Social Mobility in Japan:
A New Approach to Modeling Trend in Mobility*

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Abstract

In the sociological literature on social mobility, there has been much debate of late about whether opportunity and openness are increasing, with some scholars suggesting that mobility regimes are becoming more fluid and others suggesting that trendless fluctuation is the dominant pattern in most countries. These trend analyses have almost invariably been based on highly aggregate mobility tables that track flows between big social classes (e.g., professionals and managers, routine nonmanuals, craft workers). If the mobility table is instead disaggregated to the level of detailed occupations (e.g., lawyer, bookkeeper, carpenter), it becomes possible to monitor the propensity to remain within (a) the big class of origin ("big class reproduction"), (b) the micro-class of origin ("micro-class reproduction"), and (c) the band of detailed occupations that are socioeconomically close to the origin occupation ("gradational reproduction"). We carry out an analysis of this sort with a half-century of nationally representative mobility data from Japan. The results suggest that big-class reproduction is declining, micro-class reproduction is stable, and gradational reproduction is increasing. We conclude that analyses pitched exclusively at the big-class level tell at best a partial story about how social fluidity is evolving. If the discipline continues to monitor trend exclusively at the big-class level, there is accordingly a risk of conflating trends in the overall extent of opportunity with trends in the extent to which inequality takes on a big-class form.

Keywords: social mobility, fluidity, openness, social class, occupation, micro class.

1. Introduction

The scholarly literature on social mobility has long focused, some might say obsessively, on issues of trend. The main conclusion coming out of this research line is that we are in most countries witnessing a historic decline in social rigidity, a trend that stands in stark juxtaposition to the rise in income inequality that is simultaneously playing out in many countries (e.g., Breen 2004; also, Ganzeboom, Luijkx, and Treiman 1989). Although the

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evidence of decline in class reproduction is less clear in some countries, such as Britain (Erikson and Goldthorpe 2008; Breen 2004) and Japan (Ishida and Miwa 2008), even here one finds evidence of trendless fluctuation rather than any increase in class reproduction. The two great developments of the late 20th century, so we are told, must therefore be understood as countervailing ones: The historic takeoff in income inequality has been paired and counterbalanced by an equally historic equalization of life chances (or, at worst, a trendless fluctuation in such chances).

The question addressed in the present paper is whether the conventional wisdom on trends in class mobility is an artifact of the very stylized way in which we measure mobility. In almost all mobility studies, we have understood mobility as flows between big social classes (e.g., professionals, managers, sales and clerical workers, craft workers, farmers), the analysis thus proceeding by assessing trends in the association between big-class origins and destinations. The study of mobility has in this sense been reduced to the study of big-class mobility, yet quite strikingly this simplifying assumption has come to be adopted with little in the way of evidence that it adequately characterizes the structure of opportunity and of trend. Is it possible that this representation is incomplete and obscures important countervailing trends in the mobility regime? We will answer this question by carrying out a trend analysis in Japan at a very detailed occupational level and thereby teasing out potentially distinct trends pertaining to socioeconomic reproduction, big-class reproduction, and detailed occupational (or "micro-class") reproduction.

The skeptic might contend that, after decades of relentless research on social mobility, it is hardly likely that any important misunderstanding of its structure could have gone undetected and have persisted. This reaction fails to appreciate that mobility research has long been pitched in exceedingly narrow terms. With few exceptions, sociologists have focused on describing and modeling mobility among big classes (e.g., Breen 2004; Erikson and Goldthorpe 1992a; Sobel, Hout, and Duncan 1985), and the decision to default to analyzing big-class tables has gone largely unchallenged (but see Jonsson et al. 2008; Rytina 1992; 2000; Stier and Grusky 1990). Although the main competitor to a big-class formulation, that of gradationalism, was once popular within sociology (e.g., Blau and Duncan 1967; Featherman and Hauser 1978), it has by now been superseded by big-class analysis and thus lives on almost exclusively in the form of increasingly popular analyses of income or earnings mobility (e.g., Solon 2002;

Bradbury and Katz 2002; Björklund and Jäntti 1997; cf. Harding et al. 2005; Morgan, Fields, and Grusky 2006).

The great virtue of proceeding, as we shall here, with a highly disaggregate mobility table is that we can then examine at once reproduction at the socioeconomic, big-class, and micro-class levels. We shall argue below that the forces making for trend may not play out identically at all three levels and that conventional analyses addressing big-class mobility alone may therefore mislead. In all such conventional analyses, the three levels are necessarily confounded, and conclusions about trend may conceal possible differences in how these forms of reproduction are developing. We develop this argument below by reviewing each of the three mechanisms of reproduction and then asking how they may be evolving over time. Throughout this review, we will often refer to occupations as "micro classes," as they embody mechanisms (e.g., closure) and traits (e.g., culture) that are often attributed to big classes.

Gradational regime: The gradational (or socioeconomic) approach to studying mobility has inequality taking on a simple unidimensional form in which families are arrayed in terms of either income or occupational status. The life chances of children growing up within such systems are a function, then, of their standing within this unidimensional queue of families. When children are born high in the queue, they tend to secure high-status and highly rewarded occupations by virtue of (a) their privileged access to the economic resources (e.g., wealth, income) needed to either purchase training for the best occupations (e.g., an elite education) or to "purchase" the jobs themselves (e.g., a proprietorship), (b) their privileged access to social networks providing information about and entree to the best occupations, and (c) their privileged access to cultural resources (e.g., socialization) that motivate them to acquire the best jobs and that provide them with the cognitive and interactional skills (e.g., culture of critical discourse) to succeed in them. Under the gradational model, it is the total *amount* of resources that matter, and children born into privileged circumstances are privileged because they have access to so many resources (e.g., Hout and Hauser 1992). The imagery here is accordingly that of two unidimensional hierarchies, one for each generation, smoothly joined together through the mediating mechanism of total resources (economic, social, or cultural). In Figure 1a, an ideal-typical gradational regime is represented by projecting a detailed cross-classification of occupational origins and destinations onto a third dimension, one which represents the densities of mobility and immobility (represented by the height of the bars). This graph, which orders origin and

destination occupations by socioeconomic score, shows the characteristic falloff in mobility chances as the distance between origin and destination scores increases.[1]

