increase by one year to 13 years. This decline is primarily caused by the younger age distribution of 'all sons', which in turn causes wealth and income components to go down.

It is striking to observe that in comparing the fathers with responding sons, it appears that in several respects there is an improvement for the responding son by about 40 percent. A generational progress of 40 percent can be noted for the number of educational years (9 for fathers, 13 for sons), monthly income (Rs 4401 vs Rs 6199), value of house owned (Rs 247,242 vs Rs 326,553), share of self-employment (38 percent vs 43.2 percent), and share of agricultural and production workers (59 percent vs 39 percent).

Profile Associations and their Changing Patterns over Time

The interrelationships between the socio-economic characteristics of fathers and sons and their changing patterns over time will be analysed with Pearson correlation coefficient (r) matrices. Correlation matrices of fathers and 'all sons' are presented in the upper and lower blocks of Table 3, respectively. Before explaining these results, let it be noted that the first 6 characteristics, namely value of wealth and total factor income, age, years of education, years worked abroad, and number of relatives in high positions are continuous variables, whereas the last four variables relating to working status, occupations, place of birth and place of residence are ordinal variables. Different ranks have been used to define these variables.

Table 3

Pearsons Correlation Coefficients for Characteristics of Living Fathers

Characteristics → Characteristics ↓	Wealth (1)	Income (2)	Age (3)	Education (4)	Worked Abroad (5)	Network (6)	Occupation (7)	Working Status (8)	Province/ Region of Residence (9)	Province/ Region of Birth (10)
1. Wealth	1.0									
2. Income	0.192	1.0								
3. Age	0.12	0.062	1.0							
4. Education	0.06	0.064	-0.143	1.0						
5. Worked Abroad	-0.019	0.216	0.046	0.008	1.0					
6. Network	0.054	0.059	-0.096	0.157	-0.027	1.0				
7. Occupation	0.02	0.056	-0.088	0.416	-0.069	0.184	1.0			
8. Working Status	0.093	-0.03	-0.127	0.30	0.0719	0.166	0.391	1.0		
9. Province/Region of Residence	-0.258	0.112	0.001	0.092	0.053	-0.016	0.017	-0.092	1.0	
10. Province/Region of Birth	-0.261	0.032	-0.028	0.083	0.018	-0.013	0.103	-0.042	0.652	1.00

Pearsons Correlation Coefficients for Characteristics of Sons whose Fathers are Alive and/or Working

Characteristics	Wealth (1)	Income (2)	Age (3)	Education (4)	Worked Abroad (5)	Network (6)	Occupation (7)	Working Status (8)	Province/ Region of Residence (9)	Province/ Region of Birth (10)
1. Wealth	1.0									
2. Income	0.349	1.00								
3. Age	0.168	0.043	1.00							
4. Education	0.087	0.123	-0.023	1.00						
5. Worked Abroad	0.095	0.274	0.004	0.064	1.00					
6. Network	0.246	0.174	0.089	0.17	0.101	1.00				
7. Occupation	0.123	0.145	0.070	0.341	0.064	0.2643	1.00			
8. Working Status	0.134	0.122	0.047	0.146	-0.008	0.184	0.434	1.00		
9. Province/Region of Residence	0.03	0.293	0.008	0.027	0.312	0.016	0.064	-0.073	1.00	
10. Province/Region of Birth	0.034	0.158	0.27	-0.035	0.081	0.033	-0.041	-0.076	0.498	1.00

Source: Sample survey conducted by the PIDE and the Netherlands Development Corporation.

transfer (Rs 216) is lower by 56 percent. Looking at wealth characteristics one finds that on average the value of the house owned by sons was Rs 293,558, which is 11 percent lower than that of the respondents. The value of agricultural land (Rs 119,196) and residential urban plot (Rs 16,135) are respectively 2 percent and 80 percent lower than the values for respondents only. The number of children (3.9) is 18 percent lower and the percentage of those sons who performed Umra/Haj is 11 percentage points lower than that of the respondents. The average number of years worked abroad is 0.8 years and the average number of relatives in high positions is 0.7. Only 13.6 percent of the sons have worked abroad with an average of 5.9 years. Although the percentage of respondents who have worked abroad is the same as of the 'all sons' subgroup, the average number of years for those who have worked abroad is 3.5 years. The percentage of 'all sons' who have relatives in high positions is 36.8 percent. This percentage was 43.6 in the case of respondents. However, the average number of relatives of 'all sons' and respondents is the same (1.8). Consequently, it would appear from the above that respondents are ahead of their brothers in education, income from main job, property owned, status and occupational indicators, by 4 percent to 13 percent.

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It is striking to observe that in comparing the fathers with responding sons, it appears that in several respects there is an improvement for the responding son by about 40 percent. A generational progress of 40 percent can be noted for the number of educational years (9 for fathers, 13 for sons), monthly income (Rs 4401 vs Rs 6199), value of house owned (Rs 247,242 vs Rs 326,553), share of self-employment (38 percent vs 43.2 percent), and share of agricultural and production workers (59 percent vs 39 percent).

Profile Associations and their Changing Patterns over Time

The interrelationships between the socio-economic characteristics of fathers and sons and their changing patterns over time will be analysed with Pearson correlation coefficient (r) matrices. Correlation matrices of fathers and 'all sons' are presented in the upper and lower blocks of Table 3, respectively. Before explaining these results, let it be noted that the first 6 characteristics, namely value of wealth and total factor income, age, years of education, years worked abroad, and number of relatives in high positions are continuous variables, whereas the last four variables relating to working status, occupations, place of birth and place of residence are ordinal variables. Different ranks have been used to define these variables.

Table 3

Pearsons Correlation Coefficients for Characteristics of Living Fathers

Characteristics	Wealth (1)	Income (2)	Age (3)	Education (4)	Worked Abroad (5)	Network (6)	Occupation (7)	Working Status (8)	Province/ Region of Residence (9)	Province/ Region of Birth (10)
1. Wealth	1.0									
2. Income	0.192	1.0								
3. Age	0.12	0.062	1.0							
4. Education	0.06	0.064	-0.143	1.0						
5. Worked Abroad	-0.019	0.216	0.046	0.008	1.0					
6. Network	0.054	0.059	-0.096	0.157	-0.027	1.0				
7. Occupation	0.02	0.056	-0.088	0.416	-0.069	0.184	1.0			
8. Working Status	0.093	-0.03	-0.127	0.30	0.0719	0.166	0.391	1.0		
9. Province/Region of Residence	-0.258	0.112	0.001	0.092	0.053	-0.016	0.017	-0.092	1.0	
10. Province/Region of Birth	-0.261	0.032	-0.028	0.083	0.018	-0.013	0.103	-0.042	0.652	1.00

Pearsons Correlation Coefficients for Characteristics of Sons whose Fathers are Alive and/or Working

Characteristics	Wealth (1)	Income (2)	Age (3)	Education (4)	Worked Abroad (5)	Network (6)	Occupation (7)	Working Status (8)	Province/ Region of Residence (9)	Province/ Region of Birth (10)
1. Wealth	1.0									
2. Income	0.349	1.00								
3. Age	0.168	0.043	1.00							
4. Education	0.087	0.123	-0.023	1.00						
5. Worked Abroad	0.095	0.274	0.004	0.064	1.00					
6. Network	0.246	0.174	0.089	0.17	0.101	1.00				
7. Occupation	0.123	0.145	0.070	0.341	0.064	0.2643	1.00			
8. Working Status	0.134	0.122	0.047	0.146	-0.008	0.184	0.434	1.00		
9. Province/Region of Residence	0.03	0.293	0.008	0.027	0.312	0.016	-0.01	-0.073	1.00	
10. Province/Region of Birth	0.034	0.158	0.27	-0.035	0.081	0.033	-0.041	-0.076	0.498	1.00

Source: Sample survey conducted by the PIDE and the Netherlands Development Corporation.

The occupational categories, for instance, have been ranked from 1 to 8 according to the first digit 'Standard Classification of Occupations' of which the categories of production, agricultural, service, sales, clerical, managerial, non-technical, and technical workers have been set from 1 to 8, respectively. Here, it is noted that the army personnel have not been included in the ranking, because of their heterogeneity in military ranks and, hence, in socio-economic positions.

The working status categories have been ranked from 1 to 6 for unemployed, unpaid family worker, self-employed, employee in the private sector, employee in the government sector, and employer, respectively. The places of birth and residence have been ranked according to the level of development of the province/country. That is, Baluchistan and NWFP have been ranked 1, Punjab and Sind 2, and others which include India, Middle East, Europe, USA/Canada, Bangladesh and Asia ranked 3.

1. After comparing the number of significant correlations [with explaining variance above 1 percent ($r \geqslant 0.10$)] between the characteristics of fathers and sons, the general impression that emerges is that the socio-economic environment of the present generation shows more coherent (i.e. stable and significant) patterns for improvement of economic position in terms of income and wealth. (See also points 3 and 4 below).

2. In the cases of both fathers and sons, one can observe the labour market interrelationships between education, working status, occupation and network. In addition, it is interesting to note that the increased availability of educational institutions in Pakistan over time has led to the absence of correlation between age and education in the case of sons, while it is still negatively associated in the case of fathers.

3. It is observed that all the labour market characteristics mentioned under point 2 correlate significantly at an acceptable level of correlation (i.e. $r \geqslant 0.1$) with the level of income in the case of sons. However, in the case of fathers, these correlations are absent. One might suggest that up to now the improvement of the income positions of sons, as compared with those of fathers, shows more coherent and stable patterns. Admittedly, only through partial-correlation analyses can the direct correlation of each labour characteristic with the level of income be ascertained. However, on theoretical grounds, the correlations are justified.

4. Also, regarding the level of wealth, the labour market characteristics (except education) show correlation only in the case of sons. Again, the distinction in patterns of wealth accumulation between fathers and sons shows that over time the improvement in economic position (i.e. in terms of wealth) follows more coherent patterns.

5. As regards the correlations of the geographical characteristics with places of birth and residence, the following can be observed. In the cases of both fathers and sons, the correlation is observed between places of birth and residence. This

could be the result of the possible facts that (a) fathers and sons originating from a place also reside in the same place; and (b) those sons and fathers who migrated from India moved mainly to Punjab and Sind. Moreover, the migration patterns stemming from the employment of Pakistanis abroad (i.e. Middle East, Europe and USA/Canada) explains the correlation between the years worked abroad and the places of residence of sons. Here also, the positive correlation between sons' age and places of origin should be mentioned because it could later emerge as an explaining factor in the incidence of mobility, in our analysis. This last correlation indicates that the ages of sons originating from India are, on average, higher than the ages of those sons who originated from the four provinces of Pakistan, the outcome of the migration of fathers to Pakistan.

Intergenerational Mobility

The analysis of intergenerational mobility is done in three steps. Firstly, the results are presented relating to the magnitude and incidence of such mobility for both individual and family cases. This is done by using wealth and income criteria separately. In the second step, we study the relationship of mobility indicators (ratios) with socio-economic characteristics. This exercise, while complementing some of the earlier analysis, should bring sharply into focus those variables which have played a key role in intergenerational mobility in Pakistan. In the final step, the incidence of upward mobility by places of birth and residence, working status and occupations is considered, of which the inferences are only summarized in Section IV.

1. Table 4 presents estimates of the occurrence (incidence) of income and wealth mobility for sons individually and as 'families', compared with their fathers, as well as the magnitudes of such mobility. As regards the magnitudes, these estimates show that the individual sons, on average, have 4.15 times as much income as their fathers but 5.3 times as much income as families. In the case of wealth, they hold about 84 times and 88 times as much wealth as their fathers, as individuals and as families, respectively. Even without looking at standard deviations (SD) of these ratios, one can see that wealth distribution among sons is far more skewed than income distribution. It appears that in the case of wealth ratios, there were certain cases of sons having many times as much wealth as their fathers, which pushed the average of these ratios upward. Estimates of SD of wealth ratios also convey a high degree of inequality of wealth distribution among sons in our survey.

When turning to family level, it seems that income is more unevenly distributed at the family level than at the individual level. This is signified in particular by the high value of SD of the ratio based on family income. An increase in the mean and SD of these ratios in the case of family data indicates that at high levels of family income, income distribution appears to become relatively more skewed within the family. But we must remember that the above estimates are based on a selective

Table 4

Magnitudes of the Indicators of Wealth and Income Mobility
(i.e. WR and IR) and Incidence of Upward Mobility

Characteristics	Individual Sons		Family (Composed of Sons)	
	RI/SD	%	RF/SD	%
(1)	(2)	(3)	(4)	(5)
Wealth (WR)	83.72	31	87.84	38
	(281.10)	(1010)	(241.43)	(328)
Income (IR)	4.15	60	5.30	65
	(7.16)	(600)	(20.04)	(205)

Note: Figures in Columns 2 and 4 are means and standard deviations (the latter in parentheses) whereas in columns 3 and 5 they are the incidences of upward mobility and the number of cases (the latter in parenthesis) used to estimate the respective values. Other cases were not suitable for use here.

sample and their exact magnitudes may, therefore, change when a pure random sample is used.

For the wealth indicator, the magnitudes at individual and family levels are about the same. This signifies that the inequality in average attained wealth of sons between families is still substantially due to a minority of sons within a family attaining relatively high wealth as compared with other sons. As regards the incidence of intergenerational mobility, Table 4 indicates that at the individual level, using wealth criterion only, 31 percent sons have done better than their fathers. However, using income criterion, the incidence of upward mobility goes up to 60 percent. It has also been observed (but not reported here) that there were 56 percent cases in which wealth ratios were equal to zero. Therefore, low cases of wealth mobility can be partly explained by the fact that there was a large percentage of sons who did not have any wealth at all. This, however, could not have been the case of income where most of the sons were gainfully employed.

These results could also indicate that in the present generation not many people accumulate wealth in the same forms in which the past generation did. Furthermore, since age was observed to be one of the most important factors associated with wealth, one should, not, in general, expect the younger generation to accumulate as much wealth as could be done by the older generation.

At the family level, on both wealth and income grounds, the incidence of intergenerational mobility has increased. It is 38 percent in the case of wealth and 65 percent when income criterion is used. These results imply that, compared with individuals, in more cases families as a whole performed better than the past generation. A simple reason for increase in these percentages is that the analysis at the family level incorporates dispersion of wealth and income within the families of the present generation.

2. Table 5 presents coefficients of correlation between mobility indicators (i.e. WR and IR) and different characteristics of 'fathers' and 'sons'. The main features of these estimates are as follows:

(i)   In almost every situation, ages of fathers and sons appear to be very closely associated with intergenerational mobility. The ages of these 'actors' were also observed to be closely associated with their absolute income and wealth (Table 3). In the present context, these results may imply that if ages in Pakistan go up, the income and wealth mobility of the present generation may also go up.

(ii) As regards the labour characteristics in terms of occupation, working status and education, it is the *fathers' characteristics* which exert their influence on income and wealth mobility through a significant and coherent pattern. At the individual level, it is, in particular, *fathers' occupation, working status and education* that influence income mobility and, in particular, fathers' occupations and education which influence wealth mobility. At the family level, it is again fathers' occupation and education which influence wealth mobility and only fathers' working status which influences income mobility. At the individual level, *only two characteristics* of sons, namely 'working status' and 'occupation', show positive relationships with their wealth and income mobility. However, these relationships do not seem to be very significant and coherent. In terms of wealth mobility, the positive influence of sons' occupation, even though positively correlated with WR, also does not reach an acceptable level of correlation ($r \geqslant 0.1$). As regards income mobility, the sons' occupation shows a high degree of association with it. In addition, it should be mentioned that sons' network also exerts significantly positive influence on wealth mobility.

(iii) Turning to the geographical characteristics, the 'places of birth' of fathers and sons seem to play a significant role in sons' wealth mobility. At both the individual and the family levels, 'r' is greater than 0.1. This may indicate that those sons whose fathers, or who themselves, originated from Punjab, Sind and India stood greater chances of gaining wealth mobility.

The places of residence correlate with income mobility only in the cases of sons. Through intercorrelations, brought out in the preceding analysis, with sons'

Table 5

Coefficients of Correlation between Mobility Indicators (WR, IR)
and Characteristics of Fathers who are Alive and/or Working
and those of their Sons in Pakistan, 1985

		Fathers				Sons	
		Individual Cases		Family Cases		Individual Cases	
S. No.	Characteristics	WR	IR	WR	IR	WR	IR
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	RI	0.092*	1.0	.095*	1.00	0.092	1.00
2.	Age	0.095*	0.128*	0.053	0.153*	0.20*	0.102*
3.	Education	0.100*	0.108*	0.085**	−0.018	0.038	0.003
4.	Years Worked abroad	−0.035	−0.058	−0.039	−0.027	0.045	0.177*
5.	Social Network	0.037	0.007	0.055	−0.028	0.109*	−0.038
6.	Occupation	0.171*	0.139*	0.167*	0.042	0.092**	0.109*
7.	Working Status	−0.011	0.159*	−0.033	0.166*	0.011	0.098*
8.	Province/Region of Birth	0.120*	0.055	0.134*	0.0615	0.110*	0.082
9.	Province/Region of Residence	0.050	0.083*	0.013	0.038	0.091**	0.166*

Source: Survey conducted by the PIDE and the Netherlands Development Corporation in 1985.
*Significant at the less than 5-percent level of significance.
**Significant at the less than 10-percent level of significance.

places of residence, one could also see the 'number of years worked abroad' correlating positively with their income mobility. As a corollary of this, one might suggest that sons living at present in the Punjab, Sind and abroad have a relatively high chance of surpassing their fathers in incomes.

IV. CONCLUSIONS

The pilot survey on intergenerational mobility and long-term socio-economic change was purposely biased to cover those families which might have gained socio-economic mobility. It is essential that we reiterate this bias to set the background for the following concluding remarks.

1. The analysis of correlations between the *absolute level* of income and wealth *vis-à-vis* the fathers' and sons' characteristics has shown that the improvement in the economic position of sons follows a more stable and coherent pattern than the improvement in fathers' economic position.

2. The analysis of the magnitudes of mobility indicators shows that the dispersion of accumulated wealth is considerably higher than that of income among individual sons. Moreover, when comparing the magnitudes of mobility at the individual level with those at the family level, it was observed that the income mobility indicator was higher at family level than at the individual level. The wealth mobility indicator, on the other hand, increased only slightly. However, in both cases it indicates dispersion of income and wealth within the family, which increases with the increase in the average income and wealth of the family. In addition, it was observed that inequality in income increased when we moved from the individual to the family level income.

3. The analysis of correlations between the wealth and the income indicators *vis-à-vis* fathers' and sons' characteristics shows that fathers' labour characteristics, in particular their occupations, working status and education, provide significant and coherent patterns for improvement of economic positions of sons. This pattern could be discerned at both the individual and the family level. In addition, it may be mentioned that the sons' social network also exerts an important and positive influence on their mobility.

4. Additional analysis of the incidence of intergenerational mobility shows that wealth mobility by places of origin and residence is sensitive to influx of migrants' fathers from India. This is so because they had less wealth at present than the average held by 'all fathers', probably due to loss of wealth associated with their dislocation from India after the subcontinent's partition in 1947. It is also observed that the incidence of mobility differed significantly across the four provinces (of Pakistan) by places of birth and residence of sons and fathers. However, when performances of sons are combined in terms of income and wealth mobility, one can not rule out the tentative conclusion that sons from the NWFP and, to some extent, Baluchistan did not move upward as much from their parents' economic positions as was done by their counterparts in Sind and the Punjab.

5. The analysis of incidences of upward wealth and income mobility by working status and occupations has shown that the results are sensitive to the transition process between fathers and sons in the labour market, from non-wage to

wage-employment, and from low-paid and less skilled jobs to highly paid and more skilled jobs.

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Comments on
Intergenerational Mobility and Long-term
Socio-economic Change in Pakistan

The study aimed at describing the patterns of intergenerational mobility with a view to discerning the causative factors and has come up with some plausible concluding statements. I was unable to fully appreciate its findings, partly because of the authors' insufficient explanations, which may be due to the fact that this study is part of a larger ongoing project. My more substantive objections relate to poor methodology, data and statistical techniques/inferences.

i. *Methodology:* The present comparisons are for fathers and sons of different ages at the same points of time. Logical comparisons can only be made at the same age on different points of time. Same reasoning would apply to both individual and family mobility indices. Needless to mention, there would be a need for discounting price increases and other social development.

ii. *Data:* In Table 2, the average age of respondents is 49 as compared with 46 of their sons; the too small gap of 3 years between two generations reflects data problems. Similarly, a decrease in the average education of sons, compared with the average for the respondents, is not believable. Income and wealth descriptions in Tables 2 and 4 are inconsistent. Similarly, other implausible statements point to the need for checking the data and calculations for their correctness.

iii. *Statistical Techniques:*

a. The authors have used arbitrary measurements of variables like social network, occupation, work status, province/region of residence and birth in defining correlation coefficients, perhaps because without this trick some of the calculations will not be supportive.

b. In spite of the foregoing trick, the statistical evidence is very weak and most of the correlation coefficients are very small; e.g. see Tables 3 & 5.

c. Despite their deliberate choice of a specific restricted population/ sample, the authors have made liberal inferences about national/ provincial characteristics of overall population, labour force and mobility patterns. It is interesting to note the characteristics of the selected sample which have been selected by the authors: only the most progressive persons, 40 years or more, in the non-agricultural modern sectors in major industrialized cities, majority of whom were born in India, 25 percent of whom had performed Haj/Umra, one-third of whom have high-position relatives, and who have income 3 to 5 times the average level, etc., have been included in the sample. Certainly these characteristics are not representative of the country or of any province and hence the observed similarities are simple coincidence and not significant inferentially.

Apart from the foregoing shortcomings,
   a. the study has totally ignored females and family composition (number; sex) which would *a priori* seem to be logical factors in individuals' ability to save, for self-development and for social/economic position.
   b. somewhere in the analysis it is maintained that income/wealth and age are not correlated. The weak correlation is a manifestation of non-linear relationship between income and age. Given the age structure of the sample, the relationship may have to be modelled with some non-linear technique.
   c. the analysis did not consider any variable which could be brought under policy focus.
   In view of the weaknesses mentioned above and the fact that the study is only a pilot sutdy, its contribution is only marginal. The study thus needs to be thoroughly revised on the lines mentioned above.

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