# Social Mobility and Education in Postwar Japan

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This paper examines change and stability in the pattern of intergenerational class mobility and the role of education in social mobility in postwar Japan. The study uses five national surveys on social stratification and mobility (SSM) which were conducted every ten years since 1955 in Japan. We will use the CASMIN core model for 6 by 6 tables as the baseline model for comparing the mobility pattern, and the models proposed by Ishida, Muller, and Ridge (1995) in examining the relationship between class origin and education and between education and class destination. The pattern of association between class origin and class destination was stable from 1965 to 1995, although there seems to be an increased fluidity from 1955 to 1965. The results of cross-temporal comparisons of association involving education show that there is no declining significance of class origin in the process of educational attainment and no general trend of increasing importance of education in the allocation of class position in postwar Japan. The thesis of industrialism receives very little support from the findings from cross-temporal comparisons.

# Introduction

A lively debate on the Japanese distinctiveness has been concerned with reference to various features of Japanese society, such as family and kinship, attitudes and consciousness, industrial management and labour relations, or educational system (e.g., Nakane 1970; Dale 1986; Koike 1988; Ishida 1993; Sugimoto 1997). This study will concentrate on the further issue of social mobility, that is, the patterns of intergenerational class mobility in contemporary Japan. Theories of industrial society claim that an industrial technology and economy has profound influence on social structure and process (Kerr et al 1960; Kerr 1983). Industrialism is believed to have brought about the range of changes including the pattern of social mobility. This study will examine whether the pattern of social mobility and its relationship to education are shaped by the forces of industrialization in post-war Japan.

 The first part of this study will analyze empirical data on the trends in social mobility in post-war Japan in order to verify the hypotheses about long-term trends in mobility among industrial nations. The second part of this study focuses on the role of education in social mobility. It will examine the relationship between class origin and education and between education and class destination by presenting the results of crosstemporal comparisons of five surveys conducted in post-war Japan.

# Change and Stability in Intergenerational Mobility

 Theories of long-term trends in intergenerational class mobility among industrial nations have been advanced by many social scientists. We would like to outline four prevalent hypotheses or predictions implicit in the works of many social scientists. These hypotheses, we must emphasize, are not stated explicitly in the works of the authors cited below and should be understood as derivable propositions from their studies (see, Breen 2004; Erikson and Goldthorpe 1992b; Goldthorpe 1985b; Vallet 2001 for further discussions on these hypotheses and different versions).

 The first hypothesis, called a “threshold hypothesis,” which claims that a dramatic increase in rates of intergenerational mobility takes place when a society moves from a “pre-industrial” stage to an “industrial” stage. Lipset and Zetterberg (1959), for example, argued that, once a certain level of industrialization is reached, a society experiences a historic increase in the rates of social mobility following the sudden transformation of industrial and occupational structures (cf. Davis 1962). Because of urbanization and the expansion of the secondary and tertiary industrial sector in the urban areas, a massive migration from the farming to industrial sector takes place between the generations. In Japan, a rapidly increasing rate of mobility took place following the transition from a “feudal” society to a “capitalist industrial” society in Meiji Japan (Mitani 1977) and similarly during the period of rapid economic development in 1950s (see also Yasuda 1971; Tominaga 1992). Therefore, from this hypothesis, a dramatic increase in mobility rates in the 1950s and the early 1960s is expected when Japan became a truly “mature” industrial nation.

The second hypothesis emphasizes a “continuous” model of trends in social mobility that can be derived directly from the work of “liberal” theory of industrialism (Erikson and Goldthorpe 1992b). This hypothesis predicts that mobility rates increase steadily as societies industrialize, producing a positive association between the level of industrialization and the rate of social mobility (Blau and Duncan 1967; Bell 1973; Treiman and Yip 1989). This prediction is derived from the changes in the principle of allocation of human resources from particularistic criteria to universalistic ones in industrial societies (Parsons 1951; Levy 1966). Individuals are increasingly matched to jobs according to their ability and achievement (mostly measured by educational attainment) and not because of their class background. Industrialization promotes meritocratic form of social selection rather than selection based on ascriptive criteria, and consequently produces a greater “openness” and “fluidity” in industrial societies (Treiman 1970).

 American and Japanese scholars who subscribed to the modernization theory (see, for example, some essays in Jansen 1965, Ward 1967, and Dore 1967) argue that post-war Japan has caught up to the Western nations in using achievement as the major criteria in assigning individuals to social positions. According to Tominaga (1979, p.63), a “rapid and consistent increase” in mobility rates was found in post-war Japan, and Japanese society was becoming more and more open in the 1950s and 1960s. As a result, the second hypothesis predicts a continuous increase in relative mobility rates in post-war Japanese social structure.

 The third hypothesis postulates “stability” in trends of social mobility. In contrast to the dynamic model of theories of modernization and industrialism (the second hypothesis), Sorokin’s classical study (1959) claims that mobility rates fluctuate without any noticeable trends among industrial societies. Some fluctuations in mobility rates mainly due to historical contingencies in a society may be observed in the short term, but over the long term there is a stability and “no perpetual trend in the fluctuations” (Sorokin 1959, p. 63). Featherman, Jones and Hauser (1975, p. 340), more recently, offered a similar prediction. Among societies with “nuclear families and market economies,” relative chances of mobility and immobility are characterized by a cross-temporal stability and a cross-national similarity. Occupational and class structures may change as societies industrialize, but the underlying mobility regimes or what they called “genotypical” level of fluidity, will remain stable in industrial nations. Social origins continue to affect the allocation of class positions, and they predicted that there should not be any trend toward greater openness among industrial nations. Therefore, according to this third hypothesis, we would expect cross-temporal stability in relative mobility rates in post-war Japan (see also Kojima and Hamana 1984; Kanomata 1985, 1997; Imada 1989, 1997; Seiyama et al 1990).

