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Occupational Classification Systems and Intergenerational Occupational Mobility Studies: Some Methodological Issues

Introduction and Objectives

THERE must be a meaningful occupational classification system when one deals with the pattern of intergenerational occupational mobility. Sample studies on mobility require a classification scheme which includes two conflicting requirements, a limited number of occupational classes and homogeneity within each occupational class—the fewer the number of occupational classes, the lesser will be the intra-class mobility. Therefore, the subject matter of this paper is the issues concerned with the methodology of occupational classification in the measurement of intergenerational occupational mobility. The major objectives of this study are the following:

- (i) To verify the existing definitions of occupation in economics and in disciplines like sociology and their relation with occupational classification schemes.
- (ii) To review the alternative methodologies concerning occupational classifications used in certain intergenerational mobility studies, and to focus the methodological issues concerning classification of occupations.
- (iii) To develop a systematic occupational classification scheme so as to measure intergenerational occupational mobility in an urban setting.

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- (iv) To discuss briefly the results obtained when the new classification system is applied to a set of sample data from the city of Calicut in the state of Kerala, and
- (v) To bring out the methodological implications of the new classification system.

Definitions of Occupation

Before proceeding to the definitional aspects of the term 'occupation', it is necessary to distinguish between the terms 'occupation' and 'industry'. Occupation is the kind of work performed by an individual while industry is the branch of economic activity to which he is connected. "The occupation and the industry are clearly two distinct points of view from which the economic activity of the population may be regarded. The first is what the individual does, the second shows the position of the worker in the economic structure of the country" (I.L.O., 1949).

In the strict economic sense, 'work' performed by an individual in the economic sphere is called as an 'occupation'. The term 'vocation', 'occupation', and 'job' are used synonymously in many parlours, so is the case with the terms 'employment' 'profession', 'work' and 'career'. There are clear differences between these terms. "Vocation refers to one's business, for which there is required fitness and a sense of duty. Occupation connotes habitual employment which occupies most of the time of the person concerned. Career is a way of making one's living, but also means advancement" (Pal, 1968). Overviewing these closely related concepts and their delicate differences, one can see that 'occupation' is a methodologically sound term than any other term, though there are differences of opinion in this matter'.

The differences in the classification system in economics and in disciplines like sociology lies in the difference in the meaning of occupations. Most classifications like the International Standard Classification of Occupations (I.L.O., 1949), census classification in India and abroad defining worker, non-worker categories etc., focussed on the economic activity while defining occupations. For example, the 1931 Census of England and Wales defines an occupation as follows: "The occupation of any person is the kind of work which he or she performs, and this alone determines the particular group in an occupational classification to which the person is assigned" (I.L.O., 1949). In India, the concept of economic activity used in the classification

¹For example Pal (1968) considers 'vocation' as a broader term than 'occupation'. To him 'occupational economics' is purely analytical study, confined to adjustments from merely economic angles while vocational economics covers preparation for occupations, in addition to their economic aspects and includes even policy recommendations.

of people according to industry and occupation has undergone changes from census to census. In the first census in 1872, the economic question was based on 'occupation'. The second census in 1881 modified it into 'occupation of men, also boys and females who may do work', with provision for omission of certain related categories. 'Occupation or means of subsistence' was taken as the sign of economic activity of individuals in the 1891 census. Three questions, i.e., principal occupation, subsidiary occupation and means of subsistence of the dependents were treated in the 1901 census. In the 1911 census the same system was followed with a supplementary industrial census through which effort was made to distinguish between the functional groups from the traditional occupation. The 1921 census also followed the same system with a division of population into 'actual workers' and 'dependents'. All the above censuses treated 'work' as the basis of economic activity. A major shift in approach was introduced in the 1931 census. The criterion was changed to 'income' to classify occupation—classification of population was made into 'earner', 'working dependent' and 'non-working dependent'. Shift in emphasis to 'means of livelihood' happened in the 1941 census and it was further modified in the 1951 census. From 1961 census onwards significant changes occurred. It dispenses with the nomenclature 'income' and re-introduced 'work'. The primary economic classification of the population was divided into 'workers' and 'non-workers'. The workers were sub-divided into nine industrial categories, and the non-workers were sub-divided into eight groups. 'Main' and 'secondary' work were asked in the 1971 census. It followed the detailed classification of workers and non-workers adopted in the 1961 census with minor changes. The 1981 census redesigned the economic questions by dividing population into two broad categories, i.e., workers and non-workers, based on economic activity. Workers were again divided into main workers and marginal workers. There is no change in the concept of a worker in the 1991 census as compared to 1981 census. Thus, there is a change in the focus between censuses in defining economic activity.

The above explanation mainly deals with the definition of economic activity used in the industrial classification of the population in the census reports. Recent censuses, however, give data regarding occupational classification of workers upto two digit code, that is group level by class of workers, by sex of persons and education levels (for example, "Census of India, 1981, Tables B-19, B-20 and B-21). This occupational classification of main workers is based on the National Classification of Occupations, 1968, which classifies occupations into divisions, groups and families; there are ten divisions altogether. Like the industrial classification, the occupational classification also treats 'work' as the basis of economic activity.

Contrary to the definitions cited above, researchers in disciplines like sociology view occupation as a social function or the role performed by an individual and his location in the social scale. A representative definition of occupation in sociology states: "An occupation is the social role performed by adult members of society that directly and/or indirectly yields social and financial consequences and that constitutes a major focus in the life of an adult" (Hall, 1975). This basic difference between approaches to occupation leads to a very wide gulf between methodologies in economics and other disciplines on occupational mobility. While sociological analysis gives importance to the individual, studies in economics give (or need to give) importance to the work he performs.

Concerning the importance of the definition of occupation in mobility studies, we can say that mobility as a functional process and as a phenomenon can be well analysed only if we define occupation on the basis of the 'nature of work performed' by an individual in the economy.

A Brief Review of Certain Alternative Occupational Classification Schemes

A Study of occupational mobility pattern leads us to the question of constructing a meaningful system of occupational classification. Traditional census type classification help to investigate broad shifts in various occupational categories over time. More than this, it does not possess the merit of a tool in researches on mobility based on samples of the occupied labour force. Attempts in economics and other disciplines have been made in the past to use census and other detailed national occupational classification² schemes to study job shift and social class differences. In the United States, the census and the Dictionary Classification (1949) were used in studies concerning labour mobility. Reynolds (1951), Myers and Shultz (1951), Palmer (1954) and others have used some significant occupational groups of the census in order to study job shifts by labourers. In India, Jetley (1969) used census schedules on education and occupations. The chief advantage in using "the census classification is that it makes possible comparison of the findings of a study and data published by the census bureau. On the other hand, the advantage in using the 'Dictionary' classification is that occupational descriptions facilitate and increase accuracy in assigning particular occupations to specific categories" (Parnes, 1954).

²In India the 'National Classification of Occupations' (1968) divides population into divisions, groups and families; each division divided into various families. This classification is not helpful to mobility studies, due to numerous occupational categories which reduce homogeneity.

The main problem with census and Dictionary Classification is that the major occupational divisions in both are too broad and heterogeneous, making it inappropriate for sample studies.

In other disciplines like sociology, many studies on social classes and mobility have used census type classification to develop their own occupational classification. In the United Kingdom, the Registrar General's classification of occupations in the social classes and socio-economic groups is a combination of occupation and employment status. Many researchers modified the Registrar General's classification to develop their own social class - scales (Reid, 1989). Gradational and relational class concepts are used in sociology (and even in some studies in economics) to study occupational classes. The gradational concept characterises classes always "above" or "below" other classes. There are two gradational versions: "One defines class gradations primarily in terms of income, the other primarily in terms of social status" (Wright, 1979). An example for the former is the division of individuals into middle-class, lower-class, upper-class etc. Relational notions of class view classes in terms of social relations—capitalist class, working class etc. This is the Marxist concept of class; the qualitative location of a class within social relations.

Here we shall analyse the merits and drawbacks of some occupational classification schemes which gave more importance to the economic aspects while classifying occupations. We shall outline two classification systems, one for a rural area and the other for an urban area. The first one by Hirway (1979), like classification systems in certain other studies, is not a representative one. The second, by Sovani and Pradhan (1955) remains still the best system of classification. The type of the classification system we develop later is based on a modified version of Sovani and Pradhan's classification system. It develops a graded system of occupational classification.

Hirway's Classification (1979)

Hirway, in a study (1979) on intergenerational occupational mobility between two generations in a green revolution area, classifies occupation of the working force (on the basis of the main occupation of the household heads) into: cultivator with 0-5 acres, 5-10 acres, 10-15 acres, 15-25 acres, 25+ acres, agricultural labourers, artisans, business, service and others. This classification will be helpful in the particular context of a rural area; it will be useful to a person who is interested in industry-wise classification (aggregate) of occupation. But the broad category 'others' includes unemployed also. This may not be a right method, because, unemployed should be given due importance only if we study mobility into and out

of employment. The broad classification of cultivators and the clubbing of it with other categories may not be useful. Either the sub-division of cultivators could have been made more aggregate into two groups or could have been done away with. This classification of cultivators, as per landholding, indirectly brings the nomenclature 'income', into the picture and we unscientifically club it with 'work', to obtain the full classification system. Methodologically, Hirway's classification is inconsistent (it must be remembered that her classification system was devised for a rural area). Such classification schemes, moreover, will not resolve the conflicting issues of fewer occupational categories and greater mobility.

Sovani and Pradhan's Classification (1955)

Verification of a few studies in economics reveals that still the best classification system is that of Sovani and Pradhan (1955). In a sample study based on the data gathered in the resurvey of Poona City carried out in 1954 by the Gokhale Institute of Politics and Economics, they classified occupations of the citizens of Poona City into ten grades without including agricultural-related occupations. Their classification system is given below:

(a) Manual Labour

- (i) Unskilled Labourers
- (ii) Skilled Labourers
- (iii) Highly Skilled and Supervisory Labour

(b) Business

- (i) Small Business, Petty Shop Owners, etc.
- (ii) Medium Business
- (iii) Owners of Factories, Large Shops etc.

(c) Non-Manual Labour

- (i) Lowest Professions, Administrative Posts, etc.
- (ii) Clerks and Shop Assistants
- (iii) Intermediate Professions, Salaried Post, etc.
- (iv) High Professions, Administrative Posts, etc.

Sovani and Pradhan's classification has a number of advantages. Their classification is based more on economic criteria. It gives due account to migration which considerably affects occupational mobility in a city. It can be easily extended to

intragenerational occupational mobility studies also. Their scheme of occupational classification takes into account the skill differences, as a person migrates to city. Their system can be easily graded. However, there are certain weaknesses also. For example, it gives no place to agricultural occupations. Advantages of Sovani and Pradhan's classification exceeds disadvantages. Therefore, it still remains the best classification scheme as far as urban mobility studies are concerned.

An ideal occupational classification system must make a compromise between heterogeneity of occupations and less mobility. It must be free from subjective bias. It must always, take into care the differences between 'occupation' and 'industry'. Occupation is independent of the sphere of work and the two must be treated separately.

An Alternative Classification System

The occupational classification system here we use is a modified version of Sovani and Pradhan's classification system. This classification system incorporate agricultural-based occupations into Sovani and Pradhan's classification system. With the merging of agricultural-based occupations, the original classification of Sovani and Pradhan gets one more entry. This is given below:

- (d) Agricultural Based Occupations
 - (i) Agricultural Labourers
 - (ii) Small Farmers
 - (iii) Medium Farmers
 - (iv) Big Planters, Landlords, etc.

