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Occupational mobility in developing countries

Conceptual issues and empirical findings

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Abstract: This paper discusses current methods for measuring and analysing occupational mobility, and the way in which methods designed for the analysis of developing countries may need to be modified when applied in other contexts. The paper discusses particular features of some developing societies, such as their large and complex agricultural and informal sectors, and the problem of ‘equivalence of meaning’, which arises when stratification systems involve rather different institutional arrangements, for example with respect to land tenure. The paper concludes with a discussion of absolute and relative mobility in Chile, China, Egypt, and India, bringing out both the similarities and the differences between these countries in their absolute and relative rates of mobility and intersectionality with gender.

Key words: absolute rates of mobility, equivalence of meaning, measurement, occupational mobility, relative rates of mobility

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1 Introduction

There is a long and rich tradition of sociological research on occupational and social class mobility going back to the early twentieth century work of Emily Perrin (1904), Pitirim Sorokin (1927), and Anderson and Davidson's (1935) pioneering work on an American city, which introduced at a local level many of the themes that would become dominant after the war in national studies such as those of David Glass (1954) in the UK. While the primary focus of most of this sociological tradition has been on patterns of social mobility in developed societies, there has in more recent decades been important work on developing societies in the global South, such as China, India, and Chile (for example, Iversen et al. 2017; Li et al. 2015; Torche 2005; Vaid 2018; Wu and Treiman 2007).

The study of occupational mobility provides a practical and flexible approach for studying social mobility in developing and developed countries alike. Occupational position is an excellent indicator in both types of society of an individual's or family's 'life chances': occupations are associated not only with current income and material prosperity, but also with the security of that income, promotion chances, and the risk of unemployment, as well as with a wider range of psychological, social, and demographic outcomes such as fertility and mortality. Occupation, therefore, can provide a succinct and powerful summary indicator of one's position in the stratification system and the extent of one's long-term advantage or disadvantage. While measuring occupational positions of individuals and their families of origin is not entirely straightforward (as we will show in a later section), suitable data can be collected in representative national surveys and do not require more advanced methodologies such as long-term panel studies, linked censuses, or linked tax records.

Sociologists have developed a large and sophisticated suite of conceptual and statistical tools for analysing patterns of occupational and class mobility. Particularly important is the conceptual distinction between absolute and relative rates of mobility. *Absolute* rates of upward and downward mobility in a society (and the total rate) refer to the percentages of the population who have experienced movement from the positions in which they grew up. In contrast, *relative* rates of mobility refer to the relative chances of people from different origins to gain access to privileged positions and to avoid disadvantaged positions (Heath 1981). This distinction is fundamental to modern research on occupational mobility. The essence is that structural change such as a contraction in the number of disadvantaged low-skilled and agricultural workers at the bottom, and the expansion of high-skilled professional and managerial workers at the top, will lead to increased opportunities for upward mobility. Developing countries, as we will show later, typically display marked changes in the shape of their occupational structures, with increasing 'room at the top'. This further typically leads to high absolute rates of upward mobility and low rates of downward mobility.

At the same time, however, people from more advantaged backgrounds may remain at the front of the queue for gaining access to these new opportunities. In relative terms they remain just as successful as their peers from disadvantaged backgrounds as they had been before the expansion. In other words, the association between parents' and children's relative positions in the occupational hierarchy may remain as strong as ever. Sociologists interpret measures of relative mobility as indicating the underlying fluidity or openness of a society, net of structural change. Trends in absolute and relative rates do not, therefore, necessarily follow the same trends over time, nor the same patterns across countries. As we will show, some countries, such as India, can simultaneously exhibit a substantial surplus of upward over downward mobility and a low degree

of social fluidity. These distinctions are as important, if not more important, when studying developing societies as they are when studying developed ones.

A further important sociological concept is that of ‘perverse fluidity’. Fluidity can be a consequence of constraint rather than of opportunity and thus may have a perverse character. There is, for example, some evidence that, among African Americans in the US, there is a high degree of fluidity, that is to say a weak relationship between the occupations of fathers and of their children. However, this weak relationship appears to hold because occupationally successful African American fathers are not able to pass on their advantaged positions to their children, probably due to various forms of discrimination against black minorities. Similarly, it has been suggested that women who work part-time exhibit a high degree of fluidity, relative to their parents, but this may be due to the narrow (and relatively low-level) range of jobs open to women working part time. Perverse fluidity may therefore occur because of disproportionately high rates of downward mobility experienced by some groups within a society as a result of various constraints on their opportunities. One might, for example, hypothesize that scheduled castes in India would fit this pattern, with successful scheduled caste parents being unable to pass on their advantaged positions in the same way that forward caste parents can.

There are, however, major challenges when studying occupational mobility in developing countries, some being similar in kind (though perhaps greater in magnitude) than those in developed societies, others being qualitatively different. We focus in this paper on a few central challenges:

- the measurement of occupations
- their amalgamation into broader social classes or scales
- equivalence of meaning over time and space
- the role of non-occupational criteria such as employment status (own-account worker versus employee, for example) and sector (state versus private sector or secondary versus primary production, for example).

We organize this paper as follows. In Section 2, we discuss the building blocks of occupations and the particular challenges encountered in developing societies. In Section 3, we discuss the issues involved when constructing scales based on the occupational building blocks, while in Section 4 we discuss issues involved when aggregating occupations into social classes. In Section 5, we turn to the statistical tools for the analysis of occupational mobility, illustrating their application with examples from Chile, China, Egypt, and India and focusing primarily on issues related to inter-generational (typically father-to-son) mobility rather than intra-generational (career) mobility. Section 6 concludes.

2 Measuring occupations—the building blocks

The basic building blocks are, of course, the occupations themselves. Detailed lists of occupations (and precise descriptions) were developed in the 19th century for various Western countries, originally for use with national censuses and subsequently for social surveys. These country-specific classifications were later followed by the construction of standardized classifications for use in comparative research, such as the International Standard Classification of Occupations (ISCO) maintained by the International Labour Office. ISCO starts with a list of job titles, which are then amalgamated into ‘unit groups’ based on their similarity in terms of the skill level and skill

specialization required for the jobs. The International Labour Organization (ILO) claims that this is a ‘classification that allows all jobs in the world to be classified into 436 unit groups’.

Such occupational schemas employ detailed granular measures, which provide a flexible basis for constructing a variety of scales and aggregated measures of occupational classes. A first concern, however, is that, whichever detailed list is selected, the interviewers need to collect both the specific job title and a brief description of the tasks involved for the job. This detailed information then needs to be coded in the office by expert coders into the basic unit groups. This is a time-consuming and expensive task and requires experienced and expert coders. In developed countries only the highest-quality (and best-funded) surveys, such as the gold-standard European Social Survey, nowadays follow this procedure in full. Many surveys take various short-cuts in order to save money, compromising the reliability and granularity of the basic measures of occupation. Similar cost pressures that compromise quality will also inevitably be present in developing countries.

A second concern is that occupational schemas such as ISCO have typically evolved from Western classifications designed for industrial economies and occupational structures where most workers are employees with formal labour contracts. The schemas may not be well adapted for use in those developing countries which retain large agricultural and informal sectors.

Third, schemas such as ISCO, which are designed primarily for comparative purposes, may miss some of the important specificities of the institutional arrangements, anchored in history, that characterize individual developing countries. For example, the 436 unit groups of the ISCO schema distinguish 18 different types of farmer, primarily based on the kind of farming they are engaged in—cereals, animals, rice, poultry, for example—and on whether the farming is subsistence or market-oriented. These are certainly important distinctions, but there is no reference to the kind of tenure that the farmer has—tenant farmer, member of a collective, proprietor who works his or her own land, sharecropper, or someone who farms the commons—nor of the amount of land that is farmed. Alternative classifications developed by individual countries for their own internal use can make these distinctions, which may well be more socially significant (in the sense of affecting mobility chances) than the criterion of skill level that is fundamental to the ISCO measure.