 Finally, the fourth hypothesis is called the “post-industrial rigidification” thesis. Many Japanese social scientists (Ozawa 1985; Naoi 1990) have reported an increasing trend of inequality in 1980s. Tachibanaki (1998), for example, claimed that Japan’s income inequality has increased greatly in the 1980s and that Japan has become one of the most unequal nation. Ozawa (1985) argued for the emergence of a new kind of inequality based on home and land ownership in the late 1970s and 1980s because skyrocketing housing and land prices proved too expensive for the “middle class.” Sato (2000) claimed that the upper non-manual class, the intellectual elite, has become more closed in the 1980s and that there was an increased barriers to entry into the upper non-manual class. Therefore, the post-industrial rigidification hypothesis suggests that there is a trend of decreasing relative mobility chances in Japan during the 1980s.

 These four hypotheses will be examined using empirical data of intergenerational class mobility in post-war Japan. It should be noted, however, that some of the hypotheses are not necessarily incompatible with each other. It is possible to observe a historic increase in observed mobility rates in the 1950s (the threshold hypothesis) and at the same time to witness declining relative mobility chances in the 1980s (the post-industrial rigidification hypothesis). However, the “continuous” hypothesis of trends in social mobility and the “stability” hypothesis are not compatible to each other.

# Class Origin, Class Destination, and Education

The second part of this study examines the relationship among class origin, class destination, and education. In particular, it will empirically investigate the effect of class origin on the attainment of educational credentials and the effect of education on the allocation of individuals to different class destinations. The analyses include crosstemporal comparison of five national surveys conducted in post-war Japan.

 We first focus on the studies regarding the effect of class origin on educational attainment. The industrialism thesis predicts that particularistic criteria, such as class origin, play a diminishing role in educational and socio-economic attainment among industrial societies (Parsons 1951; Levy 1966; Blau and Duncan 1967; Bell 1973). Because of an increased urbanization and development of free mass education of industrialized nations, the dependence of educational attainment upon class origin is reduced (Treiman 1970). Critics of the industrialism thesis, however, point out that socioeconomic as well as cultural obstacles to equality of educational opportunity persist in industrial nations (e.g., Bowles and Gintis 1976). The educational success of children is often dependent upon familial well-being and the cultural environment of their home (Featherman and Hauser 1978; Halsey et al. 1980).

 The advocates of cultural capital theory argue that children from advantaged cultural backgrounds benefit more from their schooling because they are already equipped with the linguistic and cultural competence which is necessary to succeed in school (Bourdieu 1973; 1974; Bourdieu and Passeron 1977; Bernstein 1977). These theories predict that the linkage between class origin and educational attainment is far from being diminished in industrial societies. A number of studies of cross-cohort trends in educational attainment (e.g., Mare 1981; Halsey et al. 1980; Raftery and Hout 1993; Shavit and Blossfeld 1993) also report a finding that is not consistent with the industrialism thesis: a cross-cohort stability or increase in the effects of social origins on school-grade progressions.

In Japan studies analyzing trends in the relationship between social background and education report the results that are consistent with those in other nations. The effect of social background on educational attainment appears to be stable in post-war Japan (Ushiogi 1975, 1978; Fujita 1981; Ehara 1984; Kariya 1995). Furthermore, Ishida (1993) shows that the overall impact of all social background characteristics on educational progression is not particularly smaller in Japan than in Britain and the United States, despite the prevalence of educational credentialism which seems to imply that the attainment of education is open to any talented individual.

 We next review research regarding the association between education and class destination among industrial societies. The industrialism thesis (Kerr et al. 1960; Treiman 1970; Treiman and Yip 1989; Hout 1989) claims that individuals who attain higher level of education are placed at the top of the occupational hierarchy. It also predicts an increasing effect of education on the allocation of individuals to class positions as society continues to industrialize. According to the functionalist account (Davis and Moore 1945), these highly educated people perform important functions in the society which cannot be fulfilled by other people. It predicts a positive correlation between educational level and desirability and prestige of positions in the society. This positive correlation, however, does not need to come from a functionalist explanation. The highly educated possess an enhanced ability and resources to obtain the most desirable positions in the society. They could restrict entry into the highly desirable positions, such as professional jobs, to those who possess appropriate certifications (Collins 1979; Parkin 1979).

 Studies dealing with the relationship between education and labor market outcomes (occupational status, income and other rewards) are too numerous to report. The human capital theory (Mincer 1974; Becker 1975), for example, views education as the investment in human capital and predicts a positive correlation between years of schooling and wage. Within the framework of class analysis, the most comprehensive and up-to-date study is that of Shavit and Muller (1998). They try to explain cross-national variation in the effect of educational qualification on entry class and entry occupational status by institutional features of industrial societies. Ishida (1993) also shows that the effects of educational credentials on occupational status and income are not particularly greater in Japan than in Britain and the United States. The results, according to Ishida, are evidence against the educational credentialism thesis which imply greater socio-economic returns to education in Japan.

 This study will examine whether the linkage between class origin and education and between education and class destination has changed in postwar Japan. The examination of the trend in the effect of class origin on educational attainment in post-war Japan provides an opportunity to empirically verify the prediction of the industrialism thesis that the effect of class origin weakens as society continues to industrialize. The persistence and stability in the association between class origin and education will be consistent with the cultural capital argument. Similarly, the trend analysis of the effect of education on class destination will empirically evaluate the prediction of strengthening the linkage between achieved level of education and class positions in industrial nations.

# Data and Variables

The Japanese data sets used in this study are derived from the Social Stratification and Social Mobility (SSM) surveys conducted in Japan every ten years since 1955. These surveys were conducted in 1955, 1965, 1975, 1985, and 1995 with virtually same questions on the core items including labor market information and social background. These surveys, therefore, provide us with the unique opportunity to conduct cross-temporal comparisons using virtually identical variables. The age range is set to 30 to 64, so that the analyses include only those respondents who have completed their educational attainment. We also restrict analysis to men because female respondents were excluded in the SSM Surveys prior to 1985.