In previous section below, d(ii) group is defined as those who own below one acre of land while group d(iii) is considered as those farmers who hold between one acre and five acres of land. Those who own above these size holdings are included in group d(iv). These principal occupational groups were combined with household workers. This elaborate classification is useful during tabulation, but for final analysis, an aggregate table generated from the detailed classification can be used. The steps in the construction of the aggregate table are explained below.

Aggregate Classification

One has to be very careful while aggregating similar occupations. Every effort has to be made to avoid personal bias. "Nature of work performed" should be taken

as the basis for aggregation process. Here, on an aggregate basis, occupations are grouped into: lower grade, middle grade and higher grade occupations. By combining a(i), a(ii), b(i), c(i), d(i), and d(ii), we get lower-grade occupations. Adding a(iii), b(ii), c(ii), c(iii) and d(iii), we get middle-grade occupations, and totalling b(iii), c(iv) and d(iv) gives higher-grade occupations. One can question the validity of this aggregation system. Nevertheless, the present classification system is value-free and bias-free to a greater extent than the commonly used aggregation systems which classify occupations into upper-manual, lower-manual, high-status etc. Instead of selecting, prestige, status and other sociological ranking devices, "nature of work performed in the economic environment" is the criterion used here alongwith the level of "skill" etc., used by Sovani and Pradhan in their study.

All this is not to say that the classification system and aggregation processes are free of limitations. Identification of the real nature of an occupation, marginal distribution etc., create problems in the classification and aggregation schemes.

Results from a Sample Data Analysis

Let us use the above occupational classification system to verify the pattern of intergenerational occupational mobility of a sample of 404 individuals (202 respondents and their 202 wives) drawn from the four divisions³ of the city of Calicut in the state of Kerala through simple random sampling method (by using an interview schedule, the relevant information was obtained from the household head who is defined as the main male income earner of the family and his wife). The following contingency tables (Tables 1 and 2) show the father to son⁴ and mother to daughter mobility pattern. As we analyse Table 1, we see that 72% of the respondents are immobile, i.e., they remain in occupations similar to their fathers⁵. 18% of the respondents are upwardly mobile while 10% are downwardly mobile. The mean-square contingency coefficient is 0.588 (for a 3 x 3 table), showing very high association between fathers and sons occupations. From Table 2 it can be seen that 70% of the respondents' wives are immobile and 30% of the wives are mobile (if we take movement from household work to lower grade and middle grade occupations as a sign of upward mobility). 28% of the wives are upwardly mobile while only

³ The randomly selected divisions of the city out of 50 divisions are Chervarambalam, Parayancherry, Thali and Thiruvannoor.

⁴ In order to have uniformity, we have analysed only father to son and mother to daughter variants of intergenerational occupational mobility.

⁵ Only mobility from fathers'/mothers' last held occupation to sons'/daughters' current held occupation is analysed here.

2% is downwardly mobile. The mean-square contingency coefficient is 0.311 (for a 3 x 3 matrix) showing slightly better performance than respondents. These results are in stark contrast with earlier studies. For example, according to Sovani and Pradhan (1955), 54.3% of their sample registered upward occupational mobility. Ramachandran (1974) finds that 46% of the respondents in his sample are upwardly mobile. From our analysis, it is evident that most of the respondents and their wives are intergenerationally immobile. This result is in conformity with the age-old theory of non-competing groups (Cairnes, 1874). This theory appears to be operative even in the present day—mobility is limited within each occupational grades and between them there is little mobility.

TABLE 1: OCCUPATION OF THE FATHERS VS. OCCUPATION OF THE SONS

<i>Occupational Grade: Fathers</i>	<i>Sons</i>			
	<i>Lower Grade</i>	<i>Middle Grade</i>	<i>Higher Grade</i>	<i>Total</i>
Lower Grade	60	24	1	85
Middle Grade	14	76	12	102
Higher Grade	0	6	9	15
Total	74	106	22	202

TABLE 2: OCCUPATION OF THE MOTHERS VS. OCCUPATION OF THE DAUGHTERS

<i>Occupational Grade: Mothers</i>	<i>Daughters</i>			
	<i>Lower Grade</i>	<i>Middle Grade</i>	<i>Household Work</i>	<i>Total</i>
Lower Grade	2	1	1	4
Middle Grade	1	4	2	7
Household work	8	47	136	191
Total	11	52	139	202

Thus, the present classification scheme permits the direct comparisons across generations. This graded classification system does not bring the usual sociological ranking or grading devices like prestige value of occupations. This system is initially detailed and then aggregate, and so reconciles the conflicting considerations of detailed occupational categories and homogeneity. This system, directly permits the use of associational techniques like the mean-square contingency coefficient, which

is one of the most popular mobility measures. By using this occupational classification system, we made our data compact and readily applicable to computational techniques as shown above.

Summing Up and Implications

Our classification of occupations into 'lower grade', 'middle grade', and 'higher grade' is made from an initial detailed classification based on Sovani and Pradhan's (1955) classification scheme by incorporating agricultural based occupations. We assigned individuals into graded work categories—an occupation is treated as the 'kind of work', performed by the individuals regardless of the industry in which his work is performed and the work-status. While the sociological analysis gives importance to the individual, we give importance to the nature of work he performs. While defining occupation, location of the individual in the social scale and the 'sphere' of his work were not taken into consideration. Classification of occupations was based, thus, on the 'nature' of the economic activity. A crucial question arises in this regard: whether to take income or work. The former shows only a part of the macro-economic life and is helpful for aggregating occupation. The more important is the other one, i.e., how an individual works, or what contribution he makes to the national economy. What service an individual contributes to the exchange process, what indirect contributions he adds in the construction of human capital etc., are important here. It is his 'work' that is important from an economic point of view. We classified occupations in the light of the above considerations, so that we laid stress on economic aspects rather than social status, prestige, etc. We have not created 'social classes', but, first through detailed occupational classification and then through aggregation created the distinct occupational grades (a 'grade' differs from a 'class' considerably in the sense that it shows a cluster of homogeneous occupational categories) and assigned individuals to these occupations across generations. One point to state is that occupational classifications normally, in other disciplines create social classes, neglecting that they are dealing with a two-way problem—on the one side, population, consisting of individuals and on the other side, occupations. They give priority to individuals and, are therefore interested in social classes. Population undergoes changes and occupational groups do not change unless there take place occupational differentiation and proliferation. Therefore, we must give greater emphasis for occupations as such, and must assign individuals against occupational categories and should observe the active population in each grade. For the economy, it is the magnitude of effort put in these occupational groups which is important.

Researchers in economics, especially labour economics, long neglected vocational economics and one of its central theme, i.e., classification of occupations, much against the classical and neo-classical discussions about division of labour, supply of labour etc. It is quite interesting to note that classification of occupations and categorization of social classes/socio-economic groups is a central theme in other disciplines like sociology. Researchers in economics are more complacent in this matter.

Let us sum up the implications of our occupational classification system as follows:

- (i) the aggregate classification does not lose heterogeneity if it is developed from a detailed classification scheme as in our case,
- (ii) a graded classification can be made without sociological grading devices like prestige scales etc.,
- (iii) economic activity of the population is the right nomenclature to classify occupations, as in the present study,
- (iv) advantages of a classification scheme suitable for an urban area are inherent in the present classification scheme,
- (v) homogeneity and detailed occupational categories—the fundamental problem faced by every researcher in this area has been tackled with (more or less) in this study.

The detailed census classification of workers' in India needs a modification and re-arrangement because it gives importance to the 'sphere of work' (industrywise) instead of the 'process of work'. At the policy level, it is highly essential to identify groups of individuals who move downwardly in the occupational scale to make redistribution policies effective. The present census classification of industry-wise distribution have to be recasted and graded in some manner. This calls for a renewal of occupational classification scheme in the census reports.

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