It is understandable that these detailed issues of tenure, which tend to be country-specific, are ignored in a schema designed for comparative research. But it is not self-evident that scholars will solely be interested in comparative research. It may be better, therefore, to start with a modification of the ISCO schema which picks up any important country specifics. In a sense, the student of a developing country may need to start by having a good understanding of the anthropology of the country’s institutions. A tailor-made list of occupations could be preferable to an ‘off-the-peg’ one.

Even if one is interested in comparative research, these issues may still be relevant. The risk is that forcing occupations into a common, off-the-peg classification may compromise ‘equivalence of meaning’ if there are important, mobility-relevant differences in the occupations across countries. Equivalence of meaning across countries has been the focus of a great deal of attention among social scientists interested in comparative research on social attitudes. The key point is that one may ask the same question in exactly the same way in different countries, but if concepts and institutions vary across cultures, respondents’ answers may differ in their meaning. For example, a standard question about religiosity used in the European Social Survey asks respondents to indicate how often they attend religious services. This question, however, has a radically different meaning when applied in a Muslim country such as Turkey because in Islam it is not customary for females to attend religious services. Davidov et al. (2014: 57), who provide an excellent overview of the issues involved in establishing equivalence of meaning, point out that ‘If researchers overlook the

nonequivalence of this question, they may grossly underestimate the level of religious involvement of Turkish women and erroneously conclude that Turkey is the only country in Europe where women are less religious than men'. In other words, standardization of the measuring instrument does not in itself guarantee equivalence of meaning in the resulting data.

The issue of equivalence of meaning has not been studied nearly as much in the literature on the measurement of occupations as it has in the literature on social attitudes, but the same fundamentals are bound to be present. This is particularly likely to be the case with the occupation of farmers, where there is a lack of equivalence between developing and developed countries. In many of the latter, farms have increased in size and degree of mechanization; thus, the incomes and assets of farmers have increased, and the mobility chances of the children of farmers are correspondingly enhanced. Even if we strictly follow the ISCO measurements, we may therefore be comparing non-equivalent occupations (even with respect to skill) in developing and developed countries. We found a powerful example of this in our own research on the UK when comparing the mobility chances of the children of immigrants with those of the majority group of native-born white British: among the white British, people from farming backgrounds had quite favourable mobility chances relative to people from other white British backgrounds. In contrast, the children of migrants whose fathers had had farming occupations in their countries of origin had poorer mobility chances than children of migrants from non-farm backgrounds (Li and Heath 2016: 186–87). The farm/non-farm distinction thus worked differently in the two sub-populations. It is highly likely that farming occupations are not equivalent, with respect to their resources or even the skills involved, in developing and developed countries or indeed between different developing countries that have had very different histories in the organization of farming.

Similar issues of comparability are also likely to apply to some non-farm occupations, particularly manual ones. The much greater prevalence of the informal sector in some developing countries than in developed countries means that an occupational schema that prioritizes skill levels at the expense of employment conditions may lack equivalence of meaning. A worker such as a shoemaker in the informal economy may have a precarious business using relatively simple technology and materials (for example, recycled rubber tyres), while a worker with the same occupational title in the formal economy, with a regular employment contract, may have access to more advanced equipment and materials and have much greater income security. The mobility chances of their children may be rather different, too.

These issues are likely to be relevant for comparisons between developing countries as well as between developing and developed societies. We should not ignore the extensive diversity *between* developing countries in their mobility-relevant institutional arrangements. In comparison, developed societies may be more homogeneous in these respects because of their shared histories of trade, technological development, and marketization. These issues may also be relevant over time and across generations within developing societies, especially those that have been experiencing the most rapid development, such as India or China. Indeed, they can be highly relevant when looking at long-term mobility trends in developed societies, too. Erikson and Goldthorpe, for example, in their models of mobility regimes place fathers' farming occupations lower in the class hierarchy than respondents' farm occupations (Erikson and Goldthorpe 1992: chapter 4).¹

These problems can in principle be addressed by adding relevant distinctions to the ISCO list of occupations: for example, by distinguishing large from small farmers or proprietors from tenants.

¹ See also Xie and Killewald's (2013) critique of studies of long-term trends in Great Britain and the US.

It then becomes an empirical matter to determine which of the distinctions matter for mobility chances, rather than leaving them invisible, as they would be with an uncritical application of the ISCO schema. What this means, in effect, is that some non-occupational criteria, such as tenure and acreage, must be introduced in addition to the occupational criteria. These additional non-occupational criteria, as we will see, are also very important when we turn to aggregated class schemas.

3 Aggregation issues—hierarchical scales

A schema such as the ISCO classification, with its granular differentiation between occupations, is an essential starting point for measuring occupational mobility, but it is not particularly useful as it stands for statistical analysis. The detailed data need to be aggregated into more usable formats. There are two main approaches—hierarchical (ordered) scales and categorical class schemas—as well as various hybrids. We discuss hierarchical scales in this section and class schemas in the next section.

One of the earliest hierarchical scales was that developed by Dr T.H.C. Stevenson of the UK's Registrar-General's Office (see Szreter 1984). It contained five discrete ordered categories, grouping occupations according to their 'standing in the community', with professionals at the top and unskilled manual workers at the bottom. A modified version of this classification was developed by Armstrong (1972) and has been widely used in historical research (e.g. Long 2013). The main modifications introduced by Armstrong were to promote all employers of 25 or more workers to the top category (Class I) irrespective of their job title, and to promote all individuals with Class III or IV occupations who employed at least one person other than a family member to Class II. In effect, these promotions take cognizance of the fact that being an employer implies additional socio-economic resources, additional standing in the community, and some managerial functions that are typically associated with the higher-level occupations. This modified class scheme has been shown to have a clear monotonic (i.e. hierarchical) relationship with income (Williamson 1982) and with the employment of servants, and to be negatively correlated with shared accommodation (Armstrong 1972). Armstrong sees it as a hierarchical measure of general standing in the community, and it could also be treated as a general measure of socio-economic resources.

In addition to ordered hierarchical measures like those of the Registrar-General and of Armstrong (and the very similar Hall-Jones scale used in the landmark Glass study of 1954) with their five classes,² there have been several more refined scales, which approximate to continuous interval scales, with scores assigned to around 100 different occupational groupings. These continuous quasi-interval scales are particularly useful for regression analysis and have many similarities with the continuous scales of income used by economists. They also have the advantage of being based on clear protocols for assigning scores, rather than the intuitions that governed Stevenson's scale and Armstrong's revision of it.

Different scales, however, have used conceptually different criteria for their detailed construction. For example, Hodge et al.'s (1964) scale of occupational prestige was based on the 'standing in the community' that samples of the public attributed to different occupations (see also Treiman's

² The ILO has produced a somewhat similar 10-category scale combining the 436 ISCO unit groups into major groups according to their skill levels, although these 10 major groups are not strictly ordered.

similar (1977) scale for comparative research). In contrast, Duncan's socio-economic index (SEI) was based on the average education and income of the members of each occupation (Duncan 1961), while Stewart, Prandy, and Blackburn's Cambridge scale (Stewart et al. 1980) was based on the closeness of their social relationships (such as friendship and intermarriage patterns) and can be thought of as a measure of the social distance between occupations (though this is not in fact how Stewart et al. describe it themselves).

These scales are alike in assigning a score to each constituent occupational 'unit group' according to a specific criterion (reputation, income and education, intermarriage, friendship) and thus creating a one-dimensional scale running from the lowest-ranked occupation to the highest. While the conceptual bases and criteria differ, these scales tend to be highly correlated with each other and typically, just like Stevenson's measure (which dates from 1913), range from an unskilled manual occupation at the bottom to a highly skilled professional occupation such as doctor/physician at the top.

These continuous scales have a lot in their favour. They appear to be quite robust, have good discrimination (unlike the shorter, 5-category scales like Stevenson's or Armstrong's, where there tends to be quite a lot of within-category heterogeneity), and are suitable for use with regression techniques such as OLS.

One potential problem, however, is that some intermediate occupations may change their position in the hierarchy over time as a society develops. In the UK, for example, there is evidence that the position of postman was in the 19th century a relatively high-standing occupation—postmen need to be able to read, and literacy was rare at that time. As education and literacy became universal, the relative standing of postmen declined and the occupation would now come towards the bottom of the hierarchy. This could be an issue when comparing the positions of fathers and sons in a standard mobility table for a society that has been developing rapidly. (We can think of this as an issue of equivalence of meaning across generations.)

A second important issue is that, as far as we know, these scales have not been validated for use in developing countries. We suspect that in most developing societies, we would find more or less the same rank ordering as in developed societies with the professionals at the top and the unskilled manual workers/agricultural labourers at the bottom. However, the intervals between occupations (and between the top and bottom of the scale) could be rather different from one country to another. Social distances, for example, between top and bottom, or between intermediate and low-skilled occupations, could be much greater in some highly stratified societies such as Brazil and India (especially, perhaps, in more traditional regions) than in any developed societies. In other words, the very strength of these more refined scales—their metricization—makes them potentially problematic when exported to a different societal context.

A third important issue is that stratification systems may not be uni-dimensional. We can be fairly sure that 'standing in the community' or socio-economic status (SES) will constitute the single most important dimension, but Stewart and his colleagues, for example, found when using their Cambridge scale that self-employment/ownership operated as a second dimension. This makes intuitive sense, as the owner of a small business may own some physical assets that provide a different mobility-relevant resource than the human capital which is the primary resource among employers. Similarly, there may be an additional dimension distinguishing agricultural and non-agricultural work of similar skill levels and reflecting mobility barriers that uniquely face agricultural workers (reflecting *inter alia* geographical variations and opportunity structures). These issues of multiple mobility-relevant dimensions may well be considerably more important in large and diverse developing countries than in more homogeneous developed societies with universal institutions and market penetration.

4 Aggregation issues—categorical social classes

In contrast to the essentially hierarchical and unidimensional scales of social standing discussed in Section 3, in this section we focus on a rather different sort of classification, with a different conceptual foundation: that developed by John Goldthorpe and his colleagues—sometimes termed the EGP schema (after the authors of an early article by Erikson, Goldthorpe, and Portocarero (1979), which introduced the schema). The scheme is partially ordered, reflecting the main hierarchical SES dimension that we have already referred to, but also has important non-hierarchical aspects reflecting employment status (employee versus self-employed, for example) and sector (in particular the farm/non-farm distinction). The full schema has the following 11 categories:

- I Higher-grade professionals, administrators, and officials
- II Lower-grade professionals, administrators, and officials
- IIIa Routine non-manual employees, higher grade
- IIIb Routine non-manual employees, lower grade
- IVa Small proprietors, artisans, etc. with employees
- IVb Small proprietors, artisans, etc. without employees
- IVc Farmers and smallholders; other self-employed workers in primary production
- V Lower-grade technicians; supervisors of manual workers
- VI Skilled manual workers
- VIIa Semi- and unskilled manual workers not in agriculture (routine manual)
- VIIb Agricultural and other workers in primary production (routine manual).

These 11 categories are often collapsed into a smaller number, which makes it easier for many forms of statistical analysis (particularly if the sample is small). However, it is valuable to start with the more detailed 11 categories. As we will argue in the next section, one might want to employ different collapsed versions for different societies—one version may not fit all. We need to take advantage of the flexibility provided by the full 11-category scheme.

Classes I and II are often referred to as the ‘salaried’ (since they are composed predominantly of employees on regular salaried contracts with considerable discretion over their work tasks as well as favourable employment conditions), while Class III, although also consisting of white-collar workers, involves less discretion and less favourable employment conditions. Class IV, in contrast, is composed mainly of proprietors and own-account workers, not employees, and is often referred to as the Petty Bourgeoisie. Class V is a blue-collar class roughly corresponding to the elite of the working class and consisting of manual foremen and technicians. Classes III, IV, and V are often grouped together as ‘intermediate’ classes. Classes VI and VII are other blue-collar classes with basic labour contracts³ and subordinate positions.

This class schema has a strong hierarchical element but is not purely hierarchical in the way that the scales described in the previous section were. Thus, Class I clearly comes above Class II, which in turn comes above Class IIIa. At the other end, Classes V and VI clearly come above Classes VIIa and VIIb. One can interpret this element of hierarchy as reflecting the general desirability of the occupations involved, deriving from their pay, prospects, and employment conditions, and also reflecting how demanding their entry requirements are. In addition to this hierarchical element, however, the EGP schema also considers non-hierarchical elements, notably employment

³ A basic labour contract is one where wages are directly related to the amount of work done on the basis, for example, of piece rates or hourly rates.

status (employee versus own account), which provides the basis for distinguishing a distinct class of Petty Bourgeoisie (Class IV). The farm/non-farm distinction also forms the basis for distinguishing Class IVc from Classes IVa and IVb, and Class VIIa from VIIb. These distinctions may be much more salient in a developing society, and one is likely to want to treat CLASSES IVc and VIIb as completely separate major classes.

Erikson and Goldthorpe (1992) also suggested, when modelling mobility tables based on this classification, that there would be a variety of mechanisms generating or inhibiting movement between classes. Thus, in addition to general hierarchical processes, they distinguished processes involving direct inheritance, sectoral barriers, and occupational affinity. Inheritance effects are particularly evident where there is the possibility of the inheritance of capital, as with the Petty Bourgeoisie, in contrast to the dominant mechanism based on human capital and qualifications involved in recruitment to most other occupations in developed societies. The sectoral mechanisms that Erikson and Goldthorpe distinguished mainly concern primary production (agriculture, fishing, and extractive industries), where there is typically a strong geographical concentration that imposes additional barriers to outward or upward movement. Affinity is evident in the white collar/blue collar distinction, with a range of processes based perhaps on subcultures and social networks, which make it easier to move between classes of the same character than across the manual/non-manual border.⁴

The crucial point, then, is to recognize that there may be a variety of processes generating occupational mobility, or stability, over and above the dominant hierarchical processes. While the EGP schema was designed for use in industrialized societies, these additional processes may be even more relevant in developing societies. They may also, of course, take a different form (as exemplified by *hukou* registration in China) from those sketched out by Erikson and Goldthorpe.

We would argue, then, that the EGP schema, by virtue of these additional non-hierarchical distinctions, provides a useful model for analysing mobility in developing societies. Nevertheless, it may still need to be adapted to the specific conditions within each developing society. First, the assigning of occupations to classes should not automatically follow the EGP rules. The example of postmen which we mentioned earlier illustrates the kind of issue that should be considered. Second, further distinctions which are not made in the EGP schema may need to be added—for example, that between subsistence and market-oriented farmers, or between the formal and informal sectors (Torche 2014).

It is understandable that, for industrialized societies where the farming sector has shrunk drastically (and has also perhaps become more homogeneous), it is not worthwhile to make further distinctions within Class IVc, for example. But whether additional distinctions are useful for analysing mobility patterns in a specific developing country should be a matter for empirical investigation, not *a priori* assumption.

5 Absolute and relative mobility in developing countries: the cases of Chile, China, Egypt, and India

To illustrate the statistical approach of sociologists to occupational mobility, and to draw out some key empirical findings about mobility patterns in developing countries, we take the examples of

⁴ In later writings, however, Goldthorpe has tended to place more emphasis on the distinct employment relations characterizing blue-collar and white-collar occupations.

Chile, China, Egypt, and India. We choose these examples because of their geographical spread and the availability of high-quality data. We should emphasize, however, that these four countries are at very different levels of development. According to the UNDP's Human Development Index, in 2010 Chile had a score of 0.81, which ranked it as having very high development (although somewhat lower than the most developed countries of Western Europe and North America). China came next with 0.71, counting as high development according to the UNDP. Egypt scored 0.66, and India scored 0.58, both of these counting as medium development although the Indian figure is close to low development (and we should also note that within India and China there will be substantial regional variation in levels of development).

For Chile we use the 2001 Chilean Mobility Survey, a nationally representative survey of male heads of household. For China we use the 2010 Chinese General Social Survey (CGSS), a nationally representative survey of both men and women. For Egypt we use cross-sectional data from the 2012 wave of the Egypt Labor Market Panel Survey (ELMPS),⁵ a nationally representative longitudinal household survey that collected information on every household member aged six and above. For India we use the 2014 Indian National Election Survey, a representative national sample of registered electors. (Further technical details are provided in Appendix A.) All four of these surveys obtained information about the respondents' current occupational positions and employment status, along with similarly detailed information on the positions their fathers held when the respondent was growing up.⁶ For respondents who were out of work or retired, we base their social class on their last main job but we exclude those who had never had a paid job, which is much more common in the case of female respondents than for males. As a result, the female samples are much smaller than the male ones in both Egypt and India, reflecting the low rates of participation of women in paid employment in these two countries. In 2010, the ratios of female to male employment were 0.63 in Chile, 0.82 in China, 0.31 in Egypt, and 0.35 in India.

The samples which we report cover respondents aged 18 and over, except in the case of Chile, where the sample covered respondents aged 24 to 69. We should remember that individuals will tend to experience some mobility over the course of their occupational careers, younger people typically starting their careers in entry-level positions and some subsequently experiencing upward career mobility. A person's current occupation is simply a snapshot of what is actually a dynamic process. This could lead to some bias, especially if one compares a country like Egypt, where the population is relatively young, with a country like Chile, with its somewhat older population.

For measuring the class positions of the fathers and respondents, we use an 8-category version of the EGP schema described above, namely:

I	Higher professionals, managers, and large proprietors
II	Lower professionals and managers
IIIa+b	Routine non-manual employees
IVa	Small employers with fewer than 10 employees
IVb	Self-employed without employees
V+VI	Foremen and skilled manual workers

⁵ The first round of this was carried out in 1998 with a nationally representative sample of households. Three follow-up surveys were conducted, and in each wave a new sample was added to ensure that the survey remained nationally representative.

⁶ In the Chilean and Chinese surveys respondents were asked for their father's position when the respondent was aged 14, and in Egypt when the respondent was aged 15. In the case of India, however, it appears that fathers' occupations represent their current or last main job if retired (Vaid 2018: 256). This introduces a potential bias compared with the other three countries.

VIIa Semi- and unskilled manual workers⁷
 IVc+VIIb Agriculturalists.

We have to reduce the number of classes from eleven to eight for a number of reasons. First, we have to combine Classes V and VI because some of our surveys do not enable us to distinguish foremen from other skilled manual workers. We combine Classes IIIa and IIIb because the distinction between them does not appear to be important in developing countries. And we combine Classes IVc and VIIb in order to accommodate the specifics of farming in China and Chile. In the case of China, peasants did not have ownership of land at the time of the survey and for this reason very few would fall into Class IVc according to the Western definition. It therefore makes sense to combine them into a single class of agriculturalists. Similarly, in Chile, Torche and Spilerman (2008) note that, given the concentration of land ownership among a small landed elite, small landholders control minimal amounts of land and are usually engaged in subsistence farming. As a result, Latin American farmers are far from being a rural bourgeoisie and closer to a rural proletariat. However, in the Indian context the distinction between small landholders and agricultural workers is important, and supplementary analyses are therefore necessary (see further below).

Table 1 is a standard mobility table of the sort that has been in regular use among mobility scholars ever since Anderson and Davidson (1935). This table, covering men in Chile (women were not included in the Chilean study), crosstabulates respondent's class by father's class, using the eight-class schema described above. We use this table to illustrate the calculation of absolute rates of social mobility. As we noted above, absolute rates of upward and downward mobility in a society (and the total rate) refer to the percentages of the population who have experienced movement from the positions in which they grew up.

Table 1: Absolute mobility rates of men in Chile, 2001 (% of total)

Father's class	Respondent's class							
	I	II	III	IVa	IVb	V+VI	VIIa	VIIb+IVc
I	3.0	1.4	0.5	0.9	0.6	0.4	0.9	0.2
II	1.3	1.4	0.4	0.6	0.7	0.4	0.7	0.0
III	1.1	0.8	0.5	0.3	0.6	0.3	1.0	0.0
IVa	1.0	0.8	0.3	1.6	0.5	0.6	1.1	0.0
IVb	1.3	1.4	0.9	0.4	3.3	1.6	3.2	1.6
V+VI	1.2	1.2	0.8	0.5	2.6	3.8	4.7	1.5
VIIa	1.0	1.9	1.1	1.0	3.6	3.3	7.1	2.3
VIIb+IVc	1.2	1.1	1.0	1.0	3.6	3.5	6.9	6.8

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Note: In the Indian case, hawkers and vendors are included in IVb.

Source: Authors' construction.

In Table 1 we percentage the figures so that the total of all the cells in the crosstabulation comes to 100 per cent. This enables us to calculate rates of *absolute mobility and stability*. By summing the

⁷ To make full use of the available information in Chile, China, and Egypt, we followed the conventional way of coding (see www.harryganzeboom.nl/isco88/index.htm): vendors were first coded to VIIa, and then, based on their self-reported employment relationships, to IVa (if they were employers with employees), IVb (if they were self-employed), or VIIa (if they did not define themselves as self-employed). In the Indian case hawkers and vendors are included in IVb.

percentages down the main diagonal (shaded black) running from top left to bottom right we can calculate the percentage who were inter-generationally stable. This comes to 27.5 per cent in the case of men. In other words 27.5 per cent of men in Chile were, at the time of the survey, in the same broad class as they had grown up (as indexed by their fathers' occupations). Conversely, we can say that 72.5 per cent of Chilean men had experienced intergenerational mobility.

We can also calculate that 32.1 per cent of men were upwardly mobile (the sum of the light grey cells below the diagonal) compared with 19.3 per cent who were downwardly mobile (the sum of the darker grey cells above the diagonal). And 21.1 per cent should be classified as horizontally mobile; that is, they had moved between the four intermediate classes which are not ranked hierarchically in the EGP schema, or between Classes VIIa and VIIb (the unshaded cells). These figures are not dissimilar to ones which might be found in a developed country like the UK.

The surplus of upward over downward mobility found in Chile is due to changes in the occupational structure that have resulted in increasing 'room at the top'. For example, 13.3 per cent of fathers had had salariat occupations when their children were growing up but this had expanded to 21.1 per cent among the sons at the time of the survey. Conversely, the agriculturalist class had shrunk from 25.3 per cent for fathers down to 12.4 per cent for their sons. This surplus of upward over downward mobility parallels that found in most research on developed countries (although interestingly it was not found in Glass's pioneering study of Britain in 1954—possibly a legacy of the economic stagnation of the Great Depression and the turmoil of WW2), and has exactly the same cause: the changing shape of the occupational structure as a society develops.

We can calculate similar statistics for our other countries, where we can also distinguish men from women. The results are summarized in Table 2. (The detailed crosstabulations for each of the other three countries on the same lines as Table 1 are shown in Appendix B.)

Table 2: Summary statistics of absolute rates of mobility (%s of total)

	Immobility	Upward mobility	Downward mobility	Horizontal mobility
Chilean male (N=3,004)	27.5	32.1	19.3	21.1
Chinese male (N=4,869)	39.8	32.6	11.1	16.5
Chinese female (N=5,003)	45.8	27.7	11.8	14.7
Egyptian male (N=11,114)	34.0	32.2	15.7	18.1
Egyptian female (N=4,288)	42.7	24.0	14.7	18.6
Indian male (N=7,114)	68.7	19.7	3.9	7.7
Indian female (N=2,560)	75.4	15.6	3.0	6.0

Source: Authors' construction.

Table 2 shows some clear findings. First, Chilean men exhibit the lowest rate of intergenerational stability (27.5 per cent)—in other words, the highest absolute rate of intergenerational mobility. Chile is followed by Egypt (34.0 per cent of men being immobile) and China (39.8 per cent of men immobile), with India displaying very considerably more immobility at 68.7 per cent among men. The low rate of mobility in India is due, at least in part, to the very large size of the agricultural class which, among male respondents in 2014, included over 50 per cent of the population.

Second, in all four countries and for both men and women, we see surpluses of upward over downward mobility. As in the Chilean case described above, this reflects the increasing room at the top, with salaried positions increasing in number and lower-level manual or agriculturalist occupations contracting in size. In these respects the 'direction of travel' is similar in all four countries, although the actual sizes of these different classes among respondents vary considerably across countries.

Third, in the three countries where gender differences can be ascertained, men are more likely to experience mobility than women, most of the difference being due to men’s higher chances of upward mobility, since the rates for downward and horizontal mobility are quite similar for men and women in China, Egypt, and India. This contrasts with the situation of a developed country such as the UK, where absolute rates of mobility (both the total rate and the upward rate) are very similar for men and women (Bukodi and Goldthorpe 2019: chapter 2).

We turn next to measures of relative mobility. Perhaps the most straightforward way to understand what is involved is to employ what are known as ‘outflow’ mobility tables, in which we percentage the figures along each row separately. Outflow mobility tables show where people from a given origin class have moved to by the time of the survey. This provides us with a different perspective on the patterns in the data (although it can in fact be calculated directly from the percentages in the total mobility table). Table 3 shows the results for Chilean men. As we can see, Chilean men from higher salariat origins (Class I) had over eight times the chance of someone from an agriculturalist background (Classes IVc and VIIb) of reaching the higher salariat themselves (38.2 per cent vs 4.7 per cent). Another way of putting this is that the odds for men from these two different backgrounds of reaching the higher salariat themselves were 8:1. Conversely, men from an agriculturalist background had 14 times the chance of men from a higher salariat background of ending up as an agricultural worker themselves (27.2 per cent vs 1.9 per cent). Or, to formulate it in terms of odds, the odds for men from higher salariat as opposed to agriculturalist backgrounds of ending up as agricultural workers were 1:14. The ratio of these two odds is 115:1.

Table 3: Outflow mobility of men in Chile (row percentages)

Father's class	Respondent's class: 8 categories								N
	I	II	IIIab	IVa	IVb	VI	VIIa	VIIb+IVc	
I	38.2	17.3	6.9	11.4	7.7	5.3	11.3	1.9	236
II	23.9	25.9	6.8	11.3	12.1	7.6	12.5	0.0	169
IIIab	23.5	17.3	10.9	6.3	12.5	6.9	21.8	0.8	142
IVa	17.2	14.1	4.6	27.1	8.4	9.7	18.1	0.7	180
IVb	9.3	10.4	6.2	3.2	24.3	12.0	23.2	11.4	408
VI	7.4	7.4	4.7	2.9	16.1	23.5	29.0	9.1	509
VIIa	4.8	8.8	5.3	4.5	17.1	15.6	33.3	10.7	647
VIIb+IVc	4.7	4.6	3.9	3.9	14.4	14.0	27.4	27.2	713
Total	11.1	10.0	5.4	6.2	15.5	14.0	25.5	12.4	3,004

Source: Authors' construction.

Sociologists use ratios of odds like these to measure relative mobility. Odds ratios, as they are termed, compare the odds of people from two different class backgrounds of achieving one class destination (in this example the higher salariat) and of avoiding an alternative one (in this example the agriculturalist class). Equality of odds, where two classes have equal chances of reaching one position and avoiding another, entails a ratio of 1:1 and can be thought of as indicating perfect fluidity between the two classes in question. In contrast, the Class I/Class IVc+VIIb odds ratio in Chile comes to 115:1—a rather high value, contrasting as it does the two extremes of the stratification system, showing in effect a low degree of fluidity (in other words a high degree of inequality of opportunity) between these two classes among men in Chile.

Odds ratios can be thought of as measuring the relative competitive chances in the occupational structure of people coming from two different class backgrounds. They have some convenient mathematical properties—particularly the fact that they do not depend on the overall distributions of the fathers and sons across classes. In effect, they are not constrained by the changing occupational structure (for example, increasing room at the top) in the same way that the measures of absolute mobility which we discussed earlier are. Odds ratios can therefore be thought of as measuring the underlying fluidity, or its opposite of stickiness, of a society’s stratification system.

The Class I versus Class IVc+VIIb odds ratio which we have just calculated is only one of many that can be calculated from a table such as Table 3. In Table 4 we show a selection of additional odds ratios for the four countries. We see that there is slightly less stickiness between Classes I and VIIa than there is between I and IVc+VIIb (except in India, to which we will return in a moment), while there is considerable (though not perfect) fluidity between Classes VIIa and IVc+VIIb in Chile, China, and Egypt. We also see a great deal of fluidity between Classes IVb and VIIa in Chile, China, and Egypt, representing the ease of movement between manual work and self-employment in these three countries. Indeed, for many people self-employment in the informal sector may simply be an alternative to unemployment—a constrained choice—rather than an example of opportunity. The low odds ratios might thus be regarded as examples of perverse fluidity.

Table 4: Relative mobility: five examples of odds ratios

	I/VIIa	I/VIIb+IVc	IVb/VIIa	IVb/VIIb+IVc	VIIa/ VIIb+IVc
Chilean male	23.1	115.2	2.0	4.0	3.1
Chinese male	7.1	35.6	2.4	29.4	10.5
Chinese female	9.1	57.1	4.0	12.4	6.6
Egyptian male	8.6	53.6	3.6	28.9	10.6
Egyptian female	45.5	21.5	5.0	5.3	6.0
Indian male	1076.2	229.3	224.9	201.7	235.0
Indian female	8470.7	1122.8	144.3	208.5	280.1

Source: Authors' construction.

Two other important points can be made about the results shown in Table 4. First, what might be termed the hierarchical odds ratios (I vs VIIa or I vs VIIb+IVc) suggest that fluidity is greatest in China, followed by Egypt and Chile, with India quite some way behind. Second, and in contrast, China is not exceptional with respect to horizontal fluidity between the agricultural and industrial sectors (e.g. the VIIa vs VIIb+IVc odds ratio). These odds ratios are smallest in Chile and the Chinese ratios are similar to those in Egypt and India, possibly reflecting the important role of the *hukou* system in China (Chan 2009). Occupational mobility in China is distinctively shaped by the *hukou* system, a population registration system that was established when China had a planned economy. Under this system, individuals were registered in the locality of residence and were categorized as either rural or urban *hukou* 'holders'. Urban *hukou* holders had better life chances and access to a set of goods and services provided by the state, while rural *hukou* holders had far fewer resources and their migration to urban areas was strictly controlled (Chan 2009).

It is also important to note intersectionality with gender. In general, there is greater stickiness for women than for men with respect to the hierarchical odds ratios (with Egyptian women an exception). But this is not true to the same extent for movement between the agricultural and lower industrial sectors (for example the VIIa vs VIIb+IVc odds ratio). The detailed outflow tables shown in Appendix C also show that there is much less inheritance of Class IVb positions (the small employer class) among women than men. One suspects that this reflects the direct inheritance of property by sons, not daughters.

Finally, in Tables 5 and 6, following Vaid (2018), we disaggregate the agriculturalist class in India, distinguishing separately the mobility patterns involving large farmers (whom we classify as class Ib), small farmers working their own land (IVc), and landless agricultural workers (VIIb).⁸

⁸ Large farmers (Ib) are defined as farm owners with more than 5 acres of land; small farmers (IVc) are defined as farm owners with 0–5 acres of land and tenant farmers with 5+ acres of land; and agricultural workers (VIIb) are defined as agricultural labourers, non-cultivators, and small tenants with 0–5 acres of land.

Table 5: Outflow mobility of men in India, distinguishing the different farming classes (row percentages)

Father's class	Respondent's class: 10 categories										N
	I	II	IIIab	IVa	IVb	VI	VIIa	Ib	IVc	VIIb	
I	53.4	8.2	11.6	8.9	0.7	2.7	2.7	1.4	4.8	5.5	146
II	16.3	37.5	14.2	12.0	2.2	4.9	3.8	0.5	4.3	4.3	184
IIIab	5.4	8.1	40.9	13.7	3.4	13.7	5.4	0.5	3.7	5.1	408
IVa	6.0	8.5	8.8	64.6	1.2	5.4	2.2	0.0	1.2	2.0	497
IVb	2.6	5.2	12.5	7.2	49.7	10.5	3.9	0.0	3.3	5.2	153
VI	3.6	4.2	5.7	6.5	1.5	68.5	5.0	0.3	3.0	1.8	337
VIIa	1.2	1.2	6.7	5.5	3.7	10.6	65.3	0.1	1.9	3.7	671
Ib	1.9	3.3	3.5	5.7	2.7	3.3	2.1	70.8	3.3	3.3	513
IVc	2.0	3.8	6.8	6.9	2.2	4.6	2.6	0.7	65.2	5.2	1,793
VIIb	1.0	2.2	4.6	4.4	2.0	5.1	4.7	0.8	3.4	71.7	2,412
Total	3.6	4.6	8.3	10.4	3.3	8.9	9.5	5.6	18.7	27.1	7,114

Source: Authors' construction.

Table 6: Outflow mobility of women in India, distinguishing the different farming classes (row percentages)

Father's class	Respondent's class: 10 categories										N
	I	II	IIIab	IVa	IVb	VI	VIIa	Ib	IVc	VIIb	
I	70.8	12.5	5.6	1.4	0.0	4.2	1.4	1.4	0.0	2.8	72
II	12.1	67.2	1.7	1.7	0.0	5.2	0.0	1.7	0.0	10.3	58
IIIab	7.0	23.8	42.0	5.6	2.8	4.2	1.4	0.7	5.6	7.0	143
IVa	7.3	34.5	11.8	32.7	0.9	7.3	1.8	0.0	0.0	3.6	110
IVb	4.1	22.4	20.4	8.2	26.5	4.1	4.1	0.0	4.1	6.1	49
VI	2.4	8.7	7.0	5.5	5.5	55.9	6.3	0.0	2.4	6.3	127
VIIa	0.4	5.7	7.4	2.2	3.0	4.8	67.0	0.0	3.0	6.5	230
Ib	0.7	4.7	2.7	2.7	0.7	3.4	0.0	71.8	5.4	8.1	149
IVc	2.2	7.0	2.2	2.2	1.6	3.4	2.7	2.0	70.3	6.3	445
VIIb	1.0	1.9	2.9	0.7	0.9	3.0	2.2	0.8	2.5	84.1	1,177
Total	4.1	8.4	6.3	3.3	2.0	6.2	8.1	5.0	14.5	42.1	2,560

Source: Authors' construction.

What we see in Tables 5 and 6 is a high degree of intergenerational immobility within each of these three agriculturalist classes in India, with very little movement between them. We also see a strong element of hierarchy within the agricultural sector, just as there is within the urban/industrial sector, with very low fluidity between large farmers and agricultural workers (an odds ratio of 1922:1). There is a very high degree of stickiness, then, between the agriculturalist classes. This no doubt reflects the importance of direct inheritance of property and rights to land in India.

However, we also see that these differences between large and small farmers and agricultural workers do not count for much when people leave the land and take up employment in the urban/industrial sector. The sons of large farmers, for example, do not have much advantage over the sons of small farmers or of agricultural workers when it comes to accessing salariat positions. (Of those from large farming backgrounds who moved into the non-agriculturalist classes, 23 per cent of sons accessed the salariat compared with 20 per cent from small farm backgrounds and 13 per cent from agricultural worker backgrounds.) In effect, resources which are valuable for one's position within the agricultural sector have much less value for obtaining positions within the non-agricultural sector.

6 Conclusions: similarities and differences

There are major differences both between developing and developed countries, and between different developing countries, in their patterns of absolute and relative occupational mobility. One striking parallel, however, is that the direction of travel is quite similar, with substantial surpluses of upward over downward mobility in Chile, China, Egypt, and India, just as there are in a developed country such as the UK. This reflects ongoing processes of development and the changing shape of occupational structures as societies develop. There is nothing inevitable about this, however. There are already signs that in the most developed countries the rate of change has slowed and the surplus of upward over downward mobility is becoming smaller (Bukodi and Goldthorpe 2019).

We also find a strong element of hierarchy both in developing and in developed countries, with major advantages for children who grew up in more privileged homes in terms of obtaining privileged positions for themselves. But the degree of social stickiness or fluidity differs greatly between countries and perhaps varies even more across developing societies than among developed ones, the latter being characterized by fairly similar levels of fluidity. While it might be tempting to conclude that fluidity tends to increase as societies develop, it would be premature to draw any strong conclusions from our set of four countries. China, for example, shows greater fluidity, at least with respect to the hierarchical dimension, than does more developed Chile. And the very high levels of stickiness in India may owe something to its patterns of landholding and caste, and not be due simply to lack of development.

As well as the hierarchical, vertical aspect of stratification systems, the importance of barriers affecting what might be termed horizontal movements between agricultural and non-agricultural sectors should not be underestimated. In part, these will reflect the (lack of) availability of occupational opportunities in more rural areas, although our evidence suggests that they might also owe something to particular institutional arrangements, such as the Chinese *bukou* system.

Gender inequalities are also very much in evidence where we could investigate them (in China, Egypt, and India). Here we found much lower rates of upward mobility for women than for men, and also a general tendency for fluidity to be greater among men. There are, however, some specific exceptions, father–son inheritance of small employer positions being quite marked. This contrasts

with the developed world, where gender inequalities in overall rates of absolute and relative mobility are less marked, except in access to elite positions.

One other important difference between less and more developed countries may be in the extent to which sons tend to follow in fathers' occupational footsteps, even in the absence of direct inheritance of property. We have not been able to investigate this directly with the data available, but we suspect that quite a lot of the stickiness we have observed may occur not so much at the level of the kinds of 'broad' classes that make up the EGP schema but rather at the level of individual occupations, where sons learn their fathers' trades, a pattern which is not unknown in developed countries, too, where some specific occupations such as medical doctor, or politician, tend to run in families.

Occupations thus provide a flexible and powerful basis for studying mobility in developing societies, just as they do in developed ones. As we have argued, how one measures occupations needs to reflect the specificities of the particular country; off-the-peg schemas, whether of occupations or their amalgamation into social classes, may hide as much as they reveal. It is also important to recognize that it is not simply a matter of constructing alternative measures for developing countries. As our empirical examples show, there may well be as much diversity between different developing countries, reflecting their histories and institutional arrangements, as between developing and developed countries on average. Understanding these differences is likely to require a detailed understanding of the particular institutional arrangements, such as the Chinese *hukou* system or the Indian caste system, that impinge on recruitment to occupations.

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Appendix A: Information about data and sampling

Country	Data	Data source	Survey year	Sampling method	Response rate	Sample size
Chile	Chilean Mobility Survey	Torche, Florencia, and Wormald, Guillermo. 2001 Chilean Social Mobility Survey. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR35299.v1	2001	Multistage stratified sampling. The sampling strategy includes the following stages. First, 87 primary sampling units (PSUs) (counties) were selected. Then blocks within the PSUs were sampled, and finally, households within blocks were chosen.	63%	3,544
China	Chinese General Social Survey	National Survey Research Centre (NSRC) at Renmin University of China. Chinese General Social Survey 2010. http://cgss.ruc.edu.cn	2010	Multistage stratified sampling. There are three sampling stages: PSUs were county-level units. SSUs were community-level units including villages and neighbourhood committees. In each selected SSU, 25 households (TSUs) were sampled with the probability proportional to size (PPS) method. Finally, in each selected household, one adult aged 18 and above was sampled using the Kish grid.	74%	11,783
Egypt	Egypt Labor Market Panel Survey	Economic Research Forum (ERF), Open Access Micro Data Initiative (OAMDI). Labor Market Panel Surveys (LMPS), Version 2.2 of Licensed Data Files, ELMPS 2012. http://erf.org.eg/data-portal/	2012	Two-stage stratified sampling. The original sample of the ELMS 1998 was selected from 200 PSUs across Egypt. The PSUs were selected according to the PPS method. Then a representative sample of 4,816 households was taken containing 23,997 individuals. In 2006, an additional sample of 100 PSUs was randomly selected, and a refresher sample of 2,498 households was sampled. In 2012, an additional sample of 200 PSUs was randomly selected, and a refresher sample of 2,000 households was sampled.	NA	12,060 households, 49,186 individuals
India	India National Election Study	Vaid (2018) <i>Uneven Odds: Social Mobility in Contemporary India, Appendix A</i>	2014	Multistage stratified sampling, drawn from the electoral registers in 26 states, from which 306 Lok Sabha ⁹ constituencies were selected.	60%	Nearly 22,300 individual respondents

Source: Authors' construction.

⁹ The Lok Sabha, or House of the People, is the lower house of India's bicameral parliament.

Appendix B: Absolute mobility rates—China, Egypt, and India

Table B1: Total mobility rates of men in China

Father's class	Respondent's class							
	I	II	III	IVa	IVb	V+VI	VIIa	VIIb+IVc
I	0.8	0.3	0.2	0.2	0.2	0.3	0.3	0.2
II	1.4	1.2	0.7	0.2	0.7	0.8	1.1	0.9
III	1.6	1.0	0.8	0.4	0.8	1.0	1.3	0.8
IVa	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
IVb	0.3	0.3	0.2	0.1	0.5	0.2	0.5	0.1
V+VI	1.5	1.0	0.9	0.5	0.8	2.4	1.8	0.9
VIIa	0.7	0.8	0.6	0.4	0.8	1.1	1.9	0.7
VIIb+IVc	4.4	3.1	2.0	1.7	4.7	6.6	8.9	32.3

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Table B2: Total mobility rates of women in China

Father's class	Respondent's class							
	I	II	III	IVa	IVb	V+VI	VIIa	VIIb+IVc
I	0.6	0.6	0.6	0.1	0.2	0.1	0.1	0.3
II	1.1	1.4	1.5	0.2	0.5	0.6	0.5	2.3
III	1.1	1.5	1.8	0.2	0.7	0.8	0.7	1.1
IVa	0.2	0.1	0.2	0.1	0.0	0.1	0.0	0.1
IVb	0.2	0.4	0.4	0.1	0.3	0.2	0.2	0.3
V+VI	0.9	0.9	2.7	0.3	0.6	1.1	1.2	1.2
VIIa	0.5	0.7	1.7	0.2	0.5	0.8	1.0	1.1
VIIb+IVc	1.3	2.5	4.5	1.3	4.2	4.3	5.6	39.5

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Table B3: Total mobility rates of men in Egypt

Father's class	Respondent's class							
	I	II	III	IVa	IVb	VI	VIIa	VIIb+IVc
I	4.9	1.7	1.7	0.4	0.6	0.9	1.9	0.5
II	1.9	1.8	0.9	0.1	0.2	0.6	1.3	0.5
III	0.8	0.7	0.6	0.0	0.3	0.4	0.7	0.3
IVa	0.3	0.2	0.2	0.3	0.2	0.4	0.6	0.0
IVb	0.4	0.7	0.4	0.2	0.8	0.9	1.3	0.3
VI	1.0	1.1	0.8	0.2	0.7	2.0	2.2	0.7
VIIa	2.5	2.7	1.9	0.7	1.3	3.6	8.1	1.4
VIIb+IVc	2.9	3.4	1.9	0.8	1.5	4.1	8.6	15.4

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Table B4: Total mobility rates of women in Egypt

Father's class	Respondent's class							
	I	II	III	IVa	IVb	VI	VIIa	VIIb+IVc
I	2.9	5.4	1.2	0.0	0.4	0.0	0.1	2.5
II	1.6	4.3	1.0	0.0	0.1	0.1	0.2	2.2
III	0.5	1.2	0.6	0.0	0.1	0.2	0.2	1.2
IVa	0.2	0.3	0.4	0.0	0.2	0.1	0.1	0.3
IVb	0.4	0.8	0.5	0.0	0.4	0.0	0.2	1.3
VI	0.8	1.4	0.9	0.0	0.4	0.0	0.7	3.0
VIIa	1.3	4.8	2.0	0.2	0.8	0.2	1.4	8.0
VIIb+IVc	1.8	2.9	2.5	0.2	1.9	0.1	1.0	33.1

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Table B5: Total mobility rates of men in India, combining different farming classes

Father's class	Respondent's class							
	I	II	III	IVa	IVb	VI	VIIa	Ib+IVc+VIIb
I	1.1	0.2	0.2	0.2	0.0	0.1	0.1	0.2
II	0.4	1.0	0.4	0.3	0.1	0.1	0.1	0.2
III	0.3	0.5	2.3	0.8	0.2	0.8	0.3	0.5
IVa	0.4	0.6	0.6	4.5	0.1	0.4	0.2	0.2
IVb	0.1	0.1	0.3	0.2	1.1	0.2	0.1	0.2
VI	0.2	0.2	0.3	0.3	0.1	3.2	0.2	0.2
VIIa	0.1	0.1	0.6	0.5	0.3	1.0	6.2	0.5
Ib+IVc+VIIb	1.0	1.9	3.5	3.6	1.4	3.1	2.4	49.3

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Table B6: Total mobility rates of women in India, combining different farming classes

Father's class	Respondent's class							
	I	II	III	IVa	IVb	VI	VIIa	Ib+IVc+VIIb
I	2.0	0.4	0.2	0.0	0.0	0.1	0.0	0.1
II	0.3	1.5	0.0	0.0	0.0	0.1	0.0	0.3
III	0.4	1.3	2.3	0.3	0.2	0.2	0.1	0.7
IVa	0.3	1.5	0.5	1.4	0.0	0.3	0.1	0.2
IVb	0.1	0.4	0.4	0.2	0.5	0.1	0.1	0.2
VI	0.1	0.4	0.3	0.3	0.3	2.8	0.3	0.4
VIIa	0.0	0.5	0.7	0.2	0.3	0.4	6.0	0.9
Ib+IVc+VIIb	0.9	2.4	1.9	0.9	0.7	2.2	1.5	58.8

Immobility
 Upward mobility
 Downward mobility
 Horizontal mobility

Source: Authors' construction.

Appendix C: Outflow tables

Table C1: Outflow mobility of men in China (row percentages)

Father's class	Respondent's class: 8 categories									N
	I	II	IIIab	IVa	IVb	V+VI	VIIa	VIIb+IVc		
I	32.3	13.3	6.3	7.0	9.9	11.6	13.0	6.8		128
II	20.7	16.7	9.5	3.2	9.8	11.2	15.9	13.0		363
IIIab	20.9	13.5	9.7	5.0	10.4	13.5	16.9	10.3		422
IVa	13.0	7.2	5.8	18.0	5.8	23.0	14.4	13.0		38
IVb	15.9	11.8	9.0	3.8	22.7	8.2	23.2	5.5		107
V+VI	15.6	10.1	9.4	5.5	8.1	24.4	18.2	8.8		519
VIIa	9.6	11.5	9.1	6.1	11.0	15.7	27.6	9.5		356
VIIb+IVc	6.9	4.8	3.2	2.7	7.4	10.3	14.0	50.8		2,936
Total	10.8	7.6	5.4	3.7	8.5	12.4	15.8	35.9		4,869

Source: Authors' construction.

Table C2: Outflow mobility of women in China (row percentages)

Father's class	Respondent's class: 8 categories									N
	I	II	IIIab	IVa	IVb	V+VI	VIIa	VIIb+IVc		
I	22.2	22.6	22.2	3.7	8.2	5.1	4.7	11.4		150
II	13.9	17.2	18.4	2.6	6.3	7.2	5.8	28.6		411
IIIab	14.4	18.3	23.1	2.7	8.4	9.7	9.2	14.1		445
IVa	21.8	16.1	25.8	8.9	3.2	9.7	5.7	8.9		42
IVb	9.6	17.7	20.6	5.0	15.9	10.4	8.3	12.5		115
V+VI	9.9	10.4	30.3	3.2	6.8	12.5	13.6	13.5		511
VIIa	8.0	10.3	26.2	2.8	7.5	12.3	15.8	17.1		343
VIIb+IVc	2.1	4.0	7.2	2.1	6.6	6.8	8.8	62.5		2,986
Total	5.9	8.0	13.4	2.5	7.0	8.0	9.3	45.8		5,003

Source: Authors' construction.

Table C3: Outflow mobility of men in Egypt (row percentages)

Father's class	Respondent's class: 8 categories								N
	I	II	IIIab	IVa	IVb	VI	VIIa	VIIb+IVc	
I	39.4	13.2	13.6	2.9	5.1	7.2	14.8	3.9	1415
II	26.0	24.9	12.0	1.5	2.9	8.5	17.7	6.5	821
IIIab	21.8	18.8	14.8	0.1	6.7	11.1	17.6	9.1	416
IVa	12.7	9.3	8.0	14.0	10.5	17.4	27.2	1.0	233
IVb	8.0	13.7	7.6	4.5	15.8	17.5	27.4	5.6	526
VI	11.4	12.4	9.1	2.0	7.9	23.4	25.8	8.2	892
VIIa	11.4	12.0	8.7	3.0	5.8	16.1	36.8	6.3	2,386
VIIb+IVc	7.5	8.9	4.9	2.1	3.8	10.5	22.3	40.1	4,425
Total	14.7	12.2	8.3	2.6	5.6	12.8	24.7	19.2	11,114

Source: Authors' construction.

Table C4: Outflow mobility of women in Egypt (row percentages)

Father's class	Respondent's class: 8 categories								N
	I	II	IIIab	IVa	IVb	VI	VIIa	VIIb+IVc	
I	22.9	43.5	9.7	0.0	3.0	0.0	0.5	20.2	546
II	17.3	44.9	10.7	0.0	1.2	0.5	2.0	23.4	414
IIIab	13.1	31.0	15.3	0.0	1.4	4.1	5.2	30.0	168
IVa	12.9	18.1	23.6	1.7	11.1	5.8	6.8	20.0	75
IVb	9.9	21.6	14.2	0.3	11.3	0.9	4.3	37.6	148
VI	11.1	19.2	12.4	0.0	5.5	0.4	9.6	42.0	293
VIIa	6.9	25.8	10.7	1.0	4.0	0.9	7.7	43.1	751
VIIb+IVc	4.0	6.7	5.8	0.5	4.3	0.3	2.3	76.2	1,893
Total	9.4	21.0	9.1	0.4	4.1	0.7	3.8	51.6	4,288

Source: Authors' construction.

Table C5: Outflow mobility of men in India, combining different farming classes (row percentages)

Father's class	Respondent's class: 8 categories								N
	I	II	IIIab	IVa	IVb	VI	VIIa	Ib+IVc+VIIb	
I	53.4	8.2	11.6	8.9	0.7	2.7	2.7	11.7	146
II	16.3	37.5	14.2	12.0	2.2	4.9	3.8	9.1	184
IIIab	5.4	8.1	40.9	13.7	3.4	13.7	5.4	9.3	408
IVa	6.0	8.5	8.8	64.6	1.2	5.4	2.2	3.2	497
IVb	2.6	5.2	12.5	7.2	49.7	10.5	3.9	8.5	153
VI	3.6	4.2	5.7	6.5	1.5	68.5	5.0	5.1	337
VIIa	1.2	1.2	6.7	5.5	3.7	10.6	65.3	5.7	671
Ib+IVc+VIIb	1.5	2.9	5.3	5.5	2.2	4.7	3.6	74.3	4,718
Total	3.6	4.6	8.3	10.4	3.3	8.9	9.5	51.5	7,114

Source: Authors' construction.

Table C6: Outflow mobility of women in India, combining different farming classes (row percentages)

Father's class	Respondent's class: 8 categories								N
	I	II	IIIab	IVa	IVb	VI	VIIa	Ib+IVc+VIIb	
I	70.8	12.5	5.6	1.4	0.0	4.2	1.4	4.2	72
II	12.1	67.2	1.7	1.7	0.0	5.2	0.0	12.0	58
IIIab	7.0	23.8	42.0	5.6	2.8	4.2	1.4	13.3	143
IVa	7.3	34.5	11.8	32.7	0.9	7.3	1.8	3.6	110
IVb	4.1	22.4	20.4	8.2	26.5	4.1	4.1	10.2	49
VI	2.4	8.7	7.0	5.5	5.5	55.9	6.3	8.7	127
VIIa	0.4	5.7	7.4	2.2	3.0	4.8	67.0	9.5	230
Ib+IVc+VIIb	1.3	3.4	2.7	1.2	1.1	3.1	2.1	85.0	1,771
Total	4.1	8.4	6.3	3.3	2.0	6.2	8.1	61.6	2,560

Source: Authors' construction.