 This study uses three variables: class origin, class destination and education. Class origin refers to the class of the respondent’s father when the respondent was growing up.1 Class destination refers to the respondent’s current class. In order to determine class categories, the following four questions are used: occupation, employment status, managerial status, and firm size. The class schema is shown in Table 1.2 Our analyses are based on the six-category version of Erikson-Goldthorpe-Portocarero class schema (Erikson, Goldthorpe, and Portocarero 1979): the professional managerial class or the “service class” (I+II), the routine non-manual class (III), the petty bourgeoisie (IVab), the farming class (IVc+VIIb), the skilled manual class (V+VI), and the unskilled manual class (VIIa).

 Education refers to educational credentials which include both academic and vocational qualifications. Konig, Luttinger, and Muller (1988) describe the procedure for constructing a comparable educational classification across countries. We use three levels of education: the lowest is defined as the social minimum of elementary education (Low); the middle level includes higher levels of vocational qualifications and intermediate academic qualifications (Middle); and the highest level includes all tertiary qualifications (High).3 We will use the terms education and qualifications interchangeably throughout the paper.

# Cross-temporal Change in Intergenerational Class Mobility

Absolute Mobility

We begin with the examination of the trends in the distributions of class origin and class destination. Table 2 presents these distributions for five survey years. The distributions of class destination reflect the (male) class structure of the Japanese society at the time of the survey. The most obvious trend in the class destination distribution is the rapid contraction of the farming class in post-war Japan. In particular, it reduced its share in the class structure dramatically from 44 percent in 1955 to 26 percent in 1965. It continued its contraction until 1985 at the rate of about 10 percent every year. The skilled working class expanded dramatically from 7 percent in 1955 to 15 percent in 1965 and thereafter reached the peak at 19 percent in 1985. Both the farming class and the skilled working class experienced the major transformation from 1955 to 1965. Therefore, it is probably safe to claim that the Japanese society underwent drastic change in the labor market from 1955 to 1965. The change largely corresponds to the rapid movement of people from the rural areas to urban industrial sectors.

 Another obvious trend apparent in the distributions of class destination relates to the professional managerial class. It has expanded steadily from 1955 to 1995. In 1955, the upper white-collar sector constituted only 10 percent of the class structure whereas by 1995 it has grown to the largest group with the share of 38 percent. Indeed, what is apparent in the trend of class destination distributions is that the expansion of the white-collar sector, namely the professional managerial class, took place almost at the same time as that of the blue-collar sector, namely the skilled manual workers. In response to the major flow of people from the rural farming sector, both the white-collar and the blue-collar sectors absorbed these migrants to the urban areas. Unlike many other industrial nations which went through the expansion of the blue-collar sector first and followed by that of the whitecollar sector in two stages, the Japanese society experienced the expansions almost simultaneously in one stage.

 In contrast, the percentages of the routine non-manual class (III), the petty bourgeoisie (IVab), and the non-skilled working class (VIIa) remained fairly stable across survey years. In particular, it is worth noting that there is no sign of the declining significance of the petty bourgeoisie sector in the post-war Japanese class structure. Small proprietors constituted about one-fifth of the active male labor force throughout the 1950s to 1990s. We already witnessed the relatively large petty bourgeoisie sector in Japan in the 1970s, compared to our European nations (Ishida, Goldthorpe and Erikson 1991). The persistence of this sector across survey years suggests that the importance of this sector within the class structure is not limited to 1975. The share of the non-skilled working class remained stable at about 10 percent. This trend suggests that this class never expanded to constitute a demographically significant group in Japan, unlike many industrial nations where the non-skilled working class was at one point in time the major social force within the class structure.

 The distributions of class origin do not represent the class structure of any given time period since the age of the fathers vary substantially and men who did not have a son never appear in the distributions (Blau and Duncan 1967). Instead, they show how the origins of the respondents in a particular survey year have changed over time.4 There are changes parallel to those which were observed in the class destination distribution. The contraction of the farming class and the corresponding increase in the shares of the skilled working class and the professional managerial class. However, compared with the class destination distributions, there seems to be a time-lag in the changes in the distribution. The gradual decline of the farming class was observed from 1955 to 1995. The increase in the share of the professional managerial class took place from the 1965 to 1975 and again from the 1985 to 1995. The share of the skilled working class increased most rapidly from 1975 to 1985.

 Total mobility rates for the five survey years are shown at the bottom of Table 2.

The rate increased dramatically from 1955 to 1965 and continued to increase modestly until 1985. From 1985 to 1995, there is a slight decline in the total mobility rate. The trend is parallel to the changes in the class origin and class destination distributions. In 1955, twothirds of the fathers were engaged in primary production and close to a half of the respondents were in the farming class (IVc+VIIb). A large share of the farming class in both generations implied high intergenerational inheritance. However, rapid contraction from 1955 to 1965 of the farm sector both in the class origin and class destination distributions meant the mobility out of the farming class, and the total mobility rate jumped from 46 percent in 1955 to 60 percent in 1965. This finding is consistent with the prediction by Lipset and Zetterburg about the historic increase in mobility rate when a society enters a mature industrial stage.

 Table 3 presents outflow mobility rates which are computed from the 6 by 6 Japanese mobility tables for the five survey years. Features of cross-temporal changes across survey years more or less correspond to the characteristics of the changes in the class destination distributions. Outflows to the farming class (IVc+VIIb) has decreased dramatically during the 40-year span, especially from 1955 to 1965. On the other hand, outflows to the professional managerial class increased steadily. Outflow rates to the petty bourgeoisie remained at a high level throughout the period. Table 4 presents inflow mobility rates for the five survey years. Trends in inflow rates generally parallel those in outflow rates, but they are much less apparent. Inflows from the farming class has declined, and inflows from the professional managerial class increased.

 We have already learned the distinctive feature of the Japanese manual working class in comparison with European nations: a very weak demographic stability or “demographic identity” (Ishida, Goldthorpe and Erikson 1991). In particular, the Japanese working class is characterized by its low level of intergenerational stability and its low level of intergenerational self-recruitment, compared with the working class in European nations. The demographic character of the Japanese working class is clearly separated from that of the European working classes (Ishida 2001). It is therefore important to examine whether this feature has changed over the course of economic development in post-war Japan. Table 5 presents outflow rates from and inflow rates to the two manual working classes, that is, class V+VI and VIIa combined. By looking at outflow rates, we witness the steadily decreasing percentage of the sons of the working class fathers who are found in the working class from 1965 to 1995; Intergenerational stability of the Japanese working class is clearly weakening in post-war Japan except for the short period from 1955 to 1965. This trend is accompanied by the steadily increasing percentage of the sons of the working class becoming the professional managerial class; More and more sons of the working class are moving into the upper white-collar sector.

 From the inflow recruitment perspective, the percentage of self-recruitment shows some fluctuations. Self-recruitment is more or less in the range of lower 20 percent from 1965 to 1995 while there is a dip in 1975 at 16 percent. There is a steadily declining trend in the share of the farming class of 55 percent in 1975 to 35 percent in 1995. However, the distinctive inflow pattern in Japan, vis-a-vis Europe, is still apparent in 1995. The petty bourgeoisie (IVab) and the farming class account for more than the majority (60 percent) of the class origin among the working class. In other words, the recruitment into the working class is still predominantly from the self-employment sector even in 1995. Furthermore, the recruitment into the working class from the professional managerial class increased steadily from 1 percent in 1955 to 10 percent in 1995. The working class is recruited extensively from other classes even in 1995.

 In summary, the distinctive feature of the Japanese manual working class that was highlighted in the cross-national comparison is reconfirmed in the cross-temporal analysis. A low level of intergenerational stability and self-recruitment characterizes the Japanese working class throughout the post-war period. There is no noticeable trend for the Japanese working class to become demographically more stable. Although the rate of selfrecruitment increased slightly from 1985 to 1995, the intergenerational stability of the working class is clearly weakening in post-war Japan. The Japanese manual working class never had the opportunity to fully develop its “demographic identity” in post-war period (Ishida 2001).

Relative Mobility

We employ a series of log-linear models to examine the trends in relative mobility. The most fundamental model is called the constant social fluidity model (CSF model). It sets the odds ratio pattern in the mobility table exactly the same across the survey years. In other words, the marginal distributions of the mobility tables, that is, the distribution of class origin and of class destination, may differ across survey years, but the relative mobility rates are set exactly identical across years. Formally, the CSF model may be written as the following multiplicative form:

 Fijt = η τiO τjD τtY τitOY τjtDY τijOD, (1)

where Fijt refers to the expected frequency in cell (i,j,t) of the origin by destination by survey year 3-way mobility table, η is a scale term, τiO is the main effect of class origin, τjD  is the main effect of class destination, τtY is the main effect of survey year, and the remaining two-way terms (τitOY, τjtDY, τijOD) indicate the association between origin and year, destination and year, and origin and destination, respectively. The CSF model does not include the three-way term (τijtODY) implying that the association between origin and destination does not differ by survey year.

 The association between class origin and class destination may be represented by the model of core fluidity. The model is composed of different effects which are intended to capture different aspects of mobility. These effects are informed by sociological ideas about the process of intergenerational mobility in industrial nations, and the core model implies that these effects operate in mobility tables constructed from any industrial nation. The original core model is constructed for the 7 by 7 mobility table, but the present study uses the modified version for the 6 by 6 table (Ishida, Muller, and Ridge 1995). The details of the model and the sociological rationale for deriving the model can be found elsewhere (Erikson and Goldthorpe 1987a, 1992b).

 Different effects of the model are represented by matrices in Figure 1. First of all, there is an inheritance effect. This effect simply refers to the propensity of individuals to stay in their class of origin rather than to move out of it. Each class is allowed to have different propensity of inheritance because social processes which generate inheritance are likely to be different depending on the class in question (Robinson and Kelly 1979; Yamaguchi 1983; Robinson 1984; Grusky and Hauser 1984). For example, the inheritance of the farming class and the petty bourgeoisie often involves handing over the physical capital in the form of land or a factory to the offspring. The inheritance of the professional managerial class (I+II) is often facilitated by economic resources as well as “cultural capital” (Bourdieu 1973, 1974; Bourdieu and Passeron 1977; Bernstein 1977).

 The second effect is called hierarchy effect and is captured by two matrices (HI1 and HI2) shown in Figure 1. It intends to divide six classes into three hierarchical levels by separating the professional managerial class (I+II) at the top and the non-skilled working class (VIIa) at the bottom of the hierarchy. There is an additional asymmetry in hierarchy 2 (HI2) matrix involving the farming class. The asymmetric assignment tries to capture the change in the status of farming between the two generations. In the father’s generation, the farming class is mostly composed of peasants based on largely subsistence agriculture while in the son’s generation, farming is more commercialized and market-oriented. In order to take into account this transformation of the farming sector, the hierarchy effect assigns the farming class as the class of origin to the least advantaged position in the hierarchy along with the non-skilled working class but assigns the farming class as the class of destination to the middle level of the hierarchy.

 The third effect refers to positive affinity effects which are meant to capture relatively easy flow of individuals between particular classes. The positive affinity A recognizes exchange movement between the professional managerial class and the routine non-manual class, as forming a “white-collar bloc.” The positive affinity B captures movement involving the two propertied classes (IVab and IVc+VIIb) and the two working classes (V+VI and VIIa). The exchange between the petty bourgeoisie and the farming class arises out of the possibility of transferring capital, and the exchange between the skilled and non-skilled working class is facilitated by the similarity in manual labor forming a “blue-collar bloc.” The positive affinity B also includes two other kinds of movement. The exchange between the professional managerial class and the petty bourgeoisie reflects the fact that some individuals who belong to I+II are owners of professional practices or large business. An additional asymmetry indicating a flow from the farming class to the non-skilled working class recognizes the propensity for the sons of the farmers to engage in non-skilled work when they move out of farming.

 The core model may be written as a log-linear model expressed in the following multiplicative form:

 Fij = η τiO τjD τ(ij)DIGk τ(ij)HI1 τ(ij)HI2 τ(ij)AF2A τ(ij)AF2B , (2)

where Fij refers to the expected frequency in cell (i,j) of the mobility table, η is a scale term, τiO is the main effect of class origin, τjD  is the main effect of class destination, and the rest of the parameters represent effect matrices described above.

 The CSF model may be constructed by using the effect matrices of the core fluidity model. The association between origin and destination may be represented by a series of effect matrices, instead of the full association, and these effects may be fixed across survey years. The log-linear model representing the CSF effect matrix model may be written as:

 Fijt = η τiO τjD τtY τitOY τjtDY τ(ij)DIGk τ(ij)HI1 τ(ij)HI2 τ(ij)AF2A τ(ij)AF2B , (3)

where Fijt refers to the expected frequency in cell (i,j,t), η is a scale term, the two-way terms represent the main effects, and the remaining terms represent the effect matrices of the core model. The effect matrices, however, do not vary by year (t).

 Finally, we could construct a log-linear model in which the association between origin and destination is represented by the same effect matrices but the extent of the effect is allowed to vary across survey years. The log multiplicative form of the equation is the following:

 Fijt = η τiO τjD τtY τitOY τjtDY τ(ijt)DIGk τ(ijt)HI1 τ(ijt)HI2 τ(ijt)AF2A τ(ijt)AF2B , (4)

where Fijt refers to the expected frequency in cell (i,j,t), η is a scale term, the two-way terms represent the main effects, and the remaining terms represent the effect matrices of the core model which are allowed to vary by year (t).

 Table 6 shows the fit of the various log-linear models described above to the 6 by 6 by 5 (origin by destination by survey year) table in Japan. The constant social fluidity (equation 1) model does not adequately fit the data with the G 2  value of 128.07 and the associated p-value of .031. However, the fit is very close to the conventional criterion of p of .05, and the percentage of cases misclassified by the CSF model is only 4 percent and the reduction in G 2  value from the independence model is over 93 percent. By deleting one of the survey years from the CSF model, it is clear that the 1955 table is significantly different from the tables from other years. If we exclude 1955, the CSF model fits the mobility tables of 1965 to 1995 fairly well: G 2 = 88.77, d.f. = 75, p = .132. This suggests that the pattern of relative mobility from 1965 to 1995 is fairly stable.

 Table 6 also shows the fit of the log-linear models using effect matrices. The CSF model with effect matrices (equation 2) does not fit the mobility tables for five survey years. The third row of the table shows the fit statistics of the variable effect matrix model (equation 3) in which the strength of each effect matrix is different by survey year. The last model of the table is the variant of the variable effect matrix model of equation (3) above. The strength of the effect matrices is allowed to vary only for selected years. The fit of this model is good with G 2  value of 122.62 and the associated p-value of .159.

 Table 7 reports the parameter estimates for the effect matrices from the last model, that is, the effect matrix model with variable parameters for selected years. It is important to notice first that of the 55 possible parameters (11 separate effects times 5 years) there are only 7 parameters which are significantly different from the CSF parameters. In other words, there are some departures from the CSF model, but the extent of deviation is not at all pervasive.

 Furthermore, there is no systematic trend in the deviations. For every survey year, there is at least one parameter which is different from the CSF model, but these deviations do not necessarily indicate greater openness across the survey years. For example, in 1995 the extent of class inheritance among the skilled working class (V+VI) is weaker than that in 1955, 1965, and 1975 implying greater fluidity at least out of the skilled working class. However, there is a stronger association among the cells represented in the positive affinity B (AF2B) in 1995 than in 1955, 1965, and 1985. Another example which indicates less fluidity across survey years pertains to the inheritance of the petty bourgeoisie. The extent of inheritance increased significantly from 1955 to 1965 and remained high until 1995. The results of the changes in the effect matrix parameters suggest that there is no noticeable trend in relative mobility. If anything, the results are consistent with Sorokin’s prediction of “trendless fluctuation.”

 In order to detect any change including minor ones in the odds ratio pattern, we examine the trend of all the individual odds ratios. We report the results of comparing all the 225 odds ratios that can be computed from the 6 by 6 table across the pair of survey years. The odds ratios will fall into three distinct patterns, as shown in Figure 2. The first pattern is that the odds ratio becomes closer to 1.0 or the log of odds ratio becomes close to zero. This trend suggests an increasing fluidity from one year to the next. The second pattern is the exact opposite where the log of odds ratio becomes further away from zero between two survey years thereby indicating a trend of decreasing fluidity. The third pattern occurs when the log of odds ratio goes through zero. The log of odds ratio becomes closer to zero and then away from zero, as shown in the last panel of Figure 2.

 Table 8 presents the results of classifying every pair of odds ratio into one of the patterns shown in Figure 2 and computing the proportion of three patterns. From 1955 to 1965, of the 225 log of odds ratios, 63 percent were moving close to zero, 21 percent moving away from zero, and 16 percent crossing zero. The clear majority of odds ratios shows a trend of increasing fluidity and openness. The picture is much less clear from 1965 to 1995. From 1965 to 1975, the modal pattern is that of an increasing fluidity but these odds ratios constitute less than the majority. From 1975 to 1985, the trend is reversed; the modal pattern is that of a decreasing fluidity. Finally, from 1985 to 1995, the trend is reversed again with the modal pattern of an increasing fluidity.

 The reversed trend from 1975 to 1985 appears to support the “post-industrial rigidification” thesis. However, we should interpret these fluctuations with caution because first the fit of the CSF model for the years 1965 to 1995 is good and second the statistical test of the difference in the odds ratio pattern between a particular survey year and the rest of the years is only significant for the 1955 survey year. Therefore, the apparent change in the direction of trend from 1975 to 1985 is not significant and may not be real.

 Table 8 also reports the results of running UNIDIFF model (Erikson and Goldthorpe 1992b; Xie 1992) in order to assess whether all odds ratios are moving uniformly in the same direction (rather than to assess whether individual odds ratio is moving in the same direction). The most important finding is that the direction of the UNIDIFF parameter is consistent with the breakdown of the patterns. From 1955 to 1965, the parameter is negative implying a trend of increasing fluidity. Again from 1965 to 1975, the parameter is negative indicating increasing fluidity, but from 1975 to 1985 the sign of the parameter is reversed to have a positive value implying a trend of decreasing fluidity. Finally, from 1985 to 1995, the sign is reversed again indicating a trend of increasing fluidity. These directions are the same as those reported by the 225 odds ratios. However, the significance testing of the UNIDIFF parameters shows that the UNIDIFF models do not significantly improve the CSF model. Therefore, these changes implied by the UNIDIFF parameters should not be taken so seriously, and the pattern of relative mobility is basically stable in the postwar period in Japan.

 In summary, the overall picture which emerges from all these analyses of relative mobility is that a historic increase in relative mobility might have taken place between 1955 and 1965 but after then the pattern of relative mobility does not show any noticeable pattern and thus is fairly stable. Therefore, the prediction by Lipset and Zetterberg and that of Sorokin and FJH are consistent with our findings.

**Models of Associations between Class Origin and Education and between Education and Class Destination**

 The second part of this study will examine the linkage between class origin and education and between education and class destination in postwar Japan. In order to empirically analyze these linkages, we need models to represent the pattern of association between class origin and education and the pattern between education and class destination. The models of association are concerned with capturing the relative pattern, not absolute. In other words, we do not intend to examine the inflow and outflow patterns regarding the relationship between class origin and education and between education and class destination. We have already learned about the differences in the distributions of class origin and class destination across our surveys. The main purpose of our exercise aims to examine the pattern of association, net of differences in the marginal distributions.

 The models which are used in this study are adopted from the log-linear models proposed in Ishida, Muller, and Ridge (1995). Following the same logic of the core social fluidity model (Erikson and Goldthorpe 1987a, 1987b, 1992b), the associations between class origin and education and between education and class destination are represented by a set of different effects which are shown in Figure 3. The multiplicative equation for the model of association between class origin and education is shown below:

 Fik = η τiO τkQ τ(ik)SO1 τ(ik)SO2 τ(ik)MO1 τ(ik)MO2P τ(ik)MO2F τ(ik)MO2S τ(ik)MO2U, (5)

where Fik refers to the expected frequency in cell (i,k) of the class origin by education table, η is a scale term, τiO is the main effect of class origin, τkQ  is the main effect of education, and the rest of the parameters represent effect matrices described in Figure 3.

 Similarly, the multiplicative equation for the model of association between education and class destination is:

 Fjk = η τjD τkQ τ(jk)HQ1 τ(jk)HQ2 τ(jk)LQ1 τ(jk)LQ2P τ(jk)LQ2F τ(jk)LQ2S τ(jk)LQ2U, (6)

where Fjk refers to the expected frequency in cell (j,k) of the class destination by education table, η is a scale term, τjD is the main effect of class destination, τkQ  is the main effect of education, and the rest of the parameters represent effect matrices described in Figure 3. The main features of the model of association between class origin and education include the following. The advantages of the sons of the professional managerial class are represented by two effects: they are more likely to be found in the highest level of education (SO1) and less likely to end up in the lowest education level (SO2) than the sons of other classes. The disadvantages faced by the farming class and the manual working classes are represented by two kinds of effect: the sons of these classes are less likely to attain the highest level of education (MO1) and more likely to be found in the lowest level of education (MO2) than the sons of other classes. Along with the petty bourgeoisie, the extent of the disadvantage in ending up in the lowest education level varies by the farming class and the working classes. Similarly, there are symmetric effects in the model of the association between education and class destination. The advantages of the highly educated are captured by HQ1 and HQ2 effects: they tend to have better access to professional managerial positions and to avoid manual destinations. The disadvantages faced by those who had the lowest level of education are captured by LQ1 and LQ2 effects: less chance of entry into the professional managerial class and more chance of entry into the farming, petty bourgeoisie, and manual destinations.

# Cross-temporal Comparisons of Associations Involving Education

One of the major social transformations in post-war Japan is the expansion of educational system -- first the expansion of the post-compulsory education of senior high schools and later the expansion of the tertiary education sector. As shown in Table 9, educational distributions of the respondents to the five national surveys reflect these changes. The percentage of respondents in the middle level of education (senior high school level) increased steadily from 1955 to 1985, with an attenuated increase from 1985 to 1995. The percentage for the highest level of education which includes junior colleges and universities increased from 1965 to 1995, with a particularly large increase from 1975 to 1985. The major question which will be examined in this section is whether the associations between education and class origin or between education and class destination have undergone major changes, in response to the changes in the educational distribution. With respect to the effect of class origin on education, we ask whether educational opportunities became more open and less affected by social origin. With respect to the effect of education on class destination, we ask whether the allocation of class positions became increasingly more affected by education.

 Table 10 reports the results of applying various log-linear models to the three-way table of class origin by education by survey year (first panel) and to the three-way table of education by class destination by survey year (second panel). The first model in each panel is the constant social fluidity (CSF) model. It is the same model used in the analysis of class origin by class destination tables (as shown in equation 1), but either class origin or class destination is replaced by education. The CSF model fits well the three-way table of class origin by education by year. This suggests that the association is characterized by the same pattern across five survey years. In contrast, the CSF model does not fit the threeway table of education by class destination by year. However, when we allow the odds ratio pattern in 1955 to be different and fix the pattern for the rest of the years, the CSF model (with 1955 excluded) fits the education by class destination tables (see row 1a).

 The second model in each panel is the constant social fluidity model using effect matrices described in Figure 3. This model is similar to the model in equation (3) and can be written as the following multiplicative form.

For the table of class origin by education by year:

Fikt = η τiO τkQ τtY τ(ik)SO1 τ(ik)SO2 τ(ik)MO1 τ(ik)MO2P τ(ik)MO2F τ(ik)MO2S τ(ik)MO2U, (7)

and for the table of education by class destination by year:

 Fjkt = η τjD τkQ τtY τ(jk)HQ1 τ(jk)HQ2 τ(jk)LQ1 τ(jk)LQ2P τ(jk)LQ2F τ(jk)LQ2S τ(jk)LQ2U, (8)

where Fikt or Fjkt  refer to the expected frequency in cell (i,k,t) or (j,k,t) of the three-way table, η is a scale term, τiO is the main effect of class origin, τkQ  is the main effect of education, τjD is the main effect of class destination, τtY is the main effect of year, and the rest of the parameters represent effect matrices described in Figure 3.

 The most important feature of this model is that effect matrices do not vary by year (t). Again the fit of this model to the class origin by education table is very good. The model misclassifies only 2.8 percent of cases and the reduction in G2 from the independence model is 96 percent. The fit of this model to the education by class destination table is not adequate with p-value of .001. However, again if we exclude 1955, then this model produces an adequate fit as shown in row 2a (G2=47.8, df=36, p=.09) of Table 10. These results imply that the association between class origin and education was very stable from 1965 to 1995 while there were some significant changes in the association between education and class destination from 1955 to 1965. In order to specify these changes, the third model in Table 10 allows some effect parameters to vary between 1955 and the rest of the years. Based on the statistical tests of the difference in the effect matrix parameters, HQ1, HQ2, LQ2U, LQ2S, and LQ2F effects are different between 1955 and the rest of the years.

 The parameter estimates from the CSF model using effect matrices for the origin by education table are shown in Table 11, and by construction of the model the effect parameter estimates do not vary by survey year. The sons of the professional managerial class are advantaged in educational opportunities in two ways. The most conspicuous advantage deals with their ability to have better access to tertiary education, while their ability to avoid the lowest level of education is relatively weak. The sons of the farming class and unskilled working class are most disadvantaged in educational attainment followed by the sons of the skilled working class. The major source of disadvantage derives from their tendency to end up in the lowest educational level. The barriers to educational attainment faced by the sons of the farming class are particularly striking throughout the post-war period. It should be emphasized that the stability in the association between class origin and education is conspicuous because the educational system expanded rapidly during the post-war period in Japan.

 Table 12 presents parameter estimates from the model which allows some crossyear variations in effect matrices between 1955 and the other years for the education by destination table. Five out of seven effect parameters are different in 1955. Furthermore, except for HQ2 effect, HQ1, LQ2U, LQ2S, and LQ2F effects are all stronger in 1955 than in other years. In other words, the linkage between education and class positions is much tighter in 1955 than in later years. Despite the increasing level of industrialization and accompanied changes in the class structure and the educational system in late 1950s and early 1960s, there is no empirical evidence to support the increasing effect of education on the allocation of class positions during the period.

 In addition to the general decline in the strength of some effects, the major change between 1955 and 1965 relates to the mechanism through which the highly educated assure their advantage. In 1955 the major source of advantage of the highly educated came from the privileged access to professional managerial positions. However, after 1965 the major source of advantage came from their ability to avoid manual class positions. This change may be related to the trend of the rapid expansion of the professional managerial class in the class destination distribution from 1955 to 1965. Since the disadvantage faced by those who have low level of education in access to professional managerial positions has been consistently weak in Japan, the expansion of the professional managerial class might have opened up chances of entry to this class by those who had less than higher education. The other possibility for explaining the change pertains to the composition of those who had tertiary education. In 1955, they are composed predominantly by those who attended the pre-war educational system. The graduates of pre-war universities and high schools probably occupied the distinctively advantaged position which resulted in the very strong linkage between high educational attainment and professional managerial positions.

# Conclusions

The first part of this study examined intergenerational class mobility in Japan using crosstemporal comparisons of five national surveys conducted in post-war Japan. Absolute mobility rates showed some systematic trends across the five survey years. Total mobility rates increased sharply from 1955 to 1965 and continued to increase modestly until 1985. Outflow rates to the farming class decreased dramatically during the 40-year span, especially from 1955 to 1965, while outflow rates to the professional managerial class increased steadily. Inflow rates followed a very similar trend. In contrast, relative mobility rates did not show any noticeable trend and were fairly stable, especially from 1965 to 1995. However, we could not exclude the possibility of increasing fluidity and openness between the 1955 and 1965 survey.

 The Japanese society has experienced dramatic and rapid changes in its class structure both among the sons’ and the fathers’ generation. In particular, by following the path of late but rapid industrialization, rapid contraction of the farming sector was accompanied by the expansion of both the blue-collar industrial sector and the white-collar sector almost at the same time. This particular path of development sets Japan apart from European nations. In most European cases, the decline in agriculture was accompanied chiefly by the growth of the industrial working class with the white-collar expansion only occurring at the later stage. The Japanese experience of industrialization is therefore directly responsible for the distinctive character of the Japanese working class and the changes in absolute mobility rates across survey years.

 In conclusion, it is the combination of rapidly changing absolute mobility rates and stability in relative mobility rates that characterizes the post-war Japanese mobility experience. We do not have any simple answer to the questions of whether the mobility rates changed in post-war Japan. We must distinguish the types of mobility -- absolute and relative -- and depending on the type of mobility we arrive at different conclusions. The second part of this study examined the relationship of education to social background and class destination. The results of cross-temporal comparisons of associations involving education are generally not supportive of the industrialism thesis. Despite the rapid expansion of the educational system and changes in class structure in post-war Japan, the effect of class origin on the chances of educational attainment is remarkably stable from 1955 to 1995. There is no clear empirical evidence to suggest the declining significance of social background in the process of educational attainment in post-war Japan. The effect of education on the allocation of class positions shows some changes from 1955 to 1965. However, from 1965 to 1995 the effect is very stable. Furthermore, the changes from 1955 to 1965 are primarily in the direction of loosening the linkage between education and class positions, rather than strengthening the association. There is no general trend of increasing importance of education in the allocation of class positions in post-war Japan. In summary, the thesis of industrialism receives very little support from the findings from cross-temporal comparisons.

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1. In the Japanese data sets, slightly different operationalization of the father’s class is used depending on the survey years. The 1975 Survey used the father’s class at the respondent’s age of 15. The 1985 Survey used the same procedure. For the rest of the Japanese surveys, the father’s class is determined by the father’s main employment, rather than that of at the respondent’s age of 15, because information on the father’s employment when the respondent was about age 15 was not available. An additional caution is required in the use of the 1955 Survey. It did not ask the question of managerial status to the respondent nor to the father. In other words, the proportion of the professional managerial class is probably slightly underestimated at the expense of the routine non-manual class because some of the clerical job holders might have lower managerial status. Similarly, the proportion of the skilled manual workers is probably slightly underestimated at the expense of the non-skilled manual workers because some manual workers in class VIIa might hold a foreman status which entitles them to be assigned in class V.
2. For details of class schema, see Erikson and Goldthorpe (1992b, chapter 2). For justification of collapsing the full 10-category version of the class schema, see Ganzeboom, Luijkx, and Treiman (1989). On the use of more disaggregated tables, see Erkison and Goldthorpe (1992a) and Hout and Hauser (1992). On service class, see Goldthorpe (1982). 3 For details of the educational classification scheme, see Konig, Luttinger, and Muller (1988) and Ishida, Muller, and Ridge (1995, appendix). In the Japanese data sets, the first category includes those with the compulsory level of education, the second category high school graduates and old system junior high school graduates, and the third category old system high school graduates, junior college and university graduates. Note that the Japanese classification used in this study differs from that used in Ishida, Muller, and Ridge (1995).

4 It should be remembered that the operationalization of the father’s class is slightly different across some years. In 1975 and 1985, the father’s employment when the respondent was about 15 years old was used while for the rest of the years, the father’s main employment was used.

 Figure 1 Core Social Fluidity Model (Model of Association between Origin and Destination) and the National Variant of the Core Social Fluidity Model

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Core Model:

 Inheritance Effect Matrix (DIG)

 I+II III IVab IVc+VIIb V+VI VIIa

 I+II 2 1 1 1 1 1

 III 1 3 1 1 1 1

 IVab 1 1 4 1 1 1

 IVc+VIIb 1 1 1 5 1 1

 V+VI 1 1 1 1 6 1

 VIIa 1 1 1 1 1 7

 Hierarchy 1 Effect Matrix (HI1) Hierarchy 2 Effect Matrix (HI2)

 I+II III IVab IVc+VIIb V+VI VIIa I+II III IVab IVc+VIIb V+VI VIIa

 I+II 1 2 2 2 2 2 I+II 1 1 1 1 1 2

 III 2 1 1 1 1 2 III 1 1 1 1 1 1

 IVab 2 1 1 1 1 2 IVab 1 1 1 1 1 1

 IVc+VIIb 2 2 2 2 2 1 IVc+VIIb 2 1 1 1 1 1

 V+VI 2 1 1 1 1 2 V+VI 1 1 1 1 1 1 VIIa 2 2 2 2 2 1 VIIa 2 1 1 1 1 1

 Positive Affinity A Effect Matrix (AF2A) Positive Affinity B Effect Matrix (AF2B)

 I+II III IVab IVc+VIIb V+VI VIIa I+II III IVab IVc+VIIb V+VI VIIa

 I+II 1 2 1 1 1 1 I+II 1 1 2 1 1 1

 III 2 1 1 1 1 1 III 1 1 1 1 1 1

 IVab 1 1 1 1 1 1 IVab 2 1 1 2 1 1

 IVc+VIIb 1 1 1 1 1 1 IVc+VIIb 1 1 2 1 1 2

 V+VI 1 1 1 1 1 1 V+VI 1 1 1 1 1 2 VIIa 1 1 1 1 1 1 VIIa 1 1 1 1 2 1

 National Variant

 Negative Affinity for Japan (AF1-JAP)

 I+II III IVab IVc+VIIb V+VI VIIa

 I+II 1 1 1 1 2 2

 III 1 1 1 1 1 1

 IVab 1 1 1 1 1 1

 IVc+VIIb 1 1 1 1 1 1

 V+VI 1 1 1 1 1 1

 VIIa 1 1 1 1 1 1

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Figure 2 Three Patterns of the Trend in Log Odds Ratios

────────────────────────────────

 [First Pattern]

 Log Odds Ratio

 0

 Survey year

 [Second Pattern]

 Log Odds Ratio

 0

 Survey year

 [Third Pattern]

 Log Odds Ratio

 0

 Survey year

──────────────────────────────── Figure 3 Models of Association between Class Origin and Education and between

 Education and Class Destination

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Origin-Education Effect Matrices

 Education

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Class Origin High Medium Low

 I+II Professional-managerial class SO1 - SO2

 III Routine non-manual class - - -

 IVab Petty bourgeoisie - - MO2P

 IVc+VIIb Farming class MO1 - MO2F

 V+VI Skilled working class MO1 - MO2S

 VIIa Unskilled working class MO1 - MO2U

1. Education-Destination Effect Matrices

 Class destination

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Education I+II III IVab IVc+VIIb V+VI VIIa

 High HQ1 - - HQ2 HQ2 HQ2

 Medium - - - - - -

 Low LQ1 - LQ2P LQ2F LