Microclass Mobility: Social Reproduction in Four Countries[1]

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In the sociological literature on social mobility, the long-standing convention has been to assume that intergenerational reproduction takes one of two forms: a categorical form that has parents passing on a big-class position to their children or a gradational form that has parents passing on their socioeconomic standing. These approaches ignore in their own ways the important role that occupations play in transferring opportunities from one generation to the next. In new analyses of nationally representative data from the United States, Sweden, Germany, and Japan, the authors show that (*a*) occupations are an important conduit for social reproduction, (*b*) the most extreme rigidities in the mobility regime are only revealed when analyses are carried out at the occupational level, and (*c*) much of what shows up as big-class reproduction in conventional mobility analyses is in fact occupational reproduction in disguise.

In the late 1950s, the study of social mobility bifurcated into competing camps: one that represented social structure in gradational terms (e.g., Svalastoga 1959) and another that represented it in class terms (e.g., Glass

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1954; Carlsson 1958). These competing representations of social structure were subsequently attached to competing understandings of how inequality is reproduced. The class scholar assumed that parents pass on their social class to children, while the gradational scholar assumed that parents pass on their occupational prestige or socioeconomic standing to their children. Under both approaches, detailed occupations were usually treated as the appropriate starting point in representing the underlying structure of inequality, but they were transformed either by aggregating them into big classes (the class approach) or by scaling them in terms of their socioeconomic status or prestige (the gradational approach). The study of mobility has in this sense been reduced to the study of either class or socioeconomic mobility, yet quite strikingly these simplifying assumptions have come to be adopted with little in the way of evidence that they adequately characterize the structure of opportunity.

Is it possible that both class and gradational representations are incomplete and obscure important rigidities in the mobility regime? We will show that these simplifying representations indeed provide only partial accounts and that the structure of inequality is best revealed by supplementing them with a third representation that treats occupations as fundamental conduits of reproduction. Because the social, cultural, and economic resources conveyed to children depend so fundamentally on the occupations of their parents, one might expect occupations to play a featured role in intergenerational reproduction. This role has gone largely unexplored in conventional mobility analysis. We will ask whether occupational reproduction is a generic feature of late industrialism by comparing the mobility regimes of the United States, Germany, Sweden, and Japan.

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 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., Sobel, Hout, and Duncan 1985; Erikson and Goldthorpe 1992*b*; Breen 2004), and the decision to default to analyzing big-class tables has gone largely unchal-

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lenged (but see Stier and Grusky 1990; Rytina 1992, 2000). Although the main competitor to a big-class formulation, 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 in the form of increasingly popular analyses of income or earnings mobility (e.g., Björklund and Jäntti 1997; Bradbury and Katz 2002; Solon 2002; cf. Harding et al. 2005; Morgan, Fields, and Grusky 2006).

In what follows, we argue that the conventional class-based and gradational characterizations of reproduction do not well represent the form of mobility and, as a result, fail to reveal some of the important rigidities in the mobility regime. This argument is best developed by first reviewing the two existing approaches to characterizing mobility regimes and thereafter turning to a review of our occupational approach. Throughout this review, we will often refer to occupations as *microclasses*, as they embody mechanisms (e.g., closure) and traits (e.g., culture) that are often attributed to big classes. There is good reason to believe that some of the most fundamental properties of a class model (e.g., interest formation, culture formation) are realized not just at the big-class level but at the occupational level as well (see Weeden and Grusky 2005).

We couch our theoretical discussion and empirical analyses principally in terms of the problematic of social reproduction or inheritance. The tendency to end up in the same social class as one's parents is extremely strong and accounts for about three-fourths of the total origin-by-destination association in a standard mobility table (e.g., Featherman and Hauser 1978, p. 97). It is therefore sensible to begin our engagement with mobility analysis by asking whether big-class or gradational approaches can adequately describe or explain social reproduction. We will assume, furthermore, that social reproduction can in large part be equated with inequality of opportunity (Breen and Jonsson 2005). Even though some reproduction may partly be due to differences in taste (and not merely differences in resources), we nonetheless refer to it as "inequality" under the assumption that tastes are themselves largely endogenous (to class position).

Gradational regime.—The gradational approach to studying mobility has inequality taking on a simple unidimensional form in which families are arrayed on a scale defined either by a single variable (e.g., prestige, income) or an amalgam of variables (e.g., socioeconomic 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 train-

ing for the best occupations (e.g., an elite education) or "purchase" a job itself (e.g., a proprietorship), (*b*) their privileged access to social networks providing information about and entrée 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., critical discourse) to succeed in them. Under the gradational model, it is the total *amount* of resources that matters, 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 part A of figure 1, an ideal-typical gradational regime is represented by projecting a detailed cross-classification of occupational origins and destinations onto a third dimension, which represents the densities of mobility and immobility (indicated 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.[2]

Big-class regime.—The big-class regime, by contrast, has inequality taking the form of mutually exclusive and exhaustive classes. These classes are often assumed to convey a package of employment relations and consumption opportunities, 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 convey to their incumbents identical mobility chances, as they may differ on various nonstatus dimensions that have implications for mobility. For example, even though proprietors and routine nonmanuals (e.g., clerks, sales workers) 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

[2] We have added random noise to the densities of mobility and immobility in parts A, B, and C of fig. 1.

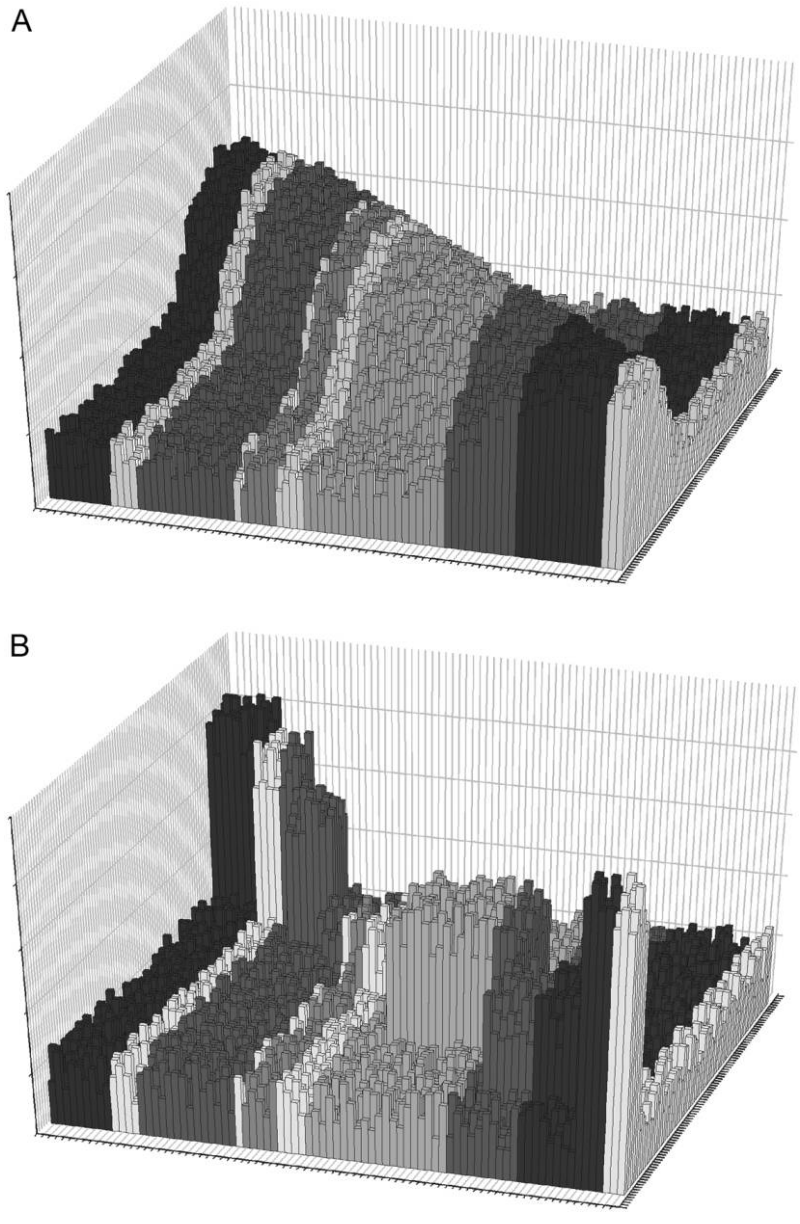

FIG. 1.—Ideal-typical mobility regimes. Part A: gradational regime. Part B: big-class regime. Part C: microclass regime. The base of each figure indexes occupational origins and destinations, while the vertical dimension indexes densities of mobility and immobility (for each possible combination of origin and destination).

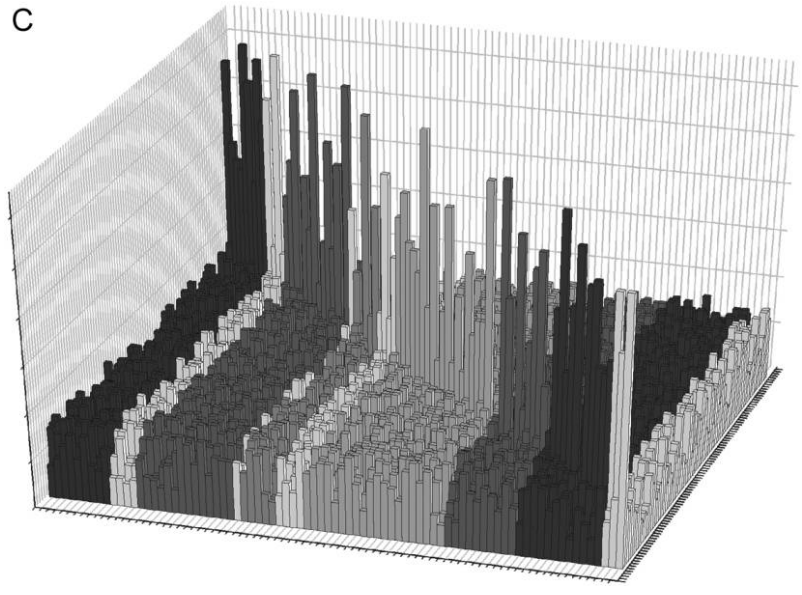

FIG. 1. (*Continued*)

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 or 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 part B of figure 1 by grouping occupations into big classes. Because we are focusing on reproduction, we have assumed here (and in fig. 1, pt. C) that all cells off the big-class diagonal have the same density, save for random noise. We have also allowed for random noise in the cells representing big-class reproduction.

Microclass regime.—The microclass 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, proprietors). By implication, the occupations comprised by 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. The children of carpenters, for example, may be especially likely to become carpenters because they are exposed to carpentry skills at home, socialized in ways that render them especially appreciative of carpentry as a vocation, and embedded in social networks that provide them with information about how to become carpenters and how to secure jobs in carpentry. Although a microclass regime again assumes a lumpy class form, the lumpiness is consequently much finer than big-class analysts would allow (see fig. 1, pt. C).

In past mobility research, there has been considerable debate about which of the first two forms (gradational or big-class) best represents the structure of contemporary mobility regimes, an older debate that we will not review here (see Erikson and Goldthorpe 1992*a*; Hout and Hauser 1992; Sørensen 1992). Rather, we incorporate both of these mobility forms in our models, thus allowing us to ask whether they exhaust the structure of reproduction or must instead be supplemented with a microclass mechanism. We apply this approach to ask two related questions about the structure of mobility:

1. Does the mobility regime contain pockets of extreme microclass rigidity that are concealed when microclasses are aggregated into big classes?
2. Is such microclass reproduction the main mechanism through which big classes are reproduced?

If the answer to both questions is in the affirmative, it will follow that there is more microclass rigidity than is consistent with the practice of ignoring it, but also that there is less big-class rigidity than is consistent with the practice of building analyses exclusively around it. The latter result, if secured, may be understood as a simple form of aggregation bias: that is, because conventional representations of the reproductive process have us looking for rigidities exclusively at the aggregate level, the extreme big-class reproduction that shows up in the context of such representations may be inflated because it expresses omitted microclass reproduction.

It is unlikely that any one of these ideal-typical mobility types has ever been realized in pure form. Instead, we expect that the relative strength of big-class or microclass reproduction in any given society will be affected by the prevailing mix of institutional forms, some supporting big-class structuration (e.g., trade unions) and others supporting microclass struc-

turation (e.g., state-supported occupational closure). We will therefore analyze a group of countries that, by virtue of their mix of institutional forms, have mobility regimes that support reproduction of different types. As we will argue, Germany and the United States can be understood as the home ground of occupationalization, while Sweden has a long tradition of big-class organization, and Japan is stratified more by family and firm than by big class or occupation. We will in this fashion explore the reach of microclass mechanisms into labor markets that have not historically been regarded as taking a microclass form. If a microclass mechanism nonetheless emerges as fundamental in these labor markets, the case for building that mechanism more systematically into mobility models is strengthened. This design allows us to assess the strong claim, as recently advanced by Goldthorpe (2007, p. 144), that "a reliance on occupationally specific factors, which are likely themselves to be quite variable over time and space, would seem especially inadequate" in explaining class reproduction.

The main intellectual backdrop to our analysis is the ongoing sociological debate about the types of social groupings that have taken hold in contemporary industrialism. Throughout much of the 20th century, sociologists were fascinated, arguably obsessed, with theorizing about the conditions under which big classes might form, an understandable fascination insofar as individual life chances and even collective outcomes (e.g., revolutions) were taken to depend on class processes. At the same time, class analysts viewed occupations as mere technical positions in the division of labor (rather than meaningful social groups), while scholars in the occupations and professions literature focused narrowly on individual occupations and how these developed under conditions of professionalization or proletarianization. The occupational form was not understood within either of these traditions as a critical source of inequality and of social reproduction (see Grusky 2005). At best, occupations were described as the "backbone" of the inequality system (e.g., Parkin 1971), but such a characterization served principally as an impetus for then reducing occupations to gradational scores (e.g., Ganzeboom, de Graaf, and Treiman 1992; Hauser and Warren 1997) or using them as aggregates in constructing big classes (e.g., Erikson and Goldthorpe 1992*b*). These conventional approaches do of course bring in the occupational dimension indirectly. We argue, however, for explicitly bringing it out by treating detailed occupations as real groups that are often deeply institutionalized, that accordingly shape experiences in the family of origin, and that are typically envisaged as future labor market positions.

To that end, we proceed by discussing the mechanisms underlying intergenerational reproduction, distinguishing in particular between the mechanisms making for microclass reproduction and those making for

big-class reproduction. We then discuss how these mechanisms play out in our four countries and produce different combinations of microclass and big-class reproduction. The resulting hypotheses about the structure of cross-national variation in mobility are then tested by applying log-linear models to highly disaggregate father-to-son and father-to-daughter mobility tables.

THE REPRODUCTION OF MICROCLASSES

We begin by specifying in table 1 the four main mechanisms generating social reproduction. As we shall argue, such mechanisms come into play at both the big-class and microclass levels, yet we begin with the more conventionally rehearsed case for big-class reproduction. We then show how the same mechanisms might in some institutional settings serve to generate microclass reproduction. Although we will not be directly measuring these mechanisms, it is revealing nonetheless to clarify how reproduction is achieved at the microclass and big-class levels.

For the purposes of this discussion, we will treat professionals as an illustrative big class (e.g., Bell 1973; Gouldner 1979), and we will ask why the children of professionals may be especially likely to become professionals themselves. It is not enough in addressing this question to simply make reference to the general resources available to professional children (e.g., money, prestige) and to the generic advantages that these resources convey in the competition for all high-status positions. We must additionally ask why professional children are more likely to assume professional positions than nonprofessional positions of equivalent standing. The objective, in other words, is to explain why reproduction takes on a pure class form that cannot be explained in simple gradational terms. To be sure, some class analysts prefer an encompassing definition of class reproduction, one that would label both gradational and "pure" class reproduction as different types of a more broadly understood form of class reproduction. We are not averse to this broad definition of class reproduction, but it is useful even in the context of such a definition to distinguish between two types of class reproduction: a pure or "class-specific" form involving mechanisms that bring about a direct correspondence between origin and destination class and a gradational or "general" form involving mechanisms that locate children in destinations that are socioeconomically close to their origin class (but not necessarily in the origin class itself).[3]

[3] It is equally important to distinguish between occupational and gradational effects. That is, just as incumbents of big classes may either remain in their class of origin or move to a "close" class, so too incumbents of detailed occupations may either remain

TABLE 1
MECHANISMS OF INTERGENERATIONAL REPRODUCTION

TYPE OF RESOURCE	TYPE OF REPRODUCTION	
	Big Class	Microclass
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 neighborhood or on-the-job 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)

If we focus on the sources of pure class reproduction and consider professional reproduction as an illustrative case, a natural starting point is the standard argument that professional families transmit specialized abilities (e.g., cognitive ability, verbal skills) that pay off principally in the professional class. The ability, for example, to write effectively is useful in many professional occupations and will presumably be inculcated in professional children because their parents stress the importance of reading, frequently discuss newspapers and written texts at home, and may often provide hands-on instruction in writing. The transmission of such skills is of course carried out in the context of a wider class-specific culture that likewise prepares children for professional destinations. The culture of "critical discourse" (Gouldner 1979; Lareau 2003), which may be understood as the reigning culture of the professional class, is transmitted to professional children because their parents practice and reward abstract argumentation, justify claims on the basis of argument rather than authority, and openly discuss all topics no matter how sacred, obvious, or illicit others might deem them. It is surely plausible that children exposed to and trained in such critical discourse will be well suited for occupations that rely on it in their everyday business. More generally, children are exposed to various types of class-specific capital that lead them to develop class-specific personalities or proclivities, both of which may be attractive

in their occupation of origin or move to a "close" occupation. We will fit models that distinguish these two types of effects at both the big-class and microclass levels.

to employers hiring within that class (Barrick and Mount 1991; Jackson 2006).[4]

The children growing up in professional families are also exposed to professional networks that may have a similar reproductive effect. Because professional children come into frequent contact with other professional families, they will (*a*) learn about the world of professions and come to be oriented toward that world, (*b*) develop knowledge about how to prepare for professional occupations, and (*c*) have a ready supply of contacts who can assist them as they begin their careers (e.g., by providing internships or informing them of jobs). These social advantages can be exploited by professional children because they have the economic resources that make it easier to secure professional credentials (e.g., a medical, law, or doctoral degree). As indicated in table 1, a purely economic mechanism does not tell us why professional children might aspire to become professionals, but it does speak to why, once such aspirations are in place, they are especially likely to be realized.

The foregoing accounts emphasize, then, the transmission of abstract resources that putatively have payoff across all professional occupations. We have referred to generic skills that pertain to all professional occupations (e.g., writing skills), a generic culture that characterizes all professional occupations (e.g., a culture of critical discourse), and a broad professional network that cuts across all the occupations comprised by the professional class. Although classwide transmission processes of this sort undoubtedly play out, it is unclear how strong they are and whether they exhaust all forms of class reproduction. Are we misrepresenting the structure of mobility by simply assuming, without any substantiating evidence, that all reproduction is of this classwide variety? We outline below the various mechanisms through which skills, culture, networks, and economic resources are passed on in ways that facilitate not just class reproduction but occupational reproduction as well.

Occupation-Specific Human Capital

We begin by asking whether occupation-specific human capital is reliably transmitted from parent to child. Although the historic separation of home and workplace has made it more difficult for parents to transmit occupational human capital, it obviously does not follow that such capital is no longer transmitted at all. The sociologist, for example, may well talk

[4] For example, the professional personality features intellectual prowess and command over arcane forms of human capital (e.g., abstract argumentation), whereas the managerial personality rests rather more on social prowess of various kinds (e.g., being outgoing, extroverted, or interpersonally smooth).

shop with her or his children at the dinner table, litter the home with books, magazines, and newspapers that betray a sociological orientation, and in all other ways inculcate a sociological perspective in the natural course of everyday childrearing. The engineer, by contrast, may bring home toys that involve building things, may focus conversation and inquiry on the world of things, and may impart a special interest in understanding how things work. In the aftermath of the World Trade Center collapse, we can imagine the engineer's family talking mainly about why the building failed structurally, while the sociologist's family talks mainly about why there is terrorism.

The transmission of such occupation-specific human capital is likely to occur outside the professional sector as well. The mechanic is especially likely to spend time at home engaging in repairs, may take her or his children into the repair shop, and may otherwise encourage an interest in taking things apart and fixing them (i.e., "practical" engineering). Likewise, the clothing designer may talk frequently about fashion at home, may take her or his children to fashion shows, and may train them in sewing and designing clothes. These examples make the simple point that the occupational commitments of parents can affect what they discuss or practice at home, how they spend time with their children, and hence what skills they impart to their children.

Occupation-Specific Cultural Capital

The second assumption of conventional big-class analysis is that cultural reproduction is also an abstract process that plays out principally at the classwide level. By "cultural reproduction," we are referring to the tendency of parents to transmit tastes, values, and orientations that make their children want to hold the same class or occupation as their parents (the supply-side effect) and that make their children more attractive to potential employees within those classes or occupations (the demand-side effect). The key question for our purposes is whether parents pass on not just abstract classwide cultures that lead to big-class reproduction but also more concrete microclass cultures that lead to microclass reproduction.

This question cannot be well answered without some understanding of the conditions under which cultures in the division of labor form and are maintained. The two-pronged foundation of all cultures is (1) a *training* regimen that inculcates a set of values and way of life and (2) some type of *closure* mechanism that ensures that class or occupation members interact principally with one another and thus protects against extraneous influences that could undermine the shared values into which members have been trained. These two conditions are, we would argue, met more

reliably in detailed occupations than in big classes. For example, lawyers undergo intensive training in law school (the training condition) and interact frequently with one another in a relatively closed workplace (the closure condition), thus creating and sustaining an occupational culture that, in this case, rests on a celebration of rhetoric, argumentation, and instrumental action. As Grusky (2005) stresses, not all occupations have well-developed training regimens and dense intraoccupational networks of this sort, but those that do will develop an "esprit de corps" that can then be passed on to children and contribute to microclass reproduction (e.g., Caplow 1954; Hughes 1958; Van Maanen and Barley 1984).

These occupational cultures will affect not only the skills that are developed and that employers prefer (the demand-side effect) but also the tastes and preferences that underlie aspirations (the supply-side effect). As Goldthorpe (1987, p. 99) put it, one might expect "particularistic variations" in the perceived desirability of different positions, variations that stem in part from culturally specific judgments about what types of tasks are honorable, desirable, or valuable. These particularistic variations can operate to make typically attractive occupations yet more attractive or typically repellant occupations less repellant. For example, the offspring of parents in low-status or disparaged occupations (e.g., dishwashers, garbage collectors, telemarketers) may "overvalue" these positions because their parents, perhaps in part through dissonance-reduction processes, tend to talk up the virtues of their occupations or to stress advantages that others may overlook.[5] Because children cathect to parents, they tend to value and embrace what their parents value and embrace, thus leading to the intergenerational reproduction of aspirations. We are of course suggesting here that such reproduction takes on principally a microclass form: when a teacher's daughter cathects to her mother, it leads to a commitment to become a "teacher like Mom," not necessarily a commitment to become a "middle-class worker like Mom."

Other Occupation-Specific Mechanisms

The two remaining mechanisms in table 1, networks and economic resources, operate in uncomplicated ways. For example, parents can clearly draw on both microclass and big-class networks, the former arising especially when the workplace is occupationally structured (e.g., the law firm), and the latter arising because the workplace also privileges some

[5] Similarly, children have to explain to themselves why their parents remain in seemingly undesirable occupations, an analogous form of dissonance reduction. These processes may induce parents and children to make reference to little-known features of the occupations that render them more desirable than others appreciate.

types of classwide interactions (e.g., attorneys interacting with accountants) and because residential segregation typically takes on a classwide rather than occupational form (e.g., attorneys living in the same neighborhood as doctors). These class networks, in both their big-class and microclass forms, affect the reproduction process by exposing children to particular types of positions and by giving them access to contacts who can assist them in securing those positions.

As for economic resources, the main point to be made is that liquid economic resources can be harnessed for the purpose of big-class reproduction, an obvious example being the financing of law school training by a parent who is a medical doctor (and hence has the requisite liquid resources). It is of course possible that such liquid resources will also be harnessed for the purpose of microclass reproduction: the same doctor might use her or his wealth to finance a child's medical school training rather than law school training. Although liquid resources can therefore be used to promote big-class, microclass, or gradational reproduction, fixed resources often come in occupation-specific form (e.g., the family dentistry practice) and will therefore facilitate occupation-specific reproduction disproportionately. The restaurant owner could always sell the restaurant and thereby convert it to liquid form, but such "cashing in" would entail all manner of transaction costs (e.g., sales commission, loss of particularistic customer information) that would be avoided by a direct bequest. These transaction costs create an incentive, then, for the child to take her or his inheritance in fixed form, thus resulting in microclass reproduction. Undoubtedly, parents often pressure their children to take the inheritance in fixed form, not just because they are especially attached to their occupation and cognizant of its virtues, but also because they are especially appreciative of the losses, via transaction costs, that cashing in would entail.

The upshot of this review is that children are frequently exposed to human, economic, cultural, and social resources in an occupation-specific form. The child who seeks to convert these occupation-specific resources into more generalized big-class ones does so with a transaction cost and is not exploiting the full value of her or his inheritance. If one assumes that children are oriented principally to avoiding downward mobility (cf. Boudon 1974), the safest path to ensuring that objective may well be to deploy readily available occupation-specific resources, even in the absence of any intrinsic interest in occupational reproduction per se. The risk of downward mobility is reduced by exploiting these particularistic resources that are bestowed by the accident of birth. This conclusion suggests that much occupational reproduction will be observed whenever children are more concerned with attaining a position equivalent to that of their par-

ents than with advancing beyond their parents (e.g., Erikson and Jonsson 1996).

It follows that many of the mechanisms underlying intergenerational reproduction should generate rigidities that are more detailed than big-class proponents have appreciated and that are less continuous than gradationalists have appreciated. At minimum, our review calls into question the implicit, conventional assumption that *all* reproduction occurs either at the big-class level or as a consequence of control over socioeconomic resources. We instead regard these long-standing assumptions as hypotheses that should be confronted with empirical data.

Although we have focused so far on the mechanisms making for reproduction, it bears noting that the very same microclass mechanisms may also generate quite complicated patterns of mobility between pairs of affine microclasses. The key insight in this regard is that the skills, cultural capital, and networks that tend to develop within a given microclass can well have payoff outside that microclass. The father who is a car mechanic, for example, will typically inculcate various technical skills and interests in his children that assist them in moving into a wide range of technical microclasses, such as engineers or electricians. We might therefore anticipate an extra residue of exchange between mechanics and these various other technical pursuits. Likewise, workplace networks may cut across microclass lines, thereby allowing them to be used for the purpose of mobility as well as for reproduction. The child of an actor, for example, has access to networks that might be used to secure a job as scriptwriter, cameraperson, or film editor. The microclass mobility table, laden as it is with degrees of freedom, makes it possible to model such affinities explicitly by scaling occupations in terms of skills, cultural capital, and networks (see Hout 1988). In the present article, we will nonetheless concentrate mainly on the structure of immobility, an appropriate starting point given that the vast majority of association in a mobility table is generated by simple reproduction.

CROSS-NATIONAL DIFFERENCES IN SOCIAL REPRODUCTION

For didactic purposes, we have presented our argument for a microclass approach in general and universal terms, but it likely holds to a greater extent in some countries than in others. The usefulness of a microclass approach in any given country will depend on whether the labor market encourages parents to accumulate occupation-specific or classwide capital (human, cultural, social) and whether, in light of the type of capital accumulated, parents are motivated to identify with their occupation or their big class. We expect microclass reproduction to be strongest in coun-

tries in which parents accumulate much occupation-specific capital, identify with their occupation, and accordingly "bring home" their occupation in ways that then make it salient to their children and lead their children to invest in it. We also expect much microclass reproduction whenever schools or employers can (*a*) directly discriminate on behalf of individuals with the requisite occupational background (i.e., direct microclass discrimination), or (*b*) indirectly privilege such individuals by setting up recruitment protocols that covertly select for attributes that family-trained workers are more likely to embody (i.e., indirect microclass discrimination). The same types of supply-side and demand-side forces could, of course, equally operate at the big-class level and thereby produce big-class reproduction.

As shown in table 2, big-class and microclass structuration may be viewed as analytically independent of one another, thus generating four ideal-typical mobility regimes. In a recent paper on class formation, Grusky (2005) suggests that Germany, the United States, Sweden, and Japan come closest to approximating these four ideal-types, and our point of departure in this article is therefore precisely those countries.

The case of Germany provides an example of a society that is stratified at once in occupational and big-class terms. Because Germany has a well-developed system of vocational training (DiPrete et al. 1997; Müller and Gangl 2003), parents accumulate considerable occupation-specific skills and typically view their occupations as important identities, and the family accordingly becomes a site in which such skills or commitments can be conveyed and in which aspirations for occupational reproduction can emerge. At the same time, Germany is also a site of much big-class structuration, as expressed particularly in the difference in employment regulations for wage earners, employees (*Angestellte*), and civil servants (*Beamte*) and the importance of big-class trade unions in collective bargaining and codetermination (Kocka 1981; Ebbinghaus and Visser 2000). The typical German parent will therefore embrace both big-class and occupational identities and will presumably transfer that dual commitment to her or his children.[6]

In comparison, Japan can be said to represent an entirely contrary case, one with low structuration at both the microclass and big-class levels. The Japanese educational system is general rather than vocational, and labor market attachments are firm-specific rather than occupation-specific and hence entail much within-firm mobility that cuts across occupational lines (e.g., Ishida 1993; Kato 2001). For the ideal-typical Japanese parent, there is little opportunity to develop occupational skills, and indeed the tendency is to identify with the firm rather than the occupation (at least

[6] This vocational tradition emerges also in the Netherlands, Denmark, and Austria.

TABLE 2
Countries Classified by Type and Amount of Class Structure

Big-Class Structure	Microclass Structure	
	High	Low
High	Germany (vocational training and big-class trade unions)	Sweden (big-class collective bargaining)
Low	U.S. (craft unions and occupational associations)	Japan (firm identification and generalized education)

for big-firm employees). Although recent commentators have suggested that occupational commitments may be strengthening with the breakdown of the permanent employment system (e.g., Kosugi 2003; Brinton 2004), it is still conventional to assume that, relative to such a microclass stronghold as Germany, Japan is distinctive for its weak occupational structuration. Likewise, Japanese workers are not strongly committed to their big class, as aggregate trade unions of the big-class variety have not emerged and collective bargaining at the big-class level is entirely undeveloped.

The Swedish case may be understood as a hybrid of the German and Japanese cases. As in Japan, guilds in Sweden early on declined in importance, although occupational trade unions do exist in Sweden (e.g., the Svenska Elektrikerförbundet [electricians union]). Even so, industrial relations are principally a matter of negotiation between centralized trade unions and employer federations, and indeed even professional unions have an overarching negotiating association.[7] The trade union for manual workers has traditionally been very closely tied to the Social Democratic Party, meaning that the political influence of aggregate-level organizations has been substantial, amplified by the corporatist organization of the state. The Swedish case, then, resembles the German case in its well-developed big-class organization (e.g., Korpi 1983; Esping-Andersen 1985), while it

[7] The history of Swedish trade unions is distinctive in five ways. First, manual workers created an overarching organization in the late 19th century, and only thereafter were occupational unions formed. Second, all manual laborers in a given production unit are traditionally organized by the numerically dominant occupational trade union, thereby avoiding a division of manual laborers and increasing the negotiating strength of the local trade union. Third, this overarching organization has had a strong ideological commitment to equalized wages within the working class, leading to very small differences in material circumstances and life chances between skilled and unskilled workers, particularly in comparison to Germany (e.g., Shavit and Müller 1998). Fourth, professionals also have formed an overarching organization that represents them at central negotiations, as have clerks and lower-level white-collar workers. Fifth, the proportion of employees associated with a trade union is very high (compared to what prevails in other countries) among both manual and nonmanual workers.

resembles Japan in its suppressed occupational organization. It follows that the conventional big-class mobility model is tailor-made for the Swedish case.

Finally, the case of the United States is one of moderately developed vocationalism and occupational associations, especially in the professional and craft sectors. Whereas the vocationalism of Germany is coupled with equally strong big-class organization, it has served in the United States mainly to strengthen craft unions and to undercut big-class unions and organization. As a result, parents in the United States will typically identify quite strongly with their occupation and have substantial occupational skills that may then be conveyed to children, whereas their commitment to big classes tends to be weak.

These institutional differences map quite straightforwardly onto national styles of mobility scholarship. It is hardly surprising, for example, that influential proponents of big-class mobility models emanate from Europe, perhaps particularly Sweden (e.g., Carlsson 1958; Erikson and Goldthorpe 1992*b*). Likewise, we ought not to be surprised that some of the main critics of big-class models emanate from the United States (e.g., Grusky and Sørensen 2001; Weeden and Grusky 2005) and from countries, such as Canada (e.g., Rytina 2000) and Australia (e.g., Pakulski 2005), that have U.S.-style mobility regimes.

We proceed, then, by developing a new and more encompassing mobility model that allows all forms of rigidity to surface and that can capture such intercountry differences in the underlying shape of immobility. If some scholars have emphasized cross-national similarities in the mobility regime (e.g., Erikson and Goldthorpe 1992*b*; but see Breen 2004), it is perhaps because their analyses have been carried out with a big-class model that conceals any differences that fall outside the big-class form. This possibility is explored below.

DATA, VARIABLES, AND CLASS SCHEMES

The analyses presented here will be carried out for the above four countries using information on father's occupation, 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 occupation level, our father-by-respondent mobility tables will have many cells, and large data sets for each country are needed. We meet this requirement by drawing on multiple surveys in all countries except Sweden. For Sweden, the respondent's data come from the 1990 census (known as the FoB), and the parent's occupations are then recovered by linking to the 1960 and 1970 censuses (Erikson and Jonsson 1993).

The data from the remaining countries come from the sources listed in appendix table A1.

We carry out our cross-national analyses with data that are as comparable as possible. Given our need for large data sets, some compromises nonetheless had to be made, most notably pertaining to the period covered and the age of the respondents. The data from the United States, for example, are drawn disproportionately from earlier time periods, although more recent data from the United States are used as well (see table A1 for details). Additionally, the Swedish data set only covers respondents 30–47 years old, whereas all other data sets cover respondents 30–64 years old. We correct for these incomparabilities by fitting models that control for period and age.

We next proceeded by constructing a detailed microclass coding scheme that may be faithfully applied to all four countries (see app. tables A2 and A3).[8] The microclass 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).[9] The scheme used here includes 82 microclasses and captures many of the boundaries in the division of labor that are socially recognized and defended (see related schemes in Sørensen and Grusky [1996] and Weeden and Grusky [2005]).[10] In constructing the scheme, we sought to ensure that the jobs constituting each category were comparable across countries, although inevitably some minor incomparabilities had to be tolerated because the source classification schemes were not detailed enough or because of real cross-national differences in how the division of labor is constructed.[11] The Japanese classification was quite idiosyncratic and sometimes difficult to reconcile with the others, but for the most part the same detailed occupations could be

[8] The occupations are ordered within each mesoclass according to their socioeconomic score (ISEI) in the United States (see Ganzeboom et al. [1992] for information on the ISEI).

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

[10] In constructing this scheme, we were forced to create a single "not elsewhere classified" (NEC) category for many of the mesoclasses, a category that was applied whenever the indigenous occupational code (*a*) was too broad or amorphous to allow us to assign it to a particular microclass or (*b*) was itself an NEC category in the indigenous occupational classification. These microclasses will typically be quite heterogeneous and certainly cannot be understood as institutionalized categories.

[11] The national occupational classification schemes differed across the early and late surveys used in the United States, Germany, and Japan (see table A1).

identified even in Japan. This isomorphism, to the extent that it held, may be traced to three sources: (1) each country independently settled on the same way of dividing labor and defining occupations (perhaps because of the "efficiency" of that shared solution); (2) a particular solution to the division of labor diffused across countries; or (3) a shared classification scheme diffused among statisticians, sociologists, and other classifiers, even though it mapped only imperfectly onto the actual division of labor. While this last, artifactual source of cross-national similarity is no doubt partly at work, there is clearly a real isomorphism in the division of labor, producing many occupations that are deeply institutionalized (e.g., architect, electrician, miner). For such categories, the residual inconsistencies in coding appear to be quite small, and such cross-national differences as emerge in our data almost certainly signal real rather than artifactual variability.[12]

The careful reader will have noticed that our occupational scheme does not distinguish self-employed and employed workers (see table A2). To be sure, we have coded storekeepers as "proprietors" and distinguished farmers from farm laborers, but otherwise the occupational affiliation takes precedence and employed and self-employed workers are combined in a single category. This raises the possibility that, for occupations with substantial self-employment, high rates of inheritance may be generated not because the occupation has unusual holding power but because of the well-known holding power of self-employment itself (Erikson and Goldthorpe 1992*b*). We will correct for the potentially confounding effects of self-employment by completing separate mobility analyses for respondents with and without self-employed fathers.[13]

The distinctive feature of our analysis is that microclass 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 A2, we begin by distinguishing the manual and nonmanual clas-

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

[13] It is very much a European tradition to distinguish the propertied classes. In the United States, private property hardly appears to be without consequence, but even so the self-employed are commonly merged with other "middle-class" occupations. When the self-employed are singled out in U.S. mobility studies, the resulting pattern is one of quite strong inheritance, just as in Europe (e.g., Hout 1984; Erikson and Goldthorpe 1985).

ses, a big-class distinction so important that early class scholars often focused on it alone. We next identify three macroclasses in the nonmanual category (professional-managerial, proprietor, and routine nonmanual) and another two macroclasses in the manual category (manual and primary). Within three of these macroclasses, we then allow further mesoclass 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 (manual-nonmanual, macroclass, and mesoclass), may be understood as a nondenominational hybrid of conventional schemes that assembles in one scheme 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 Stier and Grusky 1990; Herting, Grusky, and Van Rompaey 1997). This approach not only allows us to tease out the net residue of reproduction at the mesoclass, macroclass, 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 microclass diagonal, off the mesoclass diagonal, and even off the macroclass diagonal. If we had instead proceeded by fitting mesoclass effects alone (as is conventional), we could absorb excess densities in the dark-gray regions of figure 2 but not in the surrounding light-gray regions. The cells in the white zones of figure 2 are in fact the only ones that imply "complete mobility" in terms of microclass, macroclass, mesoclass, and sector (i.e., manual or nonmanual). Moreover, even the cells in these white 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 model will capture not just reproduction but many types of mobility as well. Although our mobility analysis serves well for the questions we pose, other scholars might wish to extend it by (*a*) fitting additional immobility terms (e.g., "autonomy" immobility) or (*b*) scaling occupations with additional nonsocioeconomic variables (e.g., an "autonomy scale"). These extensions become possible precisely because the microclass mobility table is rich in degrees of freedom (see Hout 1984, 1988).

In evaluating our big-class scheme, our main point of vulnerability is that, as a "nondenominational" scheme, it does not align perfectly with any standard class scheme on offer (e.g., Erikson and Goldthorpe 1992*b*; Wright 2005). To be sure, the scheme does exploit effectively the shared

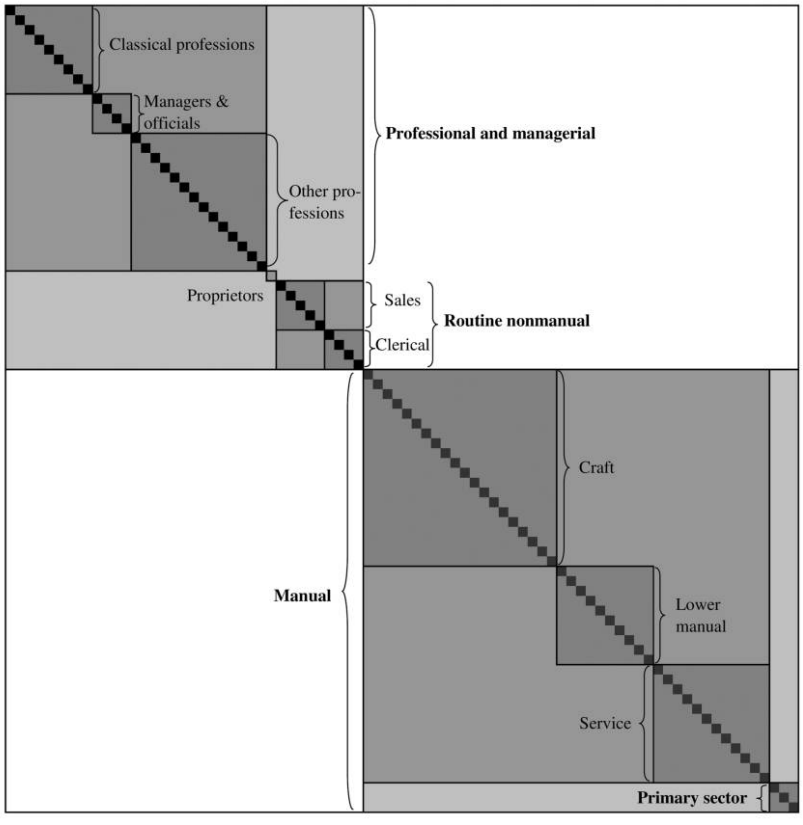

FIG. 2.—Overlapping inheritance terms in mobility model. The *y*-axis pertains to occupational origins and the *x*-axis to occupational destinations. The unlabelled microdiagonal squares represent occupational immobility (see app. table A2 for more information on the class schemes).

information available in each of the 10 data sets analyzed here (see table A1), but it may discomfit purists who believe that their preferred big-class scheme best represents the true structure of mobility chances. The available evidence on this point, although limited, is reassuring. Because the data sets from Sweden and Germany may be coded into the standard Erikson-Goldthorpe (EG) big-class scheme, we went forward and carried out those codings (for father's class) and then compared the explanatory power of the EG and nondenominational schemes for such dependent variables as income (for sons and daughters) and occupational prestige (for sons and daughters). The variances explained were quite similar across the two schemes and thus supported the claim that our non-

denominational classification can well represent big-class effects (see Weeden and Grusky [2005] for similar results).[14]

We should note, finally, that most of our analyses in this article pertain to men, and not just because many of our data sets are male-only. As is frequently emphasized, women's mobility is complicated to model because, even more so than for men, the process of intergenerational transmission operates through both parents (see below for details). We will present here selected results on women's mobility that set the stage for future analyses that will focus exclusively on women's mobility.

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 countries. The statistics presented in table 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 macroclass table, (*c*) a 10 × 10 mesoclass table, and (*d*) an 82 × 82 microclass table.

We find that about two-thirds of respondents in all countries are intergenerationally stable relative to the manual-nonmanual divide. At the macroclass level, the expected cross-national differences emerge, with Germany (51%) and Sweden (49%) having substantially more inheritance than either Japan (41%) or the United States (39%). These cross-national differences persist in attenuated form at the mesoclass level. At the detailed microclass level, the overall amount of immobility reduces substantially (ranging from 10% to 23%), and the pattern of cross-national variability changes as well (given that big-class and microclass immobility are no longer conflated). As expected, Germany evinces high rates of microclass immobility, at least relative to what prevails in Sweden. However, microclass immobility is surprisingly high in Japan, a result that cannot be entirely attributed to the large farming sector in that country (coupled with the characteristically high immobility rates in that sector). In side analyses (not reported here), we have found that even outside the farming sector there is much microclass immobility in Japan, certainly more than would be expected under the stereotypical view that occu-

[14] In the Swedish data, the EG scheme outperforms our nondenominational scheme for both income and occupational prestige. The two schemes perform almost identically in Germany. We also sought to validate the nondenominational scheme by regressing income on respondent's class. For these tests, the results in Sweden sometimes favored the EG scheme and sometimes favored the nondenominational scheme, whereas the results in Germany favored the EG scheme, especially for men.

TABLE 3
%IMMOBILE BY LEVEL OF AGGREGATION (for Men)

	COUNTRY			
LEVEL OF ANALYSIS	U.S.	Japan	Germany	Sweden
Big class:				
Manual-nonmanual ...	65	68	67	64
Macroclass	39	41	51	49
Mesoclass*	21	30	31	26
Microclass**	10	23	14	11

* We have defined an exhaustive mesoclass scheme by treating proprietors and the primary sector as mesoclasses.

** We have defined an exhaustive microclass scheme by treating proprietors as a microclass.

pational commitments are suppressed in that country. We explore the sources of this surprising result in our subsequent analyses.

The more important point to be stressed at this juncture is that only a minority (10%–23%) of respondents in any country experience microclass immobility. This result is, of course, potentially consistent with substantial inequality of opportunity at the microclass level. We do not know, as yet, whether children have privileged access to their microclass of origin, although an immobility rate between 10% and 23% suggests extraordinary inequality of opportunity, given how small microclasses are. The comparatively higher immobility rates at the big-class level partly arise because chance alone (i.e., the model of independence) will generate much big-class immobility when classes are so big. Moreover, conventional mobility tables suppress the distinction between big-class and microclass immobility, the latter contributing to the appearance of the former. It is altogether possible, then, that the big-class immobility observed in conventional mobility tables is propagated by two wholly artifactual sources: (1) the operation of chance clustering on the main diagonal of the sort that the model of independence would generate and (2) the operation of microclass clustering that misleadingly shows up as big-class clustering in a conventional big-class table (i.e., an artifact of excessive aggregation). The radical hypothesis that big-class immobility is entirely an artifact of these two sources can only be tested by turning, as we do next, to an analysis of *relative rates* in which the marginals are fit and immobility at each of the four levels (manual-nonmanual, macroclass, mesoclass, and microclass) is teased out. This analysis allows us to speak to the inequality of opportunity expressed in a mobility table (i.e., "social fluidity").

A COMPREHENSIVE MOBILITY MODEL

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

$$m_{ij} = \alpha\beta_i\gamma_j\phi^{u_i u_j}\delta_{ij}^{A}\delta_{ij}^{B}\delta_{ij}^{C}\delta_{ij}^{M}, \quad (1)$$

where i indexes origins, j indexes destinations, m_{ij} refers to the expected value in the ijth 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 microclasses,[15] and δ^A, δ^B, δ^C, and δ^M refer to manual-nonmanual, macroclass, mesoclass, and microclass 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 macroclass, mesoclass, and microclass levels.

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 microclass, mesoclass, macroclass, or manual-nonmanual level reflects nothing more than this gradational tendency, then the inheritance parameters will become insignificant when the socioeconomic parameter is included. The big-class and microclass 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 big-class analyses have correctly represented the main type of lumpiness. We will explore whether the big-class effects appearing in conventional big-class analyses are weakened when microclass effects are overlaid on them.

This approach is confirmatory in spirit because it rests on an a priori specification of the structure of big classes, microclasses, and the underlying hierarchy of occupations. We have characterized the form that each type of reproduction takes and then specified a mobility model that allows us to estimate its net effects. It is of course possible to proceed instead in

[15] We have calculated the 82 microclass scores by assigning the international socioeconomic scale (Ganzeboom et al. 1992) to detailed occupations within the U.S. samples and then aggregating these detailed occupations up to the microclass level. The resulting scores are therefore weighted by the relative size of the detailed occupations within each microclass in the United States. Although we could have allowed cross-national differences in internal weights, we opted for reasons of convenience to use a cross-nationally consistent scale. These scores are applied to origin and destination occupations alike.

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 will estimate this alternative model for the purpose of confirming that our results are robust across different specifications. We have nonetheless 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.

We estimate additionally a trimmed model that omits the socioeconomic parameter altogether. As we noted above, some class analysts prefer an encompassing definition of class reproduction, one that treats both socioeconomic and pure class reproduction as different types of a more broadly understood form of class reproduction. We may represent this broadened definition of class reproduction by simply omitting the socioeconomic term and thereby allowing big-class effects to capture the socioeconomic dimension indirectly.

HOW MUCH MICROCLASS REPRODUCTION IS THERE?

We begin our log-linear analysis by exploring the common features of mobility across all four countries. As shown in table 4, we fit a model of the general type expressed in equation (1), but now that model is applied to four countries and occupational supply and demand are allowed to freely vary across these countries (see model A1). The resulting index of dissimilarity, 13.0, is quite large in comparison with typical values for comparable big-class mobility models. It is reassuring, however, that this lack of fit is generated principally by misclassification *within* big classes; that is, the index of dissimilarity for model A1 declines to 4.5 when the expected values are aggregated up to the mesoclass level, and it declines to 1.3 when the expected values are aggregated up to the macroclass level. For our purposes, it is the *average* densities within the regions of mesoclass and macroclass inheritance that are principally of interest, and any lack of fit across the various cells pertaining to such inheritance (and to interclass mobility) is quite unproblematic, in effect nothing more than noise around the means of interest to us.

We consider next whether a simplified model that excludes any of the three types of association parameters (i.e., big class, microclass, or gradational) might be preferred relative to our baseline model. By both the L^2 and BIC criteria, we find that the microclass coefficients prove to be

TABLE 4

FIT STATISTICS FOR MEN (N = 251,867)

Model	L^2	df	Δ	BIC
A. Cross-national invariance:				
1. Common social fluidity				
$O \times N + D \times N + S + A + B + C + M$	45,822	24,799	13.0	−262,620
2. Exclude socioeconomic effect				
$O \times N + D \times N + A + B + C + M$	50,627	24,800	14.2	−257,827
3. Exclude microclass inheritance				
$O \times N + D \times N + S + A + B + C$	66,737	24,880	15.7	−242,713
4. Exclude big-class inheritance				
$O \times N + D \times N + S + M$	48,875	24,813	13.5	−259,740
5. Common social fluidity (with log-multiplicative scaling)				
$O \times N + D \times N + V + A + B + C + M$	40,595	24,718	11.7	−266,839
B. Cross-national variability:				
1. Complete variability				
$O \times N + D \times N + S \times N + A \times N + B \times N + C \times N + M \times N$	43,501	24,523	12.1	−261,508
2. Full set of unequal shift effects				
$O \times N + D \times N + S \times N + A \times N + B + BG \times N + C + CG \times N + M + MG \times N$	45,255	24,784	12.8	−263,001
3. Equality constraint on shift effects				
$O \times N + D \times N + S \times N + A + B + C + M + [AG + BG + CG + MG] \times N$	45,494	24,793	12.9	−262,873
4. Model B2 − SES effect				
$O \times N + D \times N + A \times N + B + BG \times N + C + CG \times N + M + MG \times N$	50,089	24,788	14.0	−258,216

NOTE.—O = origins; D = destinations; N = country; S = SES; V = log-multiplicative equal row and column effects; A = manual-nonmanual inheritance; B = macroclass inheritance; C = mesoclass inheritance; M = microclass inheritance; AG = uniform manual-nonmanual inheritance; BG = uniform macroclass inheritance; CG = uniform mesoclass inheritance; MG = uniform microclass inheritance. The terms AG, BG, CG, and MG are bracketed in model B3 to convey an equality constraint on their effects.

especially costly to excise, although the big-class and gradational coefficients should not be excluded either (see models A2, A3, and A4). We therefore treat the complete model A1 as our baseline.

In presenting the coefficients from model A1, it is useful to reweight each of the national samples to 10,000 cases, as doing so ensures that our pooled estimates are not unduly affected by large-sample countries. We have listed these reweighted estimates in table 5 and graphed the immobility terms in figure 3. The gradational term is omitted from figure 3 because we wish to cast in the sharpest possible relief the relative sizes of the immobility terms.

The most striking feature of figure 3 is the microdiagonal 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, 4.2 times more likely to remain in their microclass of origin than to move elsewhere within their mesoclass ($e^{1.44} \approx 4.2$), while the corresponding coefficients for children born into managerial, craft, and service occupations are 4.6, 7.9, and 5.6, respectively ($e^{1.53} \approx 4.6$; $e^{2.07} \approx 7.9$; $e^{1.72} \approx 5.6$). Although the interior regions of the class structure are typically represented as zones of fluidity (e.g., Featherman and Hauser 1978), we find here substantial microclass reproduction throughout the class structure, even among the "middle classes." The latter conclusion does not fall out of table 5 definitively because the microclass coefficients presented there are just (unweighted) *averages* of the coefficients pertaining to each mesoclass. We have, however, also graphed in figure A1 each of the microclass coefficients taken individually, and here again there is much evidence of microclass reproduction throughout the class structure.

How do the microclass and big-class coefficients compare? Of the 14 big-class coefficients, the two largest are for proprietors ($e^{1.19} \approx 3.3$) and primary sector workers ($e^{1.18} \approx 3.3$), but even these two are smaller than all but the very smallest microclass coefficients. It also bears noting that both 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. The strong position here would be to regard proprietors as effectively a microclass. Likewise, the primary sector is not much of an amalgam, dominated as it is by farmers. The remaining 12 big-class effects, all of which pertain to true amalgams, are comparatively weak. The strongest of these effects, those for classical professions, sales work, clerical work, and the manual-nonmanual strata, range in size from 1.3 to 1.4 (in multiplicative form). When the status term is omitted (model A2 of table 4), the professional-managerial and classical-profession effects become stronger, but even under this more sympathetic test the big-class coefficients, which now capture big-class

TABLE 5
BASELINE COEFFICIENTS OF IMMOBILITY FOR MEN

COEFFICIENT	BASELINE MODEL[a]	NO SES GRADIENT[b]	AGE AND PERIOD CONTROLS[c]		
			Base	Age Interaction	Period Interaction
Status (SES)[d]	1.14		1.06	.11	.11
Big class:					
Manual-nonmanual	.26	.58	.33	.01	−.11
Macroclass				−.02	.20
Professional-managerial	.08	.45	−.12		
Proprietors	1.19	1.24	2.40		
Routine nonmanual	.01	−.21	−.16		
Manual	−.09	−.24	−.26		
Primary sector	1.18	1.44	1.71		
Mesoclass				−.08	−.09
Classical professions	.23	.89	.36		
Managers and officials	−.01	−.16	.29		
Other professions	−.03	−.23	−.04		
Sales	.37	.39	.58		
Clerical	.24	.23	.24		
Craft	.06	.02	.12		
Lower manual	.12	.18	.24		
Service workers	.12	.12	.18		
Microclass[e]				.13	.22
Classical professions	1.44	1.54	1.00		
Managers and officials	1.53	1.55	.60		
Other professions	1.92	2.06	1.26		
Sales	1.36	1.47	.84		
Clerical	.79	.83	.24		
Craft	2.07	2.08	1.74		
Lower manual	1.92	1.94	1.66		
Service workers	1.72	1.81	1.29		
Primary sector	2.27	2.31	1.64		

[a] Model A1 of table 4 (with $N = 10{,}000$ in each country).
[b] Model A2 of table 4 (with $N = 10{,}000$ in each country).
[c] Base coefficients pertain to young respondents in the early period. Interaction coefficients refer to the effect on the base coefficients of increasing the age of the respondent and of shifting to the later period. Sample size is not standardized for this model.
[d] Coefficient multiplied by 1,000 for convenience in presentation.
[e] Average of microclass coefficients within mesoclasses.

and gradational processes, remain much smaller than the average microclass coefficient ($e^{.45} \approx 1.6$ and $e^{.89} \approx 2.4$ vs. $e^{1.54} \approx 4.7$).[16]

[16] The microclass parameters for the NEC categories provide an instructive test of the extent to which holding power is weakened for categories that are heterogeneous statistical aggregates (rather than deeply institutionalized categories). For the most part, we find that holding power is relatively weak in the NEC categories (see app. fig. A1), although the craft NEC class provides an important exception to this conclusion.

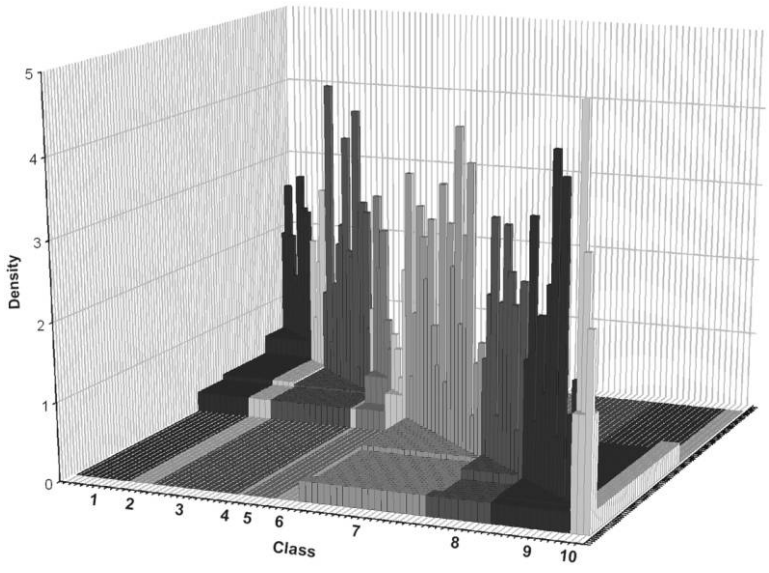

FIG. 3.—The contours of class reproduction for men. The base indexes occupational origins and destinations, while the vertical dimension indexes densities of mobility and immobility (for each possible combination of origin and destination). Coefficients are drawn from model A1 of table 4 (after standardizing the sample size to 10,000 cases in each country). 1 = classical professions; 2 = managers and officials; 3 = other professions; 4 = proprietors; 5 = sales; 6 = clerical; 7 = craft; 8 = lower manual; 9 = service; 10 = primary sector.

The skeptic might at this point suggest that our microclass coefficients appear to be relatively larger than our big-class coefficients only because the latter have been separated into three types (manual-nonmanual, macro, and meso) and are thereby diffused in strength. However, even when these three types of big-class effects are added together, the resulting total remains much smaller than the corresponding microclass average, except in the case of classical professions. The total big-class density in craft occupations, for example, is just 0.23 (0.26 − 0.09 + 0.06), a sum far smaller than the corresponding microclass density of 2.07 (see table 5).

The skeptic might also suggest that our microclass estimates are large because the microdiagonal in our mobility tables captures the holding power of self-employment as well as the effects of true occupational closure. The son of a self-employed doctor, for example, may opt to inherit his father's practice not because of some special skill or interest in doctoring but simply because the practice itself is so illiquid that it would be disadvantageous to opt out. This hypothesis is most straightforwardly addressed by reestimating the same mobility models after restricting the

samples in each country to employed fathers. As shown in figure A1, the microclass coefficients for model A1 of table 4 remain much the same for employed fathers, implying that a pure occupational effect is indeed at work and accounts for most of the clustering on the microdiagonal. Although some occupations, especially those in sales and crafts, evince less clustering under this restriction, the overwhelming result is that microclass inheritance remains a formidable force even when there is no physical capital to be transferred.

IS BIG-CLASS REPRODUCTION A MYTH?

The foregoing results raise the possibility that the big-class inheritance showing up in generations of mobility studies is largely microclass inheritance in disguise. Have conventional mobility studies indeed created the false impression that big-class reproduction is the dominant form of reproduction? We can address this question by examining whether the big-class effects that appear in conventional mobility analyses are much reduced in size when microclass effects are overlaid on them. As shown in table 4, we have accordingly reestimated model A1 after omitting the microclass inheritance terms (in model A3), thus replicating a conventional big-class analysis in which big-class and microclass terms are confounded. The resulting trimmed model reveals the importance of microclass processes by returning a fit statistic that is significantly worse than that for model A1 (L^2 increases by 20,915; $df = 81$). We have reported the inheritance coefficients for the trimmed and full models in figure 4. Here, attention is properly focused on the mesoclass effects, as the manual-nonmanual and macroclass effects are already purged of lower-order effects and will not be much affected by further purging at a yet more detailed level.[17]

We begin by noting that the mesoclass effects under the trimmed model are indeed strong and consistent with the effects secured in conventional mobility analyses. The coefficient for managers, for example, implies that children born into the managerial class are 1.62 times more likely to remain in that class than to exit it ($e^{.48} \approx 1.62$). The corresponding inheritance coefficients for craft workers, lower manual workers, and service workers are 1.40, 1.63, and 1.93, respectively. It is coefficients such as

[17] The manual-nonmanual and macroclass effects will in fact be identical in the trimmed and full models when the gradational term is omitted. The primary-sector effect, which we have formally labeled a macroclass effect, is in this context similar to a mesoclass effect because the microclass effects are the only effects nested within it. It follows that the primary-sector effect can weaken in the presence of microclass controls.

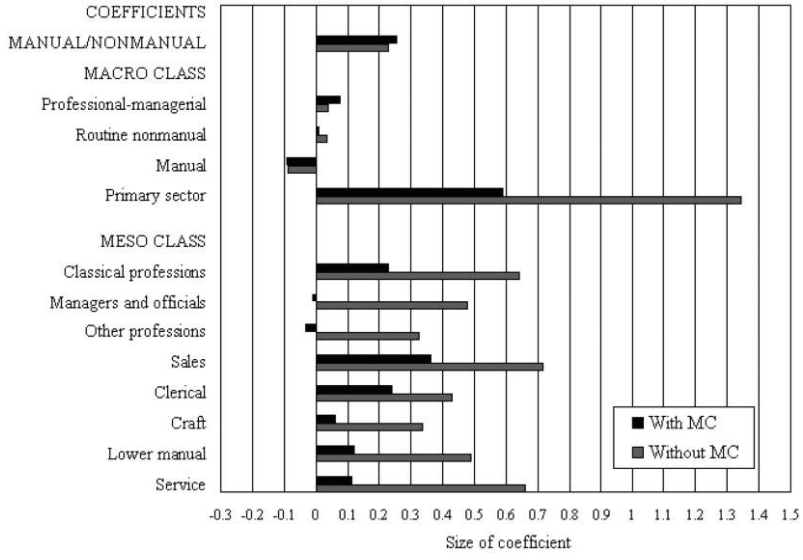

FIG. 4.—Comparison of immobility coefficients with and without microclass controls (MC) for men. Coefficients are drawn from models A1 and A3 of table 4 (after standardizing the sample size to 10,000 cases in each country). The *x*-axis indexes the size of the coefficients in additive form. For convenience in presentation, the two primary-sector coefficients are each divided by 2.

these, all of which are net of gradational effects, that have motivated generations of mobility scholars to regard big-class reproduction as a powerful force.

The results from our full model nonetheless imply that this conclusion is somewhat misleading. When microclass effects are now allowed, some of the big-class effects are greatly reduced in strength (classical professions, sales, and clerical), while others disappear altogether or become quite small (managers and officials, other professionals, craft workers, service workers, and lower manual workers). It follows that conventional big-class analyses have generated the appearance of big-class reproduction because it is confounded with microclass reproduction.[18] This is not, of course, to suggest that all big-class reproduction is just microclass reproduction in disguise. Clearly, some big-class reproduction persists even in the presence of microclass controls, a result that was also revealed in figure 3.

[18] The gradational effect, which is not reported in fig. 4, does not decline as precipitously when microclass effects are included. The gradational effect from the model without microclass effects is 1.26, while the gradational effect from the model with such effects is 1.14.

For many mobility analysts, the distinction between big-class and gradational processes is not stressed, and the objective instead is to estimate for each big class a total effect that incorporates the hierarchical position of that class. It is therefore useful to present results that are consistent with this specification. Also, some analysts prefer to allocate self-employed workers into a petty bourgeoisie class, another operational decision that is adopted frequently enough that it is worth considering how it might affect our own results. We have accordingly recalculated the results of figure 4 after omitting the gradational term and restricting the sample to employed fathers. The estimates under this specification, as presented in figure 5, are slightly more favorable for big-class proponents. In particular, the classical-profession effect remains quite strong in the presence of microclass controls, a result that implies that children born into this particular mesoclass profit from the resources captured by the gradational and self-employment terms.

We may conclude on the basis of these results that the big-class reproduction appearing in conventional analyses is largely generated by the tendency for children to inherit their microclass. The practical implication of this result is that big-class reproduction may not be easily reduced without interventions that take on inheritance at the occupational level. We return to this issue in the concluding discussion.

TRENDS IN REPRODUCTION

As shown in table A1, our samples are drawn from populations of different ages and time periods, raising the possibility that our conclusions are sensitive to the idiosyncratic combination of ages and periods that happens to prevail in our data. We have explored this possibility by disaggregating the mobility table for each country into subtables defined by age group (30–49 vs. 50–64) and period (1955–75 vs. 1976–2003). In some countries, one or more of the four possible mobility tables could not be constructed, given that the available data pertained only to one of two age groups or one of two periods.[19] We can still identify age and period effects on big-class, microclass, and gradational parameters by constraining these interactions to be the same in each country. Additionally, we are obliged to summarize age and period effects with a single shift effect for each of the five types of mobility and immobility (i.e., gradational, manual-nonmanual, macroclass, mesoclass, and microclass), as otherwise we would be

[19] The Swedish data, e.g., pertain to a single time period (1976–2003) and a single age group (30–49).

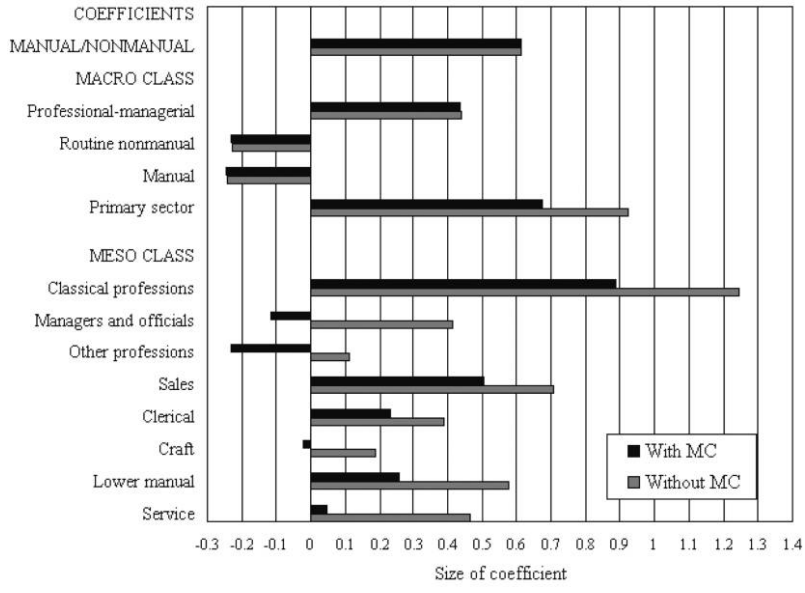

FIG. 5.—Comparison of immobility coefficients with and without microclass controls (MC) for employed fathers, omitting the status gradient. Coefficients are from models equivalent to models A2 and A3 of table 4, after selecting on employed fathers ($N = 200{,}662$) and standardizing the sample size to 10,000 cases in each country. For model A2, $L^2 = 19{,}581$; $df = 24{,}101$; $\Delta = 22.1$; BIC $= -235{,}958$. For model A3, $L^2 = 23{,}778$; $df = 24{,}182$; $\Delta = 24.5$; BIC $= -232{,}620$. The x-axis indexes the size of the coefficients in additive form. For convenience in presentation, the two primary-sector coefficients are each divided by 2.

awash in more interactions than could be reliably estimated with our relatively sparse data.

The parameter estimates under this specification, as displayed in the last three columns of table 5, reveal that age and period effects are simply too small to have much impact on our conclusions. The base microclass coefficients are slightly weaker than those for our original specification, but this is principally because they now pertain to the omitted category of young respondents in the early time period, a category that happens to evince slightly weaker microclass inheritance. Likewise, there are significant age and period effects for most of the other parameters, but none of these interactions affect our overall conclusion that microclass rigidities are substantially stronger than big-class rigidities.

The period effects from this specification are not just nuisance controls but also provide initial evidence on how big-class and microclass reproduction may be evolving over time. In conventional analyses, big-class and microclass reproduction are of course confounded, and conclusions about trend may conceal possible differences in how these two forms of

reproduction are developing. The results in table 5, although necessarily tentative, reveal precisely such countervailing trends. That is, microclass closure is 25% stronger in the later time period than in the earlier time period ($e^{.22} \approx 1.25$), whereas big-class closure at the manual-nonmanual and mesoclass levels has weakened by 10% ($e^{-.11} \approx 0.90$) and 9% ($e^{-.09} \approx 0.91$), respectively. The gradational parameter has also strengthened by 12% ($e^{.11} \approx 1.12$) and the macroclass effect by 22% ($e^{.20} \approx 1.22$).[20]

The long-term decline in father-by-son association observed in some conventional analyses (e.g., Ganzeboom, Luijkx, and Treiman 1989; Breen 2004) appears, therefore, to be driven principally by a weakening of some (but not all) forms of big-class constraint, a result that conceals an opposite trend at the microclass and gradational levels. These results, which are merely suggestive, imply that a comprehensive reanalysis of trends in big-class, micro-class, and gradational mobility is needed. If the discipline continues to monitor trends exclusively at the big-class level, there is risk of conflating trends in the overall extent of inequality with trends in the extent to which inequality takes on a big-class form.

WHAT ABOUT MOBILITY?

We next ask how our model, based as it is on immobility parameters, nonetheless illuminates the structure of *mobility* chances. What does our specification imply, for example, about the life chances of children who exit from their microclass? We have found that the main constraint on their mobility chances is the simple tendency to move to occupations that are socioeconomically close. If we compare, for example, two children born into microclasses separated by 20 socioeconomic points (e.g., social scientist = 73; commercial manager = 53), the child born into the superior microclass is 1.58 times more likely than the child with the lesser origins to end up in another superior microclass of the same status ($1.00114^{(73-53)(73-53)} = 1.58$). Additionally, we have found that microclass movers tend to remain in their big class of origin, but these residual big-class constraints are not always very strong. The manual-nonmanual constraint is one of the strongest such effects: it implies that, net of the above socioeconomic effect, the propensity for reproduction is 1.30 times greater than equal opportunity would imply ($e^{.26} = 1.30$). These big-class constraints have

[20] We have experimented with a variety of alternative specifications that allow for additional country effects on the structure of big-class, microclass, and gradational immobility. Although for the most part our conclusions are similar across these specifications, the size and even direction of the gradational term was more variable and should therefore be interpreted with special care.

in the past been overestimated because the confounding effects of microclass immobility and gradational exchange were not removed.

It is worth considering the possibility that a more powerful specification of gradational exchange might further reduce the effects of big-class (and possibly microclass) immobility. We have tested this possibility by replacing our socioeconomic term with a one-dimensional occupational scale that is freely estimated on the basis of mobility exchanges (Goodman 1979). Although the resulting RC model (model A5 of table 4) necessarily fits better than our baseline model, the microclass and big-class immobility coefficients do not change much under this alternative specification.[21] The immobility estimates are largely the same under the two specifications because the correlation between the RC and socioeconomic scales is very high (0.90).

It follows that the best one-dimensional specification of exchange is largely socioeconomic in structure. We cannot, of course, rule out the possibility that a substantial improvement in fit might be secured by scaling occupations in terms of more than one dimension. For reasons of space, we will not attempt to formally incorporate such additional nonsocioeconomic dimensions in our model (e.g., Hout 1988), and instead we have proceeded by examining the residuals (under model A1 of table 4) for evidence of such nonsocioeconomic effects on mobility chances. These residuals were for the most part scattered quite randomly across the mobility table, but some theoretically plausible affinities did turn up. As we noted in the introduction, the skills, cultural capital, and networks that tend to develop within a given microclass can have payoff outside that microclass, thus generating affinities of various sorts between "similar" microclasses. We found, for example, evidence of excess exchange between (*a*) ship officers and fishermen (a seafaring affinity), (*b*) health professionals and health semiprofessionals (a health-sector affinity), (*c*) authors and librarians (a literary affinity), and (*d*) accountants and bookkeepers (a financial-sector affinity).

WOMEN AND SOCIAL REPRODUCTION

We next turn to analyzing the mobility of women. As shown in table A1, most of our data sets include information on daughters, yet almost all lack information on mothers. The absence of information on the mother's work situation is problematic insofar as daughters, perhaps more so than sons, are influenced by the work situations of both parents. Given that

[21] The microclass and big-class coefficients under the RC model are available on request.

microclass sex segregation is so strong (e.g., Charles and Grusky 2004), fathers may not be oriented toward passing on their microclass to their daughters, nor will daughters necessarily treat their fathers' microclass as relevant to their own career prospects. The reproduction process for daughters may therefore take on a distinctly big-class form in which fathers are limited to passing on *classwide* skills, culture, and networks to their daughters. If ever there were a natural application for the conventional big-class approach to mobility analysis, it would accordingly be the father-to-daughter mobility table.

Although big-class reproduction may be a dominant form of reproduction for daughters, this is not to suggest that in absolute terms it is as strong as big-class reproduction among sons. Because daughters are strongly affected by the work situation of their mothers, and because mothers are not always in the same big class as their husbands, there will presumably be more big-class noise in the father-to-daughter table than in the father-to-son table (cf. Erikson and Goldthorpe 1992*b*). The amount of such noise will depend on the frequency of cross-class marriages. If big-class homogamy is the overwhelming norm, even daughters who model on their mothers will end up in the big class of their fathers, and the amount of big-class reproduction in the father-to-daughter table will come to approach that in the father-to-son table. We are left, then, with the twofold prediction that (1) microclass reproduction will be suppressed in the father-to-daughter table (relative to the father-to-son table) and (2) big-class reproduction, while also suppressed, will nonetheless be less suppressed than microclass reproduction. It is in this sense that the father-to-daughter table is tailor-made for the big-class approach to mobility analysis.

We can test these hypotheses by applying the same common social fluidity model (see model A1 in table 4) to father-by-daughter tables.[22] The resulting coefficients are supplied in table 6. As before, we have represented the big-class and microclass coefficients from this model as a three-dimensional graph, yielding figure 6. The most obvious conclusion from table 6 and figure 6 is that microclass reproduction is somewhat suppressed relative to the father-by-son results. When mesoclass averages are again computed, the resulting coefficients now range from 0.12 to 1.78, as compared to a range of 0.79 to 2.27 for men (see tables 5 and 6). The microdiagonal in figure 6 accordingly takes the form of a dilapidated

[22] The sample size for women is 189,786 cases. Because the male and female samples are drawn from different surveys, the estimates are not strictly comparable. The L^2 statistic for model A1 is 24,239 ($df = 22{,}826$), and the L^2 statistic for model A2 is 28,289 ($df = 22{,}827$). We report in fig. 6 the coefficients that obtain when sample sizes are standardized to 10,000 cases.

TABLE 6
BASIC COEFFICIENTS OF IMMOBILITY FOR WOMEN (N = 189,786)

Coefficient	Baseline Model	No Status Gradient
Status (SES)*	1.03	
Big class:		
Manual-nonmanual	.28	.57
Macroclass:		
Professional-managerial	.29	.55
Proprietor	.82	.93
Routine nonmanual	−.21	−.34
Manual	−.26	−.39
Primary sector	.88	1.07
Mesoclass:		
Classical professions	.44	1.15
Managers and officials	.04	−.01
Other professions	.01	−.22
Sales	.17	.20
Clerical	.22	.23
Craft	.06	.01
Lower manual	.03	.06
Service workers	−.17	−.16
Microclass:**		
Classical professions	1.15	1.20
Managers and officials	1.08	1.12
Other professions	.68	.92
Sales	.45	.55
Clerical	.12	.16
Craft	1.13	1.14
Lower manual	1.36	1.37
Service workers	.71	.78
Primary sector	1.78	1.81

* Coefficient multiplied by 1,000 for convenience in presentation.
** Average of microclass coefficients within mesoclasses.

picket fence rather than the uniform palisade of figure 5. This suppression of microclass effects presumably arises because extreme sex segregation at the microclass level disrupts the father-to-daughter transmission process. Moreover, given that mothers and fathers are more likely (than chance alone would imply) to be in the same microclass, some of the seeming father-to-daughter reproduction observed here is likely in fact attributable to mother-to-daughter transmission.

As for big-class effects, here the suppression is far less prominent, and indeed some of the big-class effects in the nonmanual sector are actually stronger for women than for men. Most notably, the professional-managerial effect registers at 0.29 (compared to 0.08 for men), while the classical-profession effect registers at 0.44 (compared to 0.23 for men). This

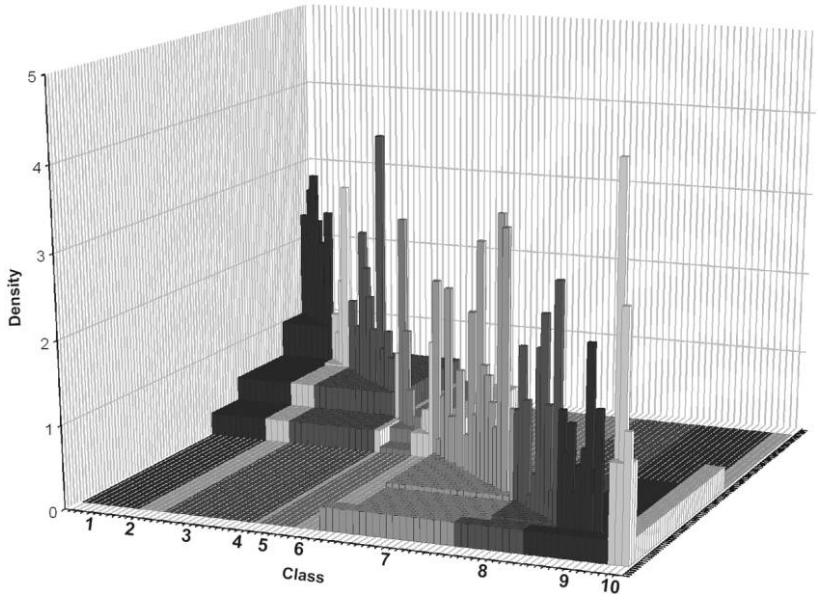

FIG. 6.—The contours of class reproduction for women. The base indexes occupational origins and destinations, while the vertical dimension indexes densities of mobility and immobility (for each possible combination of origin and destination). Coefficients are drawn from a model equivalent to model A1 of table 4 (after standardizing the sample size to 10,000 cases in each country). 1 = classical professions; 2 = managers and officials; 3 = other professions; 4 = proprietors; 5 = sales; 6 = clerical; 7 = craft; 8 = lower manual; 9 = service; 10 = primary sector.

strengthening of the big-class fundament suggests a "fungibility" hypothesis: the additional big-class reproduction among daughters may arise because sex segregation precludes them from inheriting their father's occupation and induces them to focus instead on compensatory big-class reproduction. To be sure, some of this additional big-class reproduction might arise because daughters frequently inherit their mother's occupation, an inheritance that will register at the big-class level whenever the mother and father hold occupations in the same big class. The fungibility hypothesis suggests, however, that this additional residue of big-class reproduction also arises because daughters, often cut off from inheriting their father's occupation (because of sex segregation), must parlay their aspirations and reproductive energy into compensatory big-class reproduction. Although such fungibility is in evidence at the very top of the class structure (in the classical professions), it should be stressed that the other big-class effects are somewhat *weaker* for women than for men, just as we initially hypothesized.

We may ask, finally, whether the big-class reproduction in a conventional father-to-daughter table is just a disguised form of microclass reproduction. As shown in figure 7, we again find that big-class effects are much reduced in the presence of microclass controls, although again this reduction is not prominent within the classical professions. The latter result is consistent with our suggestion that, for women, the classical professions are operating like an authentic big class with generic classwide reproduction. In the other big classes, microclass reproduction underlies much of what appears to be big-class reproduction, just as was the case with men.

In sum, the microclass coefficients for women are indeed less prominent than those for men, but the falloff is not as dramatic as might be anticipated given that sex segregation is so extreme in all four countries (see Charles and Grusky 2004). The main form of reproduction, even in this putative "home ground" for the big-class story, is accordingly the microclass form.

CROSS-NATIONAL VARIATION IN RELATIVE MOBILITY

We have to this point made the case for a microclass approach in general terms, but we appreciate that the institutions that support microclass reproduction are better developed in some countries (e.g., Germany) than in others (e.g., Japan). Likewise, some countries have well-developed big-class institutions (e.g., Sweden), whereas others have backed alternative institutions, such as craft unions, that can serve to undermine big classes (e.g., the United States). The four countries analyzed here were selected for the purpose of representing this variability in microclass and big-class institutionalization. At least until recently (e.g., Breen 2004), the widely accepted view has been that big-class mobility is cross-nationally quite similar, a conclusion that may have proven more attractive than was warranted because standard mobility models cannot capture such variability as obtains at the microclass level.

The question that then arises is whether our 2×2 typology (table 2) adequately represents the structure of cross-national variability. Additionally, we wish to examine the extent of occupational reproduction in Japan and other putatively deoccupationalized labor markets, thereby revealing the reach of the microclass form and the extent to which it is a generic feature of contemporary societies. We address these questions by estimating a series of models (table 4, pt. B) that reveal the various ways in which our four mobility regimes are similar or different. As indicated in table 4, model B1 allows all father-by-son interaction terms to vary freely across countries, while model B2 forces such variability to

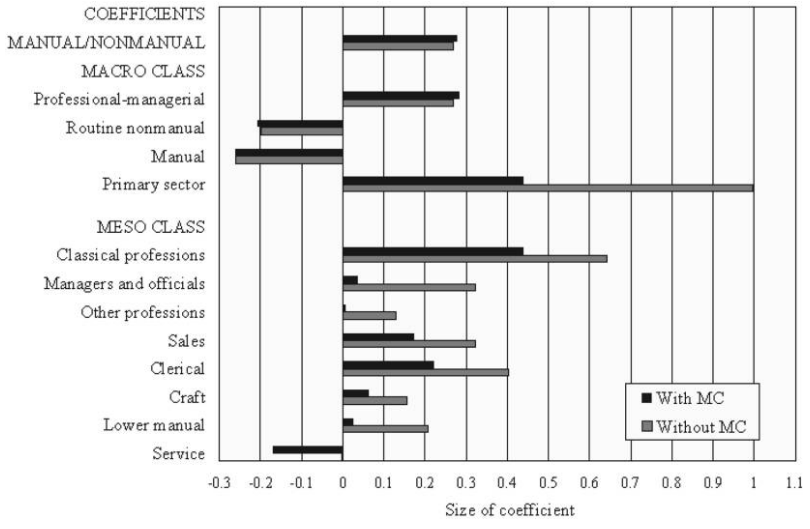

FIG. 7.—Comparison of immobility coefficients with and without microclass controls (MC) in father-by-daughter tables. Coefficients are drawn from a model equivalent to model A1 of table 4 for men (after standardizing the sample size to 10,000 cases in each country). The x-axis indexes the size of the coefficients in additive form. For convenience in presentation, the two primary-sector coefficients are each divided by 2.

be captured in a set of country-specific shift parameters pertaining to each type of inheritance and exchange (Erikson and Goldthorpe 1992*b*; Xie 1992). We also estimate this model without the gradational term (model B4).

The main model of interest, however, introduces for each country a single shift parameter that pertains at once to all inheritance terms (see model B3). If this model fits, it implies that a country with an excess or deficit of microclass inheritance must also have a corresponding excess or deficit of mesoclass, macroclass, and manual-nonmanual inheritance. The logic of this model is accordingly inconsistent with our expectation that microclass and big-class inheritance can vary independently of one another (see table 2). We have argued, for example, that the United States embodies strong microclass reproduction and weak big-class reproduction, whereas Sweden embodies weak microclass reproduction and strong big-class reproduction.

The BIC statistics of table 4 suggest that cross-national variability can indeed be summarized with a set of country-specific shift parameters (model B2). At the same time, these shift parameters must also be allowed to vary across the four types of inheritance, as the BIC and L^2 statistics increase significantly when a *single* shift parameter for each country is

imposed (model B3). We will therefore confine our discussion to model B2 and its analogue, model B4, which omits the gradational term. The coefficients of exchange and mobility for these two models are presented in table 7.

The first column of table 7 shows baseline estimates in which the United States is taken as the reference category. As before, the full complement of 82 microclass effects is not presented, and instead mesoclass averages of these effects are reported. The adjacent columns in table 7 indicate whether Sweden, Germany, and Japan deviate from the reference country (the United States) for the gradational parameter and for each of the four types of inheritance parameters.

The estimates in this table suggest three conclusions. First, gradational effects are strongest in Germany and weakest in Japan, with the United States and Sweden taking middling positions. Second, the manual-nonmanual and mesoclass terms are much the same in each country, whereas macroclass effects are somewhat stronger in Sweden and Germany than in the United States and Japan. Third, microclass effects are strong in Germany and Japan, yet comparatively weak in the United States, especially relative to our expectations (as expressed in table 2).

We can conclude, then, that the macroclass parameters do show the anticipated cross-national differences, but these are modest in size and arguably consistent with the conventional view that a fundamental "family resemblance" cuts across all big-class mobility regimes (Erikson and Goldthorpe 1992*b*). Of the nine big-class effects in table 7, the very largest pertains to the U.S.-German contrast for macroclass inheritance, with Germany returning a parameter here that is only 1.38 times stronger than that for the United States ($e^{.32} \approx 1.38$). As anticipated, the microclass parameters are somewhat more variable, but substantial microclass reproduction is even so always in evidence. Indeed, even in countries with poorly developed occupational training, such as Sweden and Japan, it is difficult not to be impressed with how much microclass reproduction there is. The Japanese results are especially notable in this regard and do not conform at all to conventional expectations. In fact, microclass reproduction is 1.49 times stronger in Japan than in the United States ($e^{.40} \approx 1.49$), a result that arises because microclass reproduction is stronger than anticipated in Japan and weaker than anticipated in the United States.[23]

The prominence of microclass inheritance in Japan is so unexpected that we have carried out additional analyses to cast light on it. In appendix

[23] Because fathers in the United States experience much occupational mobility, the occupation that they held when their child was age 16 may have been quite transitory, and the opportunity to transmit skills, networks, and culture relevant to that occupation may have accordingly been suppressed (e.g., OECD 1993; Burgess 1998).

table A4, we report on an analysis that divides the Japanese data into subsamples pertaining to fathers who work in large firms, small firms, and the public sector.[24] The resulting model, again based on a simple shift-effect specification, reveals that there is 1.73 times more microclass inheritance in the small-firm sector than in the large-firm sector ($e^{.55} \approx 1.73$). Because relatively few fathers work in the large-firm or public sectors (20.5% in our samples), the pooled parameter estimates reported in table 7 principally reflect the small-firm sector, where microclass processes are not at all weak. We can conclude that Japanese occupationalization is indeed suppressed, but only for the minority of workers employed in large firms or in the public sector.

The results thus imply that the microclass mechanism is fundamental for all countries analyzed here. In motivating our cross-national analysis, we suggested that the big-class model was tailor-made for Sweden, whereas it potentially distorted mobility processes in Germany and the United States. The results presented in this section suggest that the big-class model cannot well represent the structure of social mobility even in Sweden and the numerically dominant small-firm economy of Japan. Although microlevel inheritance is somewhat suppressed in Sweden and large-firm Japan, it remains a prominent source of rigidity even in these labor markets.

CONCLUSIONS

The scholarly literature on social mobility has treated questions about the form of mobility as resolvable principally by fiat rather than evidence. The convention has simply been to assume that intergenerational reproduction takes either a categorical form that has parents passing on a big-class position to their children or a gradational form that has parents passing on their socioeconomic standing. The main objective of our research has been to consider whether these conventional representations of the structure of mobility are incomplete. We have suggested that occupations are an important conduit for reproduction and that incorporating this conduit into mobility models will improve our understanding of the mobility process.

The results from our cross-nationally harmonized data for the United States, Sweden, Germany, and Japan bear out this argument. We have found that conventional models misrepresent the structure of opportunity

[24] We have defined large firms as those with 30 or more employees. Although this is a relatively low threshold, we are still able to secure a strong firm-size effect (see below). It is plausible that this effect would be yet larger for more stringently defined "large" firms.

TABLE 7
COEFFICIENTS OF CROSS-NATIONAL VARIATION IN IMMOBILITY FOR MEN

	Baseline Model[a]				No Status Gradient[b]			
Coefficient	U.S. Base	Japan Shift	Germany Shift	Sweden Shift	U.S. Base	Japan Shift	Germany Shift	Sweden Shift
Status (SES)[c]	1.13	−.23	.49	.04[d]				
Big class:								
Manual-nonmanual	.34	−.07[d]	−.11	−.13	.70	−.16	−.06[d]	−.18
Macroclass		.10	.32	.24		.11	.34	.24
Professional-managerial	−.14				.20			
Proprietor	.92				.93			
Routine nonmanual	−.18				−.38			
Manual	−.30				−.43			
Primary sector	1.49				1.72			
Mesoclass		.08[d]	−.10	−.06		.08[d]	−.10	−.04
Classical professions	.33				1.06			
Managers and officials	.26				.11			
Other professions	−.07				−.27			
Sales	.55				.55			
Clerical	.19				.16			
Craft	.09				.03[d]			
Lower manual	.22				.25			
Service workers	.14				.13			

Microclass[e]		.40	.48	.10		.40	.50	.11
Classical professions	1.10				1.16			
Managers and officials	.62				.66			
Other professions	1.54				1.68			
Sales	.84				.95			
Clerical	.16				.20			
Craft	1.80				1.80			
Lower manual	1.73				1.75			
Service workers	1.24				1.33			
Primary sector	2.00				2.04			

[a] Model B2, table 4.
[b] Model B4, table 4.
[c] Coefficient multiplied by 1,000 for convenience in presentation.
[d] Not significant at the .05 level.
[e] Base values are mean of microclass coefficients within each mesoclass and within the primary-sector macroclass.

in two ways: (1) the most extreme pockets of rigidity are concealed when analysis is carried out exclusively at the big-class level, and (2) the main rigidities in the big-class mobility table have been taken as evidence of big-class reproduction when in fact occupational reproduction is the principal underlying mechanism. These results suggest that the big-class mobility table, long a fixture in the discipline, obscures important mechanisms behind intergenerational reproduction.

Why are occupations such an important conduit for social reproduction? In all countries, parents accumulate much occupation-specific capital, identify with their occupation, and accordingly "bring home" their occupation in ways, both direct and indirect, that then make it salient to their children and lead their children to invest in it. It follows that children develop a taste for occupational reproduction, are trained by their parents in occupation-specific skills, have access to occupational networks that facilitate occupational reproduction, and use those skills and networks to acquire more occupation-specific training outside the home. If children are risk-averse and oriented principally to avoiding downward mobility, the safest path to ensuring that objective may well be to use these various occupation-specific resources on behalf of occupational reproduction. Indeed, even in the absence of any intrinsic interest in occupational reproduction, children may still pursue it because it is the best route to big-class reproduction (Erikson and Jonsson 1996).

These supply-side mechanisms, while likely to be important, may be supplemented by additional demand-side mechanisms. Most notably, employers or training institutions (e.g., professional schools) may sometimes discriminate in favor of workers or students who have parents in their chosen trade or profession, either because such family involvement is presumed to signal underlying skills (statistical discrimination) or because family networks are directly deployed to garner favor or privilege (pure discrimination). In subsequent analyses, it would be useful to examine the role of aspirations, training, networks, and discrimination in furthering microclass inheritance and mobility.

The results that we have secured suggest that the received wisdom on mobility chances should be reexamined through a microclass lens. We have made headway on this agenda by considering (*a*) trends in mobility, (*b*) gender differences in mobility, and (*c*) cross-national variability in mobility. The results on trends, while only suggestive, imply that big-class and microclass reproduction are changing in partly countervailing ways, a result consistent with the premise that quite different mechanisms underlie these two forms of reproduction. It follows that the decline in origin-by-destination association uncovered in several European countries (e.g., Breen 2004) may not hold at the microclass level. The usual big-class trend analysis may lead us astray because it cannot distinguish changes

in the organization or configuration of inequality (e.g., a possible decline in big-class organization) from changes in the amount of inequality.

It is equally problematic to default to the big-class form when examining the structure of cross-national variability. At least until recently, the standard view was that advanced industrial mobility regimes share a fundamental family resemblance, a conclusion that is based exclusively on big-class analysis and thus ignores variability in the extent of microclass organization. We have shown that Germany, long viewed as the home ground of microclass reproduction, indeed lives up to its reputation for being especially rigid at the microclass level. Although there is considerable cross-national variation in the extent of microclass reproduction, we have also shown that in all countries microclass rigidities are far more substantial than big-class rigidities. Even in Japan, which is typically regarded as deoccupationalized, there is evidence of very strong occupational rigidities. These results imply that a microclass reproduction mechanism has impressive cross-national reach and may well be a fundamental feature of all contemporary mobility regimes. We intentionally selected two countries in which the occupational mechanism has been presumed weak and nonetheless found, contrary to such conventional wisdom, that it is strong even in those cases.

We have shown, finally, that the microclass form is surprisingly strong in the father-by-daughter mobility table. This result is striking because sex segregation might be presumed to undermine most cross-gender reproduction at the microclass level. We have found, again contrary to such conventional wisdom, that the forces of microclass reproduction remain strong even though sex segregation is so substantial. The daughter of a lawyer, for example, has a propensity to become a lawyer herself that is just slightly lower (by about 25%) than the corresponding propensity for a lawyer's son.

It might be tempting to take the position that the extreme microclass inequalities uncovered here are not all that objectionable. Should we really care, for example, that the child of the truck driver has a special propensity to become a truck driver while the child of a gardener has a special propensity to become a gardener? Must we truly commit ourselves to equal access to truck driving and gardening? If pressed, we would argue that all ascriptive constraints on choice, even those pertaining to purely horizontal inequalities, are inconsistent with a commitment to an open society. It bears emphasizing, however, that such an argument need not be pursued in the present case, given that the horizontal inequalities uncovered here contribute directly to the perpetuation of vertical ones. That is, a main reason why we should care about the immobility of truck drivers and gardeners is not because truck driving and gardening are understood as crucially different in their relative attractiveness, but rather

because microclass immobility of this sort is the principal mechanism ensuring that the working class reproduces itself. The results from our models make it clear that big-class reproduction arises largely because children frequently remain within their microclass of origin.

We are left with the possibility that, insofar as microclass reproduction could be eliminated, real declines in big-class reproduction may be observed. It is troubling in this regard that microclass reproduction is deeply rooted in family dynamics and may require unacceptably intrusive policy to root it out. Although our results provide some insight, then, into why contemporary efforts to equalize opportunity have underperformed, they do not necessarily lead us to any wholesale rethinking of those efforts.

APPENDIX

TABLE A1
SURVEYS FOR INTERGENERATIONAL MOBILITY ANALYSIS

SURVEY	PERIOD	AGES	BIRTH COHORTS	OCCUPATIONAL SCHEME*	SAMPLE SIZE	
					Men	Women
United States:						
Occupational Changes in a Generation I (OCG I)	1962	30–64	1898–1932	1960 SOC	17,544	. . .
Occupational Changes in a Generation II (OCG II)	1973	30–64	1909–43	1960–70 SOC	18,856	. . .
General Social Survey (GSS)	1972–2003	30–64	1908–70	1970–80 SOC	9,685	7,712
Japan:						
Survey of Social Stratification and Mobility (SSM)	1955–95	30–64	1891–1970	Japanese SCO	6,703	1,846
Japan General Social Survey (JGSS)	2000–2002	30–64	1936–72	Japanese SCO	1,917	2,166
Germany:						
German Social Survey (ALLBUS)**	1980–2002	30–64	1916–1972	ISCO-68, ISCO-88	5,647	2,403
German Socioeconomic Panel (GSOEP)	1986, 1999, 2000	30–64	1922–70	ISCO-68, ISCO-88	2,886	1,874
German Life History Study LV I-III	1981–89	30–64	1921–59	ISCO-68	1,234	563
ZUMA-Standarddemographie Survey	1976–82	30–64	1912–52	ISCO-68	2,929	1,090
Sweden:						
1990 Swedish census (linked to 1960 and 1970 censuses)	1990	30–47	1943–60	NYK80	184,451	172,132

* SOC = standard occupational classification; SCO = standard classification of occupations; ISCO = international standard classification of occupations; NYK = Nordisk yrkesklassificering.

** German data exclude respondents from East Germany (GDR). If respondents were not gainfully employed at the time of survey, the last occupation was used.

TABLE A2

MICROCLASSES NESTED IN MANUAL-NONMANUAL CLASSES, MACROCLASSES, AND MESOCLASSES

MACROCLASSES	MESOCLASSES	MICROCLASSES
	Nonmanual Class	
I. Professional-managerial	A. Classical professions	1. Jurists 2. Health professionals 3. Professors and instructors 4. Natural scientists 5. Statistical and social scientists 6. Architects 7. Accountants 8. Authors and journalists 9. Engineers
	B. Managers and officials	1. Officials, government and non-profit organizations 2. Other managers 3. Commerical managers 4. Building managers and proprietors
	C. Other professions	1. Systems analysts and programmers 2. Aircraft pilots and navigators 3. Personnel and labor relations workers 4. Elementary and secondary school teachers 5. Librarians 6. Creative artists 7. Ship officers 8. Professional and technical, NEC 9. Social and welfare workers 10. Workers in religion 11. Nonmedical technicians 12. Health semiprofessionals 13. Hospital attendants 14. Nursery school teachers and aides
II. Proprietors		1. Proprietors
III. Routine nonmanual	A. Sales	1. Real estate agents 2. Agents, NEC 3. Insurance agents 4. Cashiers 5. Sales workers
	B. Clerical	1. Telephone operators 2. Bookkeepers 3. Office workers 4. Postal clerks

TABLE A2 (*Continued*)

Manual Class		
I. Manual	A. Craft	1. Craftsmen, NEC
		2. Foremen
		3. Electronics service and repair
		4. Printers and related workers
		5. Locomotive operators
		6. Electricians
		7. Tailors and related workers
		8. Vehicle mechanics
		9. Blacksmiths and machinists
		10. Jewelers
		11. Other mechanics
		12. Plumbers and pipe fitters
		13. Cabinetmakers
		14. Bakers
		15. Welders
		16. Painters
		17. Butchers
		18. Stationary engine operators
		19. Bricklayers and carpenters
		20. Heavy machine operators
	B. Lower manual	1. Truck drivers
		2. Chemical processors
		3. Miners and related workers
		4. Longshoremen
		5. Food processing workers
		6. Textile workers
		7. Sawyers
		8. Metal processors
		9. Operatives and related, NEC
		10. Forestry workers
	C. Service workers	1. Protective service workers
		2. Transport conductors
		3. Guards and watchmen
		4. Food service workers
		5. Mass transportation operators
		6. Service workers, NEC
		7. Hairdressers
		8. Newsboys and deliverymen
		9. Launderers
		10. Housekeeping workers
		11. Janitors and cleaners
		12. Gardeners
II. Primary		1. Fishermen
		2. Farmers
		3. Farm laborers

TABLE A3

MICROCLASS FREQUENCIES FOR MALE RESPONDENTS IN THE U.S., JAPAN, GERMANY, AND SWEDEN

MICROCLASS CODE AND CATEGORY	UNITED STATES		JAPAN		GERMANY		SWEDEN	
	No.	%	No.	%	No.	%	No.	%
11101 Jurists	351	.8	14	.2	93	.7	981	.5
11102 Health professionals	569	1.2	49	.6	135	1.1	2,481	1.3
11103 Professors and instructors	403	.9	25	.3	60	.5	1,112	.6
11104 Natural scientists	207	.4	11	.1	60	.5	1,038	.6
11105 Statistical and social scientists	127	.3	1	.0	88	.7	2,147	1.2
11106 Architects	80	.2	73	.8	72	.6	1,086	.6
11107 Accountants	540	1.2	8	.1	58	.5	876	.5
11108 Authors, journalists, and related writers	177	.4	15	.2	44	.3	1,010	.5
11109 Engineers	1,727	3.7	151	1.7	534	4.2	4,575	2.5
11201 Officials, government and nonprofit organizations	527	1.1	39	.4	62	.5	2,165	1.2
11202 Other managers	5,053	11.0	737	8.5	378	3.0	5,251	2.8
11203 Commercial managers	515	1.1	85	1.0	275	2.2	4,305	2.3
11204 Building managers and proprietors	74	.2	16	.2	102	.8	1,539	.8
11301 Systems analysts and programmers	274	.6	63	.7	169	1.3	3,783	2.1
11302 Aircraft pilots and navigators	81	.2	1	.0	4	.0	146	.1
11303 Personnel and labor relations workers	153	.3	0	.0	29	.2	1,773	1.0
11304 Elementary and secondary teachers	860	1.9	220	2.5	513	4.0	6,343	3.4
11305 Librarians	24	.1	1	.0	14	.1	361	.2
11306 Creative artists	324	.7	25	.3	78	.6	1,620	.9
11307 Ship officers	49	.1	21	.2	19	.1	467	.3
11308 Professional, technical, and related workers	652	1.4	99	1.1	120	.9	1,530	.8
11309 Social and welfare workers	76	.2	15	.2	56	.4	1,622	.9
11310 Workers in religion	327	.7	28	.3	38	.3	483	.3
11311 Nonmedical technicians	568	1.2	19	.2	538	4.2	18,719	10.1

11312 Health semiprofessionals	170	.4	37	.4	113	.9	1,440	.8
11313 Hospital attendants	74	.2	0	.0	26	.2	1,428	.8
11314 Nursery school teachers and aides	0	.0	1	.0	7	.1	519	.3
12001 Proprietors	1,840	4.0	462	5.3	308	2.4	3,098	1.7
13101 Real estate agents	231	.5	36	.4	9	.1	449	.2
13102 Agents, NEC	217	.5	21	.2	87	.7	1,760	1.0
13103 Insurance agents	424	.9	30	.3	108	.9	373	.2
13104 Cashiers	33	.1	5	.1	3	.0	21	.0
13105 Sales workers and shop assistants	2,107	4.6	407	4.7	263	2.1	7,743	4.2
13201 Telephone operators	3	.0	5	.1	6	.0	101	.1
13202 Bookkeepers and related workers	271	.6	189	2.2	428	3.4	1,884	1.0
13203 Office and clerical workers	1,699	3.7	1,045	12.1	1,127	8.9	4,398	2.4
13204 Postal and mail distribution clerks	494	1.1	44	.5	107	.8	2,895	1.6
24101 Craftsmen and related workers, NEC	263	.6	68	.8	93	.7	484	.3
24102 Foremen	1,655	3.6	333	3.9	318	2.5	0	.0
24103 Electronics service and repair workers	598	1.3	11	.1	204	1.6	3,174	1.7
24104 Printers and related workers	297	.6	54	.6	120	.9	1,854	1.0
24105 Locomotive operators	171	.4	23	.3	75	.6	451	.2
24106 Electricians	479	1.0	80	.9	288	2.3	4,889	2.7
24107 Tailors and related workers	134	.3	73	.8	74	.6	466	.3
24108 Vehicle mechanics	783	1.7	23	.3	213	1.7	2,145	1.2
24109 Blacksmiths and machinists	1,167	2.5	93	1.1	757	6.0	6,794	3.7
24110 Jewelers, opticians, and precious-metal workers	64	.1	24	.3	96	.8	1,094	.6
24111 Other mechanics	2,086	4.5	31	.4	192	1.5	4,863	2.6
24112 Plumbers and pipefitters	432	.9	59	.7	187	1.5	1,817	1.0
24113 Cabinetmakers	61	.1	57	.7	210	1.7	2,136	1.2
24114 Bakers	43	.1	40	.5	79	.6	294	.2
24115 Welders and related metal workers	740	1.6	111	1.3	187	1.5	4,248	2.3
24116 Painters	487	1.1	56	.7	181	1.4	2,475	1.3
24117 Butchers	159	.3	0	.0	72	.6	311	.2
24118 Stationary engine operators	384	.8	41	.5	78	.6	505	.3
24119 Bricklayers, carpenters, and construction workers	1,444	3.1	424	4.9	619	4.9	10,101	5.5
24120 Heavy machine operators	580	1.3	58	.7	114	.9	2,151	1.2

TABLE A3 (*Continued*)

Microclass Code and Category	United States		Japan		Germany		Sweden	
	No.	%	No.	%	No.	%	No.	%
24201 Truck drivers	1,680	3.6	37	.4	481	3.8	8,983	4.9
24202 Chemical processors	431	.9	108	1.2	90	.7	2,686	1.5
24203 Miners and related workers	235	.5	40	.5	128	1.0	645	.3
24204 Longshoremen and freight handlers	565	1.2	60	.7	135	1.1	3,200	1.7
24205 Food processing workers	330	.7	92	1.1	48	.4	730	.4
24206 Textile workers	131	.3	65	.8	38	.3	182	.1
24207 Sawyers and lumber inspectors	105	.2	52	.6	17	.1	1,022	.6
24208 Metal processors	409	.9	85	1.0	75	.6	1,118	.6
24209 Operatives and related workers, NEC	3,168	6.9	430	5.0	244	1.9	4,388	2.4
24210 Forestry workers	87	.2	23	.3	36	.3	1,730	.9
24301 Protective service workers	589	1.3	55	.6	240	1.9	3,004	1.6
24302 Transport conductors	45	.1	8	.1	17	.1	575	.3
24303 Guards and watchmen	446	1.0	59	.7	76	.6	1,217	.7
24304 Food service workers	445	1.0	90	1.0	60	.5	1,084	.6
24305 Mass transportation operators	325	.7	272	3.1	21	.2	0	.0
24306 Service workers, NEC	393	.9	35	.4	50	.4	616	.3
24307 Hairdressers	172	.4	56	.6	39	.3	169	.1
24308 Delivery workers	395	.9	39	.4	3	.0	200	.1
24309 Launderers and dry cleaners	74	.2	21	.2	11	.1	109	.1
24310 Housekeeping workers	41	.1	2	.0	12	.1	219	.1
24311 Gardeners	620	1.3	25	.3	129	1.0	1,161	.6
24312 Janitors and cleaners	235	.5	11	.1	111	.9	3,681	2.0
25001 Fishermen	49	.1	85	1.0	0	.0	237	.1
25002 Farmers and farm managers	1,750	3.8	1,213	14.0	299	2.4	4,952	2.7
25003 Farm laborers	37	.1	18	.2	48	.4	769	.4
Column totals	46,085	100	8,635	100	12,696	100	184,451	100

TABLE A4
SECTORAL VARIATION IN JAPANESE IMMOBILITY

COEFFICIENT	BASE AND SHIFT EFFECTS		
	Base	Large Firm	Public
Status (SES)*	.75	.23[a]	−.07[a]
Big class:			
Manual-nonmanual	.23	.07[a]	.01[a]
Macroclass		.01[a]	−.12[a]
Professonal-managerial	−.09[a]		
Proprietors	1.23		
Routine nonmanual	−.11[a]		
Manual	.14		
Primary sector	.73		
Mesoclass		.03[a]	.06[a]
Classical professions	.64		
Managers and officials	−.11[a]		
Other professions	.46		
Sales	.32[a]		
Clerical	.46		
Craft	−.10[a]		
Lower manual	−.07[a]		
Service workers	−.10[a]		
Microclass**		−.55	−.78
Classical professions	1.87		
Managers and officials	1.25		
Other professions	2.18		
Sales	1.24		
Clerical	1.21		
Craft	2.82		
Lower manual	2.03		
Service workers	3.52		
Primary sector	2.09		

NOTE.—L^2 = 5,781 (df = 13,134); BIC = −113,490; Δ = 22.6.
* Coefficient multiplied by 1,000 for convenience in presentation.
** Base values are mean of microclass coefficients within each mesoclass and within the primary-sector macroclass.
[a] Not significant at the .05 level.

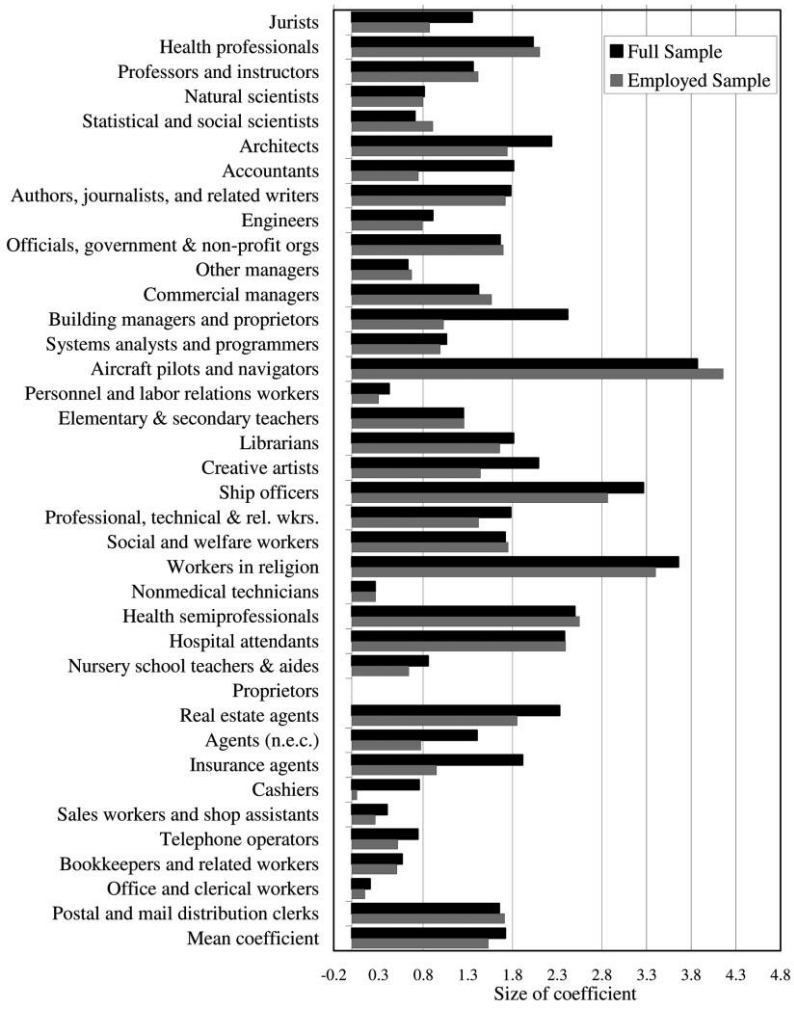

FIG. A1.—The structure of microclass reproduction for men. Coefficients based on model A1 of table 4 applied to full and employed samples (after standardizing sample to 10,000 cases in each country). For employed sample, $L^2 = 18{,}780$; $df = 24{,}100$; $\Delta = 21.03$; BIC $= -236{,}748$. The x-axis indexes the size of the coefficients in additive form. For convenience in presentation, the two coefficients for housekeeping workers are divided by a factor of 20.

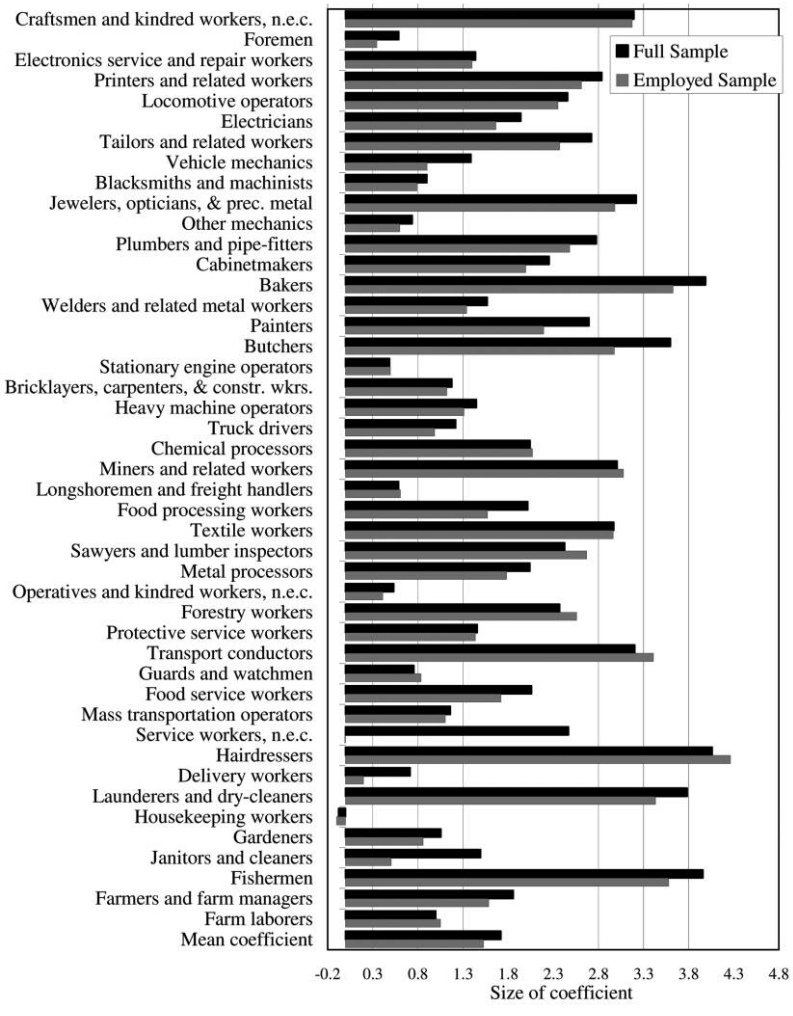

FIG. A1. (*Continued*)

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