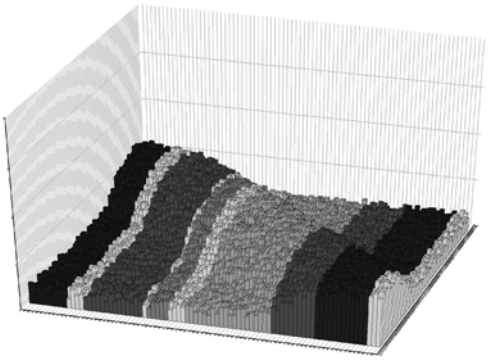

Figure 1A. Gradational Regime

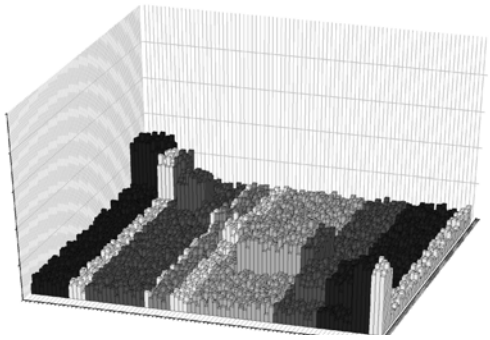

Figure 1B. Big-Class Regime

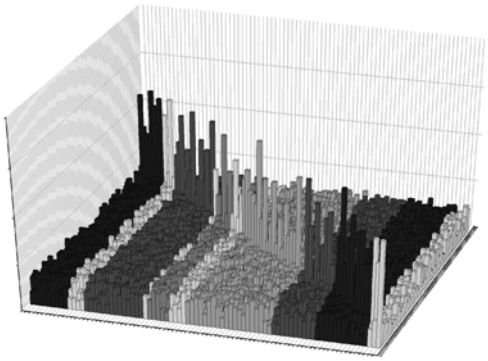

Figure 1C. Micro-Class Regime

Figure 1. Ideal typical mobility regimes

Big-class regime: The big-class regime, by contrast, has inequality taking the form of mutually exclusive and exhaustive social classes. These classes are often assumed to convey a package of conditions (e.g., employment relations), a resulting social environment that structures behavior and decision-making, and a culture that may be understood as an adaptation (or maladaptation) to this environment. For our purposes, the relevant feature of this formulation is that all children born into the same class will have largely the same mobility chances, even though their parents may hold different occupations with different working conditions and socioeconomic standing. The logic of the class situation is assumed, then, to be overriding and to determine the life chances of the children born into it. Obversely, two big classes of similar status will not necessarily

[1] We have added random noise to the densities of mobility and immobility in Figures 1a, 1b, and 1c.

convey to their incumbents identical mobility chances, as they may differ on various non-status dimensions that have implications for mobility. For example, even though proprietors and routine nonmanuals are roughly similar in socioeconomic status, the children of proprietors will tend to become proprietors and the children of routine nonmanuals will tend to become routine nonmanuals. This pattern arises because tastes and aspirations develop in class-specific ways (e.g, the children of proprietors develop tastes for autonomy and the children of routine nonmanuals develop tastes for stability), because human capital is cultivated and developed in class-specific ways (e.g., the children of proprietors develop entrepreneurial skills and the children of routine nonmanuals develop bureaucratic skills), because social capital is distributed in class-specific ways (e.g., the children of proprietors are apprised of entrepreneurial opportunities and the children of routine nonmanuals are apprised of routine nonmanual opportunities), and because the tangible physical capital (e.g., a shop, business) passed on to children of proprietors motivates them to remain as proprietors. By virtue of these processes, children do not have generic access to all occupations of comparable standing (as gradationalists would have it), but instead are especially well positioned to assume occupations that align with the culture, training, contacts, and capital that their class origins entail. We represent an ideal-typical class regime of this sort in Figure 1b. Because we are focusing on reproduction, we have assumed here (and in Figure 1c) that all off-diagonal cells have the same density, save for random noise.

Micro-class regime: The micro-class approach shares with the big-class model the presumption that contemporary labor markets are balkanized into discrete categories, but such balkanization is assumed to take principally the form of institutionalized occupations (e.g., doctor, plumber, postal clerk) rather than institutionalized big classes (e.g., routine nonmanuals). By implication, the occupations comprising big classes will have differing propensities for mobility and immobility, a heterogeneity that obtains because the distinctive occupational worlds into which children are born have consequences for the aspirations they develop, the skills they value and to which they have access, and the networks upon which they can draw (see Table 1). The children of carpenters, for example, may be especially likely to become carpenters because they are exposed to carpentry skills at home, are socialized in ways that render them especially appreciative of carpentry as a vocation, and are embedded in social networks that provide them with information about how to become carpenters and how to secure jobs in

carpentry. Although a micro-class regime again assumes a lumpy class form, the lumpiness is much finer than big-class analysts would allow (see Figure 1c).

Table 1. Mechanisms of intergenerational reproduction

	Type of reproduction	
Type of resources	***Big-class***	***Micro-class***
Human capital	General or abstract skills (e.g., cognitive or verbal abilities)	Occupation-specific skills (e.g., acting skills, carpentry skills)
Cultural capital	Abstract culture and tastes (e.g., "culture of critical discourse")	Occupation-specific culture and tastes (e.g., aspirations to become a medical doctor)
Social networks	Classwide networks (typically developed through neighbor- hood or job-related interactions)	Occupation-specific networks (typically developed through on-the-job interactions)
Economic resources	Liquid resources (e.g., stocks, bonds, income)	Fixed resources (e.g., business, farm)

The question to which we now turn is whether these three mechanisms of reproduction might be evolving in different ways and hence reveal countervailing trends when they are simultaneously taken into account. We take on this question by considering each of these mechanisms in turn and attempting to lay out whether they are likely to become more or less prominent over the last half-century of Japanese history. Although there is of course much theorizing about mobility trends, the convention has been to treat reproduction in generic terms rather than recognizing that it takes such distinct forms and that it may be evolving in different ways for each.

The gradational approach, it may be recalled, recognizes that privilege brings with it many resources that make it likely that high-status children will secure high-status occupations while low-status children will secure low-status occupations. These resources take the form of money, desirable social contacts, and familial cultural resources that equip children for jobs of a status roughly similar to that of their parents. The main development, then, that could reduce gradational mobility is rising inter-occupational inequality in these resources. If, for example, lawyers are making ever more money relative to professors, their children will be ever better positioned to attend the best private schools, to afford high-quality after-school education, and to live in expensive neighborhoods that expose them to desirable social contacts.

The stretching out of the income distribution, insofar as it takes the form of growing inter-occupational variability, will in this fashion generate growing inequality of opportunity as well. Although one typically views inequality of condition and of opportunity as analytically distinct, in fact there is good reason to believe that they are empirically related to one another. It is in this regard seemingly a puzzle that in some countries a growth in income inequality has evidently been conjoined with a decline in inequality of opportunity. We suggest here that the latter decline may in fact be mere artifact, an outcome of measuring mobility in big-class terms even though, as we have argued here, doing so conceals a possible rigidification in socioeconomic mobility. It is altogether possible that, rather than a growth in mobility invariably offsetting a growth in inequality, instead we have growing socioeconomic inequality both of condition and opportunity.

It should of course be stressed that we don't yet know whether inequalities of the sort that would generate this effect are in fact increasing in Japan, although some popular commentators have suggested they are (e.g., Sato 2000). If the mobility regime is indeed becoming more socioeconomicially rigid, our narrative suggests that such an outcome would be occasioned by a rise in *inter-occupational* inequalities in income and other social and cultural resources. The available evidence in Japan does not directly speak to whether inter-occupational inequalities of this sort are indeed increasing (but see Sato 2008). We can at this point merely note that, insofar as they are increasing, a corollary growth in socioeconomic reproduction would be anticipated.

We turn next to likely trends in big-class reproduction. This form of reproduction arises when children not only assume occupations similar in standing to those of their parents but additionally end up in the very same big class as their parents. The latter persistence arises because (1) distinctive class cultures induce children to aspire to their class of origin, (2) the transmission of distinctive class-based skills gives them the human capital needed to remain within their class of origin, and (3) the provision of distinctive social networks gives them privileged access to their class of origin. The main way in which such class cultures are obversely weakened is through class intermixing of the sort that occurs in schools. If, for example, working class children once romanticized manual labor, these sentiments should tend to erode when they intermix in schools with children from other classes and thus come to be exposed to aspirations inconsistent with such a romanticization. It is here, then, that the long-term decline in class effects on educational outcomes (e.g., Kim and Miwa 2007) becomes relevant and implies a

corresponding decline in big-class intergenerational association. This hypothesized decline is opposite in direction to the hypothesized increase in gradational association described above. In conventional mobility analyses, these two countervailing trends could not of course be teased out, as the big-class mobility table will conflate them. We will be able to tease them out by carrying out a disaggregate analysis that allows us to pull apart big-class and socioeconomic reproduction.

What about trend in micro-class reproduction? In this case, it is especially difficult to make any predictions, as there are at least two opposing forces at work. The economic crisis of the last 15 years has led to ever-more economic insecurity, the erosion of the lifetime employment system, and a consequent growth in job mobility (e.g., Brinton 2004; Kosugi 2003; Kato 2001). Although such processes should together generate increased micro-class mobility, the Japanese labor market has at the same time become increasingly occupationalized as the lifetime employment system erodes. This occupationalization should in turn increase micro-class immobility; that is, insofar as parents increasingly identify with and "bring home" their occupation, their children will likely cathect to those occupations and become more oriented to them as well. This process, which is at best in incipient form, might partly counteract the effects of growing economic insecurity and render the micro-class trend accordingly ambiguous.

The more general point that we wish to make is that conventional mobility analyses, pitched as they are exclusively at the big-class level, are not well suited to teasing out the effects of well-known institutional developments in Japanese labor markets. By disaggregating the conventional table, we can develop models that register the effects of these developments by distinguishing among big-class, micro-class, and socioeconomic reproduction.

2. Data, Variables, and Class Schemes

The analyses presented here will be carried out with data from the 2000-2002 Japanese General Social Survey (JGSS) and from the 1955-2005 Japanese Social Stratification and Mobility (SSM) surveys.[2] These surveys provide information on the father's occupation, the child's occupation, sex, age, and other variables that aid in occupational and big-class coding (e.g., employment status, branch of industry). Because our analyses are pitched at the occupational level, our father-by-respondent mobility tables will have many cells,

[2] The SSM survey data were analyzed by Grusky, Sato, and Miwa.

and relatively large data sets for each time period are needed. We have met this requirement by pooling data into four time periods: 1955-65 ("early expansion"); 1975-85 ("consolidation"); 1995 ("lost decade); and 2000-05 ("contemporary period). These time periods capture conventional periodizations of contemporary Japanese social and economic history.

We have restricted the sample in each survey to respondents between 30 and 64 years old. Unfortunately, there were not enough female responents to carry out a separate analysis of their mobility, and we have therefore proceeded here with a male-only analysis.

We next proceeded by constructing a detailed micro-class coding scheme (see Table A1, Table 2).[3] The micro-class category may be defined as "a grouping of technically similar jobs that is institutionalized in the labor market through such means as (a) an association or union, (b) licensing or certification requirements, or (c) widely diffused understandings … regarding efficient or otherwise preferred ways of organizing production and dividing labor" (Grusky 2005, p. 66).[4] The scheme used here includes 82 micro-classes and captures many of the boundaries in the division of labor that are socially recognized and defended (see Jonsson et al. 2008 for details).[5] These micro classes were then scaled with international socioeconomic scores (Ganzeboom et al. 1992).[6]

The distinctive feature of our analysis is that micro-class effects are layered over more conventional big-class effects. Given our suspicion that net big-class effects may be weak, it is clearly important to adopt a big-class scheme that fully captures such big-class effects as can be found, as otherwise any possible shortfall in big-class explanatory power might be attributed to a poor operationalization. We have accordingly proceeded by fitting a multiplicity of nested big-class contrasts that capture the many and varied big-class distinctions that scholars have identified. As shown in Table 2, we begin by distinguishing the manual and nonmanual classes, a big-class distinction so important

[3] The occupations are ordered within each meso-level class according to their international socioeconomic score (see Ganzeboom, de Graaf, and Treiman [1992] for information on the international socioeconomic score).

[4] In most cases, our "occupations" were created by aggregating several detailed occupations into a single category, thus making the label "micro-class" more apt than "occupation." We nonetheless use these terms interchangeably here.

[5] We provide detailed documentation of our occupation classification decisions at http://www.classmobility.org.

[6] We calculated the 82 micro-class scores by assigning them to detailed occupations within the U.S. samples and then aggregating these detailed occupations up to the micro-class level.

Table 2. Micro-classes nested in manual-nonmanual classes, macro classes, and meso classes

1. NONMANUAL CLASS			*2. MANUAL CLASS*	
1. Professional-managerial	***2. Proprietors***	***3. Routine nonman.***	***4. Manual***	***5. Primary***
1. Classical professions	1. Proprietors	***1. Sales***	***1. Craft***	1. Fisherman
1. Jurists		1. Real estate agents	1. Craftsmen , n.e.c.	2. Farmers
2. Health professionals		2. Agents, n.e.c.	2. Foremen	3. Farm laborers
3. Professors and instructors		3. Insurance agents	3. Electronics service and repair	
4. Natural scientists		4. Cashiers	4. Printers and related workers	
5. Statistical and social scientists		5. Sales workers	5. Locomotive operators	
6. Architects		***2. Clerical***	6. Electricians	
7. Accountants		1. Telephone operators	7. Tailors and related workers	
8. Authors and journalists		2. Bookkeepers	8. Vehicle mechanics	
9. Engineers		3. Office workers	9. Blacksmiths and machinists	
2. Managers and officials		4. Postal clerks	10. Jewelers	
1. Officials, govt. and non-profit orgs.			11. Other mechanics	
2. Other managers			12. Plumbers and pipe-fitters	
3. Commercial managers			13. Cabinetmakers	
4. Building managers and proprietors			14. Bakers	
3. Other professions			15. Welders	
1. Systems analysts and programmers			16. Painters	
2. Aircraft pilots and navigators			17. Butchers	
3. Personnel and labor relations workers			18. Stationary engine operators	
4. Elementary and secondary teachers			19. Bricklayers and carpenters	
5. Librarians			20. Heavy machine operators	
6. Creative artists			***2. Lower manual***	
7. Ship officers			1. Truck drivers	
8. Professional and technical, n.e.c.			2. Chemical processors	
9. Social and welfare workers			3. Miners and related workers	
10. Workers in religion			4. Longshoremen	
11. Nonmedical technicians			5. Food processing workers	
12. Health semiprofessionals			6. Textile workers	
13. Hospital attendants			7. Sawyers	
14. Nursery school teachers and aides			8. Metal processors	
			9. Operatives and kindred , n.e.c.	
			10. Forestry workers	
			3. Service workers	
			1. Protective service workers	
			2. Transport conductors	
			3. Guards and watchmen	
			4. Food service workers	
			5. Mass transportation operators	
			6. Service workers, n.e.c.	
			7. Hairdressers	
			8. Newsboys and deliverymen	
			9. Launderers	
			10. Housekeeping workers	
			11. Janitors and cleaners	
			12. Gardeners	

that early class scholars often focused on it alone. We next identify three "macro classes" in the nonmanual category (i.e., professional-managerial, proprietor, routine nonmanual) and another two macro classes in the manual category (i.e., manual, primary). Within three of these macro classes, we then allow further "meso class" distinctions to emerge: the professional-managerial class is divided into classical professions, managers and officials, and other professions; the routine nonmanual class is divided into sales workers

and clerks; and the manual class is divided into craft, lower manual, and service workers. The resulting scheme, which embodies three layers of big-class distinctions (i.e., manual-nonmanual, macro class, and meso class), may be understood as a non-denominational hybrid of conventional schemes that assembles in one classification many of the contrasts that have historically been emphasized by big-class scholars.

These distinctions will be introduced in our mobility model as a nested set of contrasts (see Jonsson et al. 2008; Herting et al. 1997; Stier and Grusky 1990). This approach not only allows us to tease out the net residue of reproduction at the meso-class, macro-class, and manual-nonmanual levels but also allows for patterns of exchange that are more complicated than those conventionally allowed. The stylized father-to-child mobility table in Figure 2 depicts these three sets of overlapping big-class parameters and shows how they capture quite complicated affinities off the micro-class diagonal, off the meso-class diagonal, and even off the macro-class diagonal. If we had instead proceeded by fitting meso-class effects alone (as is conventional), we could absorb excess densities in the dark-gray regions of Figure 2 but not the surrounding light-gray regions. The cells in the white zones of Figure 2 are in fact the only ones that index mobility with respect to *all* class levels. Moreover, even the cells in these zones will be modeled with a gradational term, a parameter that allows us to estimate the extent to which short-distance moves occur more frequently than long-distance ones. It follows that our parameters will capture not just reproduction but many types of mobility as well. At the same time, our model might usefully be extended by scaling occupations in terms of yet more dimensions, an extension that becomes possible precisely because the micro-class mobility table is rich in degrees of freedom (see Hout 1984; 1988)

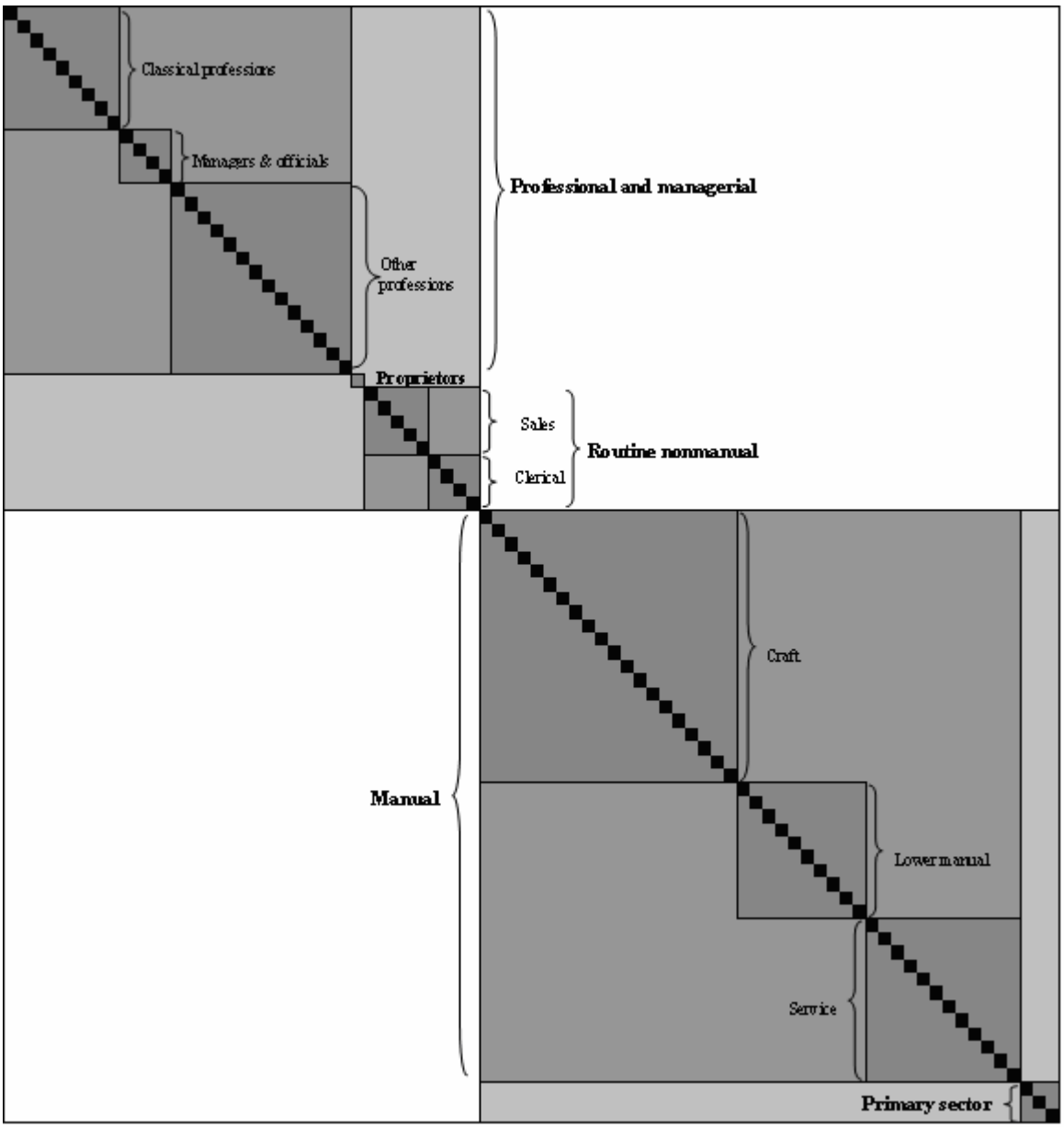

Figure 2. Overlapping inheritance terms in mobility model

3. Absolute Immobility Rates

As a precursor to modeling the association between origins and destinations, we report gross immobility rates at four levels of aggregation, each presented separately for our four time periods. The statistics presented in Figure 3 pertain to the percentage of total observations that fall on the main diagonal of (a) a 2×2 manual-nonmanual table, (b) a 5×5 macro-class table, (c) a 10×10 meso-class table, and (d) an 82×82 micro-class table (see Table 2 for definitions of each level).

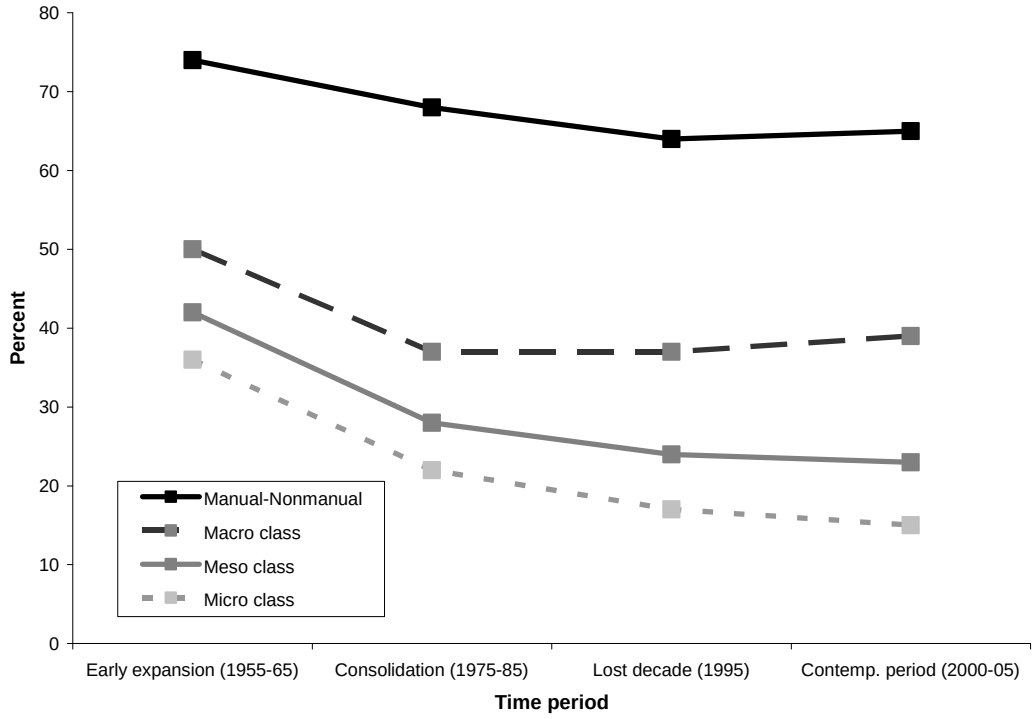

Figure 3. Percent immobile by level of aggregation

NOTE: We have defined an exhaustive meso-class scheme by treating "proprietors" and the "primary sector" as meso classes, and we have defined an exhaustive micro-class scheme by treating "proprietors" as a micro class.

The figure reveals that the amount of immobility declines with disaggregation (as is necessarily the case). We find, for example, more than four times as much manual-nonmanual immobility (65%) as micro-class immobility (15%) in 2000-05. We also find that at each of the four levels the amount of immobility has declined substantially and by roughly the same amount. The latter result implies that the experience of immobility, no matter the reference point (e.g., macro class, meso class, micro class), is becoming a progressively less common one. There is, moreover, much more to this result than the simple decline of the farming sector: When farmers are excluded from the analysis, the decline in immobility is slightly less substantial but still very prominent.

We cannot of course conclude on the basis of these results that inequality of opportunity is becoming less extreme as well. It is entirely possible that the decline proceeds entirely from changes in the relative sizes of the classes rather than intrinsic changes in mobility chances themselves (i.e., "social fluidity"). The analysis of relative rates, to which we next turn, allows us to speak to the inequality of opportunity expressed in a mobility table (i.e., "social fluidity").

4. A Comprehensive Mobility Model

The main model applied throughout this paper represents all three of the mobility mechanisms that we have discussed by including parameters for gradational exchange and for big-class and micro-class immobility. This model takes the following form in each time period:

$$m_{ij} = \alpha\beta_i\gamma_j\varphi^{\mu_i\mu_j}\delta_{ij}^{S}\delta_{ij}^{M}\delta_{ij}^{B}\delta_{ij}^{O}$$

where i indexes origins, j indexes destinations, m_{ij} refers to the expected value in the ij^{th} cell, α refers to the main effect, β_i and γ_j refer to row and column marginal effects, φ refers to the socioeconomic effect, μ_i (origin) and μ_j (destination) are socioeconomic scale values assigned to each of the 82 micro-classes, and δ^S, δ^M, δ^B, and δ^O refer to manual-nonmanual, macro-class, meso-class, and micro-class immobility effects respectively. The latter parameters are fit simultaneously and therefore capture net effects. The manual-nonmanual parameter, for example, indexes the average density across those cells pertaining to manual or nonmanual inheritance after purging the additional residue of inheritance that may obtain at the macro-class, meso-class, and micro-class levels (see Herting et al. 1997).

The socioeconomic parameter, φ, captures the tendency of children to assume occupations that are socioeconomically close to their origins (see Hout 1988). If the apparent clustering at the micro-class, meso-class, macro-class, or manual-nonmanual levels reflects nothing more than this gradational tendency, then the inheritance parameters will become insignificant when the socioeconomic parameter is included. The big-class and micro-class parameters, taken together, thus speak to the extent to which the mobility regime is lumpy rather than gradational, while the relative size of these parameters speaks to whether conventional big-class analyses have correctly represented the main type of lumpiness.

The resulting model is confirmatory in spirit because it rests on an a priori specification of the structure of big classes, micro classes, and the underlying hierarchy of occupations. We have characterized the institutional form that each of these three types of constraint take and then specified a mobility model that allows us to estimate their effects. It is of course possible to proceed instead in exploratory fashion by estimating latent mobility classes (e.g., Grusky and Weeden 2006) or a latent mobility hierarchy (e.g., Goodman 1979; Xie 1992). The RC association model, for example,

freely scales row and column categories on the basis of observed mobility exchanges, yielding an occupational scale that is a one-dimensional amalgam of all the residual determinants of mobility. We have privileged a confirmatory approach because it allows us to estimate the effects of a clearly-specified socioeconomic variable rather than an unspecified residual that will also express nonsocioeconomic effects.

5. Common Features of Mobility

We begin our loglinear analysis by exploring the common features of mobility across all four time periods. As shown in Table 3, we fit a model of the general type expressed in Equation 1, but now that model is applied to four time periods and occupational supply and demand are allowed to freely vary across these periods (see Line 1).[7] We have reported the parameters of immobility in Table 4 and graphed them in Figure 4. The most striking feature of Figure 4 is the micro-diagonal clustering that appears as a palisade protecting occupational positions from intruders. This palisade represents very substantial departures from equality of opportunity. For example, children born into the classical professions are, on average, 4.1 times more likely to remain in their micro-class of origin than to move elsewhere within their meso-class (i.e., $e^{1.40} \approx 4.1$), while the corresponding coefficients for children born into managerial, craft, and service occupations are 3.5, 18.2, and 20.3 respectively (i.e., $e^{1.26} \approx 3.5$; $e^{2.90} \approx 18.2$; $e^{3.01} \approx 20.3$). There is surely little evidence here for the conventional view that occupations in Japan are poorly institutionalized (see Jonsson et al. 2008). To be sure, the routine nonmanual sector (i.e., sales, clerical) is relatively less developed, but even in this sector there is much reproduction. Although the interior regions of the class structure are typically represented as zones of fluidity (e.g., Featherman and Hauser 1978), we find substantial micro-class reproduction among the "middle classes" of craft, lower manual, and service workers (see Figure 5).

How do the micro-class and big-class coefficients compare? Of the 14 big-class coefficients, the only significant ones (at $\alpha = .05$) are those for manuals and nonmanuals ($e^{.28} \approx 1.3$), proprietors ($e^{1.42} \approx 4.2$), primary sector workers ($e^{.56} \approx 1.8$), classical professions

[7] The resulting index of dissimilarity, 26.7, is large because the data are sparse and because of misclassification within big classes. For our purposes, it is the *average* densities within the regions of meso-class and macro-class inheritance that are principally of interest, and any lack of fit across the various cells pertaining to such inheritance (and to inter-class mobility) is quite unproblematic, in effect nothing more than noise around the means of interest to us.

Table 3. Fit statistics for basic models of trend and stability

Model	L^2	*df*	*Δ*	*BIC*
1. Common social fluidity O*T+D*T+G+S+B+I+M	8,354.6	19,597	26.7	-173,028
2. Form-specific trend O*T+D*T+G*T+S*T+B+BG*T+I+IG*T+M+MG*T	8,328.2	19,582	26.6	-172,916
3. Eliminate socioeconomic trend O*T+D*T+G+S*T+B+BG*T+I+IG*T+M+MG*T	8,334.8	19,585	26.6	-172,937
4. Eliminate big-class trend O*T+D*T+G*T+S+B+I+M+MG*T	8,347.7	19,591	26.7	-172,980
5. Eliminate micro-class trend O*T+D*T+G*T+S*T+B+BG*T+I+IG*T+M	8,328.9	19,585	26.6	-172,943

Note: O=Origins, D=Destinations, T=Time period, G=Socioeconomic status (SES); S=Manual-nonmanual inheritance; B=Macro-class inheritance, I=Meso-class inheritance, M=Micro-class inheritance, SG=Uniform manual-nonmanual inheritance, BG=Uniform macro-class inheritance, IG=Uniform meso-class inheritance, MG=Uniform micro-class inheritance

Table 4. Base coefficients of immobility

Coefficients	*Common social fluidity*[3]	*Trend model*[4]
I. Status (SES)[1]	.78*	.40*
II. Big class		
A. Manual-nonmanual	.28*	.33*
B. Macro class		
1. Professional-managerial	-.04	-.02
2. Proprietor	1.42*	1.48*
3. Routine non-manual	-.11	-.07
4. Manual	.00	.04
5. Primary	.56*	.61*
C. Meso class		
1. Classical professions	.64*	.84*
2. Managers & officials	-.06	.15
3. Other professions	.22	.43*
4. Sales	.06	.28
5. Clerical	.44*	.65*
6. Craft	-.08	.12
7. Lower manual	.05	.20
8. Service workers	-.05	.19
III. Micro class[2]		
1. Classical professions	1.40	1.40
2. Managers & officials	1.26	1.25
3. Other professions	2.00	2.30
4. Sales	.82	.80
5. Clerical	.95	.90
6. Craft	2.90	2.89
7. Lower manual	2.13	2.12
8. Service workers	3.01	2.99
9. Primary	2.26	2.27

[1] *Coefficient multiplied by 1000 for convenience in presentation.*
[2] *Average of micro-class coefficients within meso classes.*
[3] *Model 1, Table 3.*
[4] *Model 5, Table 3. Coefficients pertain to respondents in the early expansion period (1955-65).*

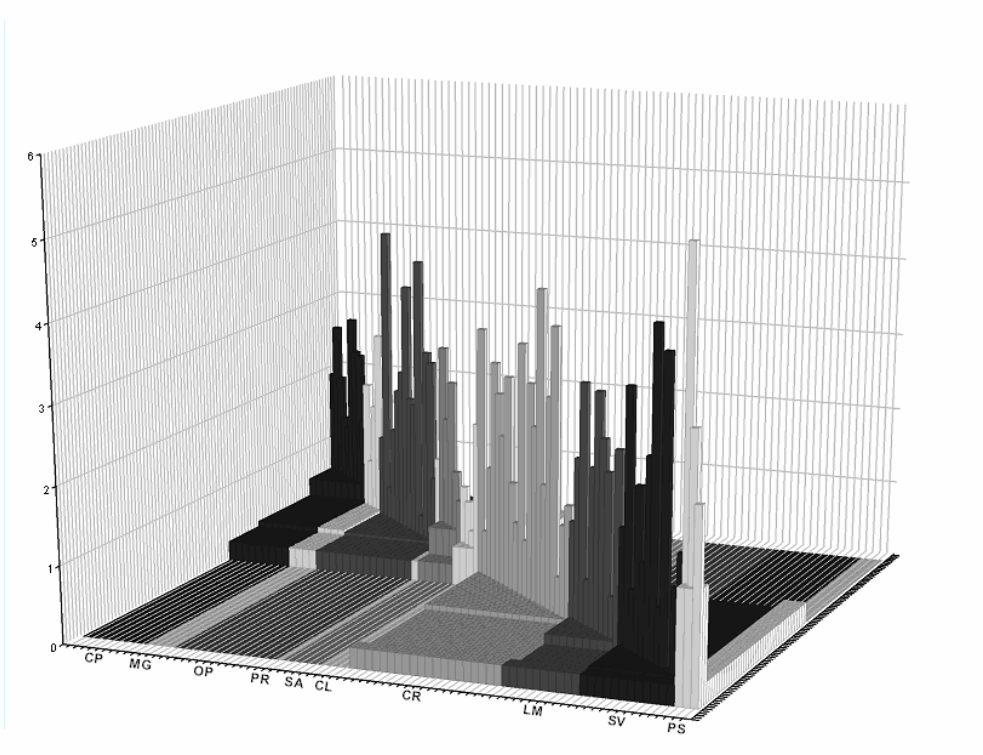

Figure 4. The Contours of class reproduction

Note: Coefficients are drawn from Model 1 of Table 3. CP=Classical professions; MG=Managers and officials; OP=Other professions; PR=Proprietors; SA=Sales; CL=Clerical; CR=Craft; LM=Lower manual; SV=Service; PS=Primary sector.

($e^{.64}$≈1.9), and clerical workers ($e^{.44}$≈1.6). The other 9 big-class coefficients do not differ significantly from zero. It also bears noting that two of these big classes are big classes in name only. That is, because the proprietor class comprises only shopkeepers, it is not the characteristic big-class amalgam of many occupations; and there is accordingly good reason to regard proprietors as effectively a micro class. Likewise, the primary sector is not much of an amalgam, dominated as it is by farmers. The remaining twelve big-class effects, all of which pertain to true amalgams, are quite weak. The strongest of these remaining effects, that for classical professions, is far weaker than the typical micro-class effect. The gradational effect is likewise very strong relative to the typical big-class effect.

6. Trends in Reproduction

We are of course principally interested in *trends* in the gradational, micro-class, and big-class coefficients. In conventional analyses, these forms of reproduction are confounded, and conclusions about trend may conceal possible differences in how these three forms of reproduction are changing.

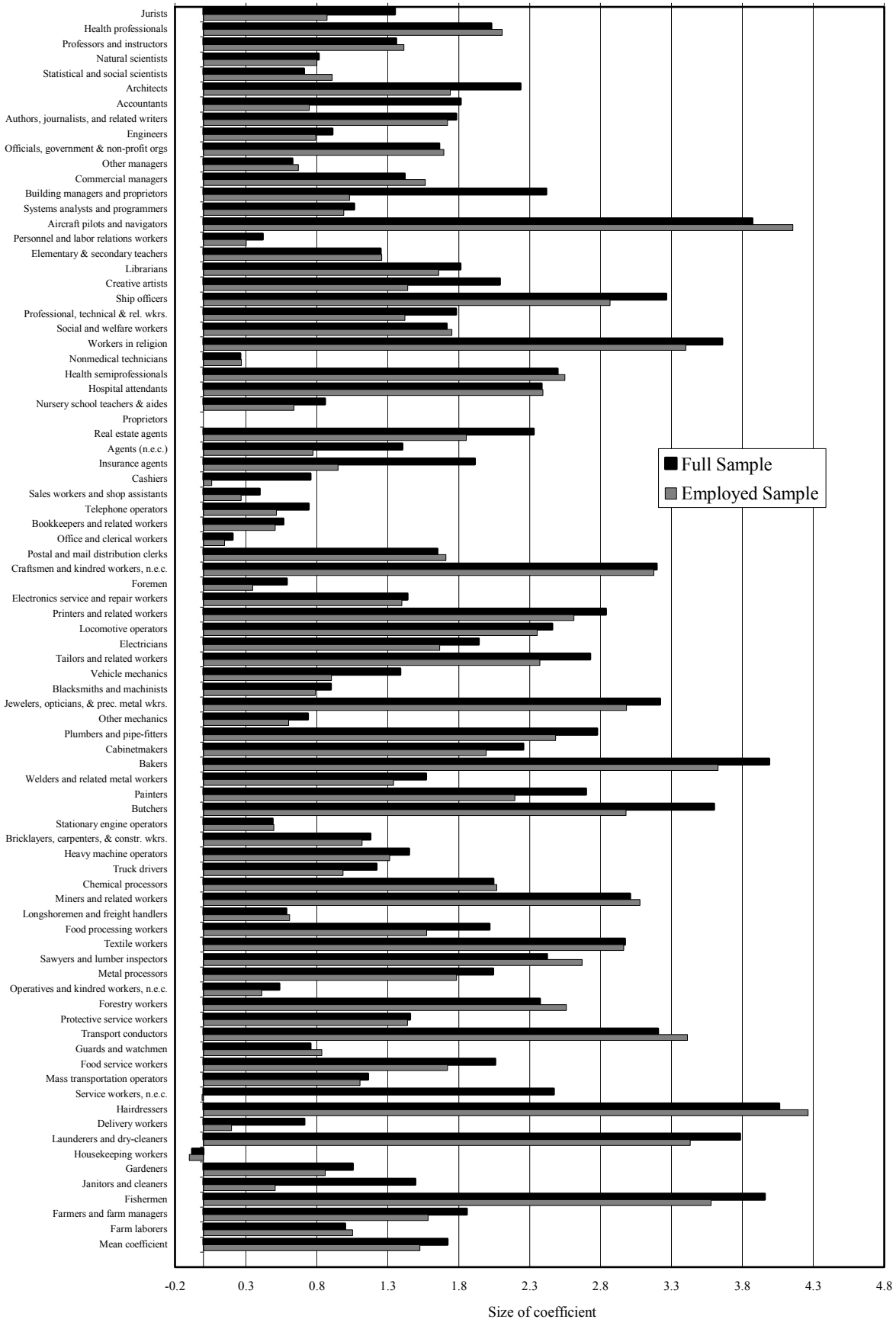

Figure 5. The structure of micro-class reproduction

NOTE: Coefficients based on Model 1 of Table 3.

We proceed by estimating a series of models in Table 3 that reveal the structure of trend for each form of reproduction. In Model 2, we force cross-period variability in reproduction to be captured in a set of period-specific shift parameters, each such parameter pertaining to a different type of reproduction (Erikson and Goldthorpe 1992a; Xie 1992). The likelihood-ratio contrast for Models 1 and 2 constitutes a test of cross-period variability and reveals that such variability is indeed significant (at $\alpha = .05$). We successively delete each of these trend parameters in the next three models and thereby assess whether trend for each form of reproduction (i.e., gradational, micro-class, big-class), now taken separately, is significant. We find that the micro-class trend is not significant at any conventional significance level, that the socioeconomic trend is significant at $\alpha = .10$, and that the big-class trend is significant at $\alpha = .05$. We therefore proceed by conditioning on the model that eliminates micro-class trend but allows trend in gradational and big-class reproduction.[8]

The second column of Table 4 shows the baseline mobility coefficients under this model for the 1955-65 period. As before, the full complement of 82 micro-class effects is not presented, and instead meso-class averages of these effects are reported. The main parameters of interest, as reported in Table 5, are the trend coefficients representing deviations from the reference category (1955-65) for both gradational and meso-class reproduction. We have omitted the corresponding trend coefficients for manual-nonmanual and macro-class reproduction because all were small and insignificant.

The estimates in Table 5 suggest four main conclusions. First, our results are inconsistent with the standard view that social fluidity in Japan is eerily stable (e.g., Ishida and Miwa 2008), and indeed we find to the contrary evidence of significant and substantial trend. The status term, for example, indicates that the tendency to move to socioeconomically proximate occupations has more than doubled (in additive form), hardly a trivial change. Second, not only is the trend in social fluidity sizable, but it further takes the form of an *increase* in rigidity, a result that stands in stark opposition to the long-standing view that, insofar as any change at all in social fluidity can be teased out, it will take the form of growing openness. Third, prior results suggesting a trendless fluctuation in Japanese social fluidity appear to have been an artifact of countervailing trends, revealed here as a decline in class reproduction that offsets the increase in status

[8] It bears emphasizing that, per usual, BIC prefers the model of common social fluidity. We prefer to examine all significant parameters and allow our readers to decide whether they reveal trends of consequence.

reproduction. We find that meso-class reproduction in 1955-65 was 1.4 times stronger than meso-class reproduction in the contemporary period ($e^{.31} \approx 1.4$). The decline in big-class effects revealed here bespeak not a general opening-up of the mobility regime but rather a growing weakness of the class form of inequality. Fourth and finally, it should be recalled that there is no trend whatsoever in micro-class effects, a result that is inconsistent with the common view that all class effects are weakening across the board (e.g., Pakulski 2005).

Table 5. Trend Coefficients (Model 5, Table 3)

	Coefficient[1]	
Time Period	***Status***[2]	***Meso Class***
Consolidation (1975-85)	.48*	-.10
Lost decade (1995)	.52*	-.24
Contemporary period (2000-05)	.53*	-.31*

** Significant at α = .05.*
[1] Coefficients are contrasts with base value in 1955-65 (see Table 4).
[2] Coefficients multiplied by 1000 for convenience in presentation.

7. Conclusions

The overall pattern, then, is one of growing rigidity in socioeconomic forms of exchange, growing fluidity in big-class reproduction, and rough stability in micro-class reproduction. It is clearly the case that analyses pitched exclusively at the big-class level tell at best a very partial story about how social fluidity is evolving. When we default to a big-class analysis, we are at risk of misunderstanding any decline in association as generic evidence of a more open regime, yet in fact it likely reveals nothing more than the growing weakness of the big-class form. If the discipline continues to monitor trend exclusively at the big-class level, there is accordingly a risk of conflating trends in the overall extent of opportunity with trends in the extent to which inequality takes on a big-class form.

The most striking result reported here is of course the stark increase in socioeconomic reproduction. Why might an increase of this sort be generated? We suggested in our introductory comments that rising inter-occupational inequality in generalized resources (e.g., income, high-status social contacts, familial cultural resources) could generate precisely such a pattern. If, for example, occupational incomes

are becoming ever more unequal, children born into the most privileged occupations will have a greater advantage in attending private schools, purchasing after-school education, and accessing high-status contacts (by virtue of living in more exclusive neighborhoods). It is in this regard that inequality of condition and opportunity may be more deeply linked than we sometimes appreciate or admit (see Erikson and Goldthorpe 2008).

The latter narrative suggests that rising inequality is troubling not just in its own right but also because it potentially undermines our commitment to equality of opportunity. It is difficult indeed to guarantee equal opportunity when those at the top have the ability to buy so much advantage. The modern condition, we have long thought, is a fundamentally contradictory one, contradictory in the sense that the spectacular rise in inequality has been counterbalanced by a growing equality of opportunity. The results reported here suggest that a contradiction of this sort cannot be long sustained and that in the end inequality of condition wins out and spills over into the mobility regime.

The foregoing commentary is surely speculative. As earlier mentioned, we don't yet know whether inter-occupation inequalities in income are growing in Japan (see Sato 2008; also, Weeden and Grusky 2007), nor we do know whether inequalities in other generalized resources (e.g., contacts) are growing as well. The results reported here merely suggest that conventional analyses of mobility can be deceptive and that countervailing forces for rigidity can be uncovered by carrying out disaggregate analyses at the detailed occupational level. Although our analyses may only be suggestive, they are nonetheless worrisome enough that it should become a priority to supplement the usual big-class trend analyses with additional disaggregate analyses in other countries.

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Appendix Table A1. Micro-class frequencies for four time periods

		Early expansion (1955-65)		Consolidation (1975-85)		Lost decade (1995)		Contemp. period (2000-2005)	
Micro-class code and category		**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
11101	Jurists	351	.008	14	.002	93	.007	981	.005
11102	Health professionals	569	.012	49	.006	135	.011	2481	.013
11103	Professors & instructors	403	.009	25	.003	60	.005	1112	.006
11104	Natural scientists	207	.004	11	.001	60	.005	1038	.006
11105	Statistical & social scientists	127	.003	1	.000	88	.007	2147	.012
11106	Architects	80	.002	73	.008	72	.006	1086	.006
11107	Accountants	540	.012	8	.001	58	.005	876	.005
11108	Authors, journalists, & related writers	177	.004	15	.002	44	.003	1010	.005
11109	Engineers	1727	.037	151	.017	534	.042	4575	.025
11201	Officials, government & non-profit org.	527	.011	39	.004	62	.005	2165	.012
11202	Other managers	5053	.110	737	.085	378	.030	5251	.028
11203	Commercial managers	515	.011	85	.010	275	.022	4305	.023
11204	Building managers & proprietors	74	.002	16	.002	102	.008	1539	.008
11301	Systems analysts & programmers	274	.006	63	.007	169	.013	3783	.021
11302	Aircraft pilots and navigators	81	.002	1	.000	4	.000	146	.001
11303	Personnel & labor relations workers	153	.003	0	.000	29	.002	1773	.010
11304	Elementary & secondary teachers	860	.019	220	.025	513	.040	6343	.034
11305	Librarians	24	.001	1	.000	14	.001	361	.002
11306	Creative artists	324	.007	25	.003	78	.006	1620	.009
11307	Ship officers	49	.001	21	.002	19	.001	467	.003
11308	Professional, technical & rel. wkrs.	652	.014	99	.011	120	.009	1530	.008
11309	Social & welfare workers	76	.002	15	.002	56	.004	1622	.009
11310	Workers in religion	327	.007	28	.003	38	.003	483	.003
11311	Nonmedical technicians	568	.012	19	.002	538	.042	18719	.101
11312	Health semiprofessionals	170	.004	37	.004	113	.009	1440	.008
11313	Hospital attendants	74	.002	0	.000	26	.002	1428	.008
11314	Nursery school teachers & aides	0	.000	1	.000	7	.001	519	.003
12001	Proprietors	1840	.040	462	.053	308	.024	3098	.017

13101	Real estate agents	231	.005	36	.004	9	.001	449	.002
13102	Agents (n.e.c.)	217	.005	21	.002	87	.007	1760	.010
13103	Insurance agents	424	.009	30	.003	108	.009	373	.002
13104	Cashiers	33	.001	5	.001	3	.000	21	.000
13105	Sales workers & shop assistants	2107	.046	407	.047	263	.021	7743	.042
13201	Telephone operators	3	.000	5	.001	6	.000	101	.001
13202	Bookkeepers & related workers	271	.006	189	.022	428	.034	1884	.010
13203	Office and clerical workers	1699	.037	1045	.121	1127	.089	4398	.024
13204	Postal & mail distribution clerks	494	.011	44	.005	107	.008	2895	.016
24101	Craftsmen & kindred workers, n.e.c.	263	.006	68	.008	93	.007	484	.003
24102	Foremen	1655	.036	333	.039	318	.025	0	.000
24103	Electronics service & repair workers	598	.013	11	.001	204	.016	3174	.017
24104	Printers & related workers	297	.006	54	.006	120	.009	1854	.010
24105	Locomotive operators	171	.004	23	.003	75	.006	451	.002
24106	Electricians	479	.010	80	.009	288	.023	4889	.027
24107	Tailors and related workers	134	.003	73	.008	74	.006	466	.003
24108	Vehicle mechanics	783	.017	23	.003	213	.017	2145	.012
24109	Blacksmiths & machinists	1167	.025	93	.011	757	.060	6794	.037
24110	Jewelers, opticians, & prec. metal wkrs.	64	.001	24	.003	96	.008	1094	.006
24111	Other mechanics	2086	.045	31	.004	192	.015	4863	.026
24112	Plumbers & pipe-fitters	432	.009	59	.007	187	.015	1817	.010
24113	Cabinetmakers	61	.001	57	.007	210	.017	2136	.012
24114	Bakers	43	.001	40	.005	79	.006	294	.002
24115	Welders & related metal workers	740	.016	111	.013	187	.015	4248	.023
24116	Painters	487	.011	56	.007	181	.014	2475	.013
24117	Butchers	159	.003	0	.000	72	.006	311	.002
24118	Stationary engine operators	384	.008	41	.005	78	.006	505	.003
24119	Bricklayers, carpenters, & constr. wkrs.	1444	.031	424	.049	619	.049	10101	.055
24120	Heavy machine operators	580	.013	58	.007	114	.009	2151	.012
24201	Truck drivers	1680	.036	37	.004	481	.038	8983	.049
24202	Chemical processors	431	.009	108	.012	90	.007	2686	.015
24203	Miners & related workers	235	.005	40	.005	128	.010	645	.003

24204	Longshoremen & freight handlers	565	.012	60	.007	135	.011	3200	.017
24205	Food processing workers	330	.007	92	.011	48	.004	730	.004
24206	Textile workers	131	.003	65	.008	38	.003	182	.001
24207	Sawyers & lumber inspectors	105	.002	52	.006	17	.001	1022	.006
24208	Metal processors	409	.009	85	.010	75	.006	1118	.006
24209	Operatives & kindred workers, n.e.c.	3168	.069	430	.050	244	.019	4388	.024
24210	Forestry workers	87	.002	23	.003	36	.003	1730	.009
24301	Protective service workers	589	.013	55	.006	240	.019	3004	.016
24302	Transport conductors	45	.001	8	.001	17	.001	575	.003
24303	Guards & watchmen	446	.010	59	.007	76	.006	1217	.007
24304	Food service workers	445	.010	90	.010	60	.005	1084	.006
24305	Mass transportation operators	325	.007	272	.031	21	.002	0	.000
24306	Service workers, n.e.c.	393	.009	35	.004	50	.004	616	.003
24307	Hairdressers	172	.004	56	.006	39	.003	169	.001
24308	Delivery workers	395	.009	39	.004	3	.000	200	.001
24309	Launderers & dry-cleaners	74	.002	21	.002	11	.001	109	.001
24310	Housekeeping workers	41	.001	2	.000	12	.001	219	.001
24311	Gardeners	620	.013	25	.003	129	.010	1161	.006
24312	Janitors & cleaners	235	.005	11	.001	111	.009	3681	.020
25001	Fishermen	49	.001	85	.010	0	.000	237	.001
25002	Farmers & farm managers	1750	.038	1213	.140	299	.024	4952	.027
25003	Farm laborers	37	.001	18	.002	48	.004	769	.004
Column Totals		**46085**	**100**	**8635**	**100**	**12696**	**100**	**184451**	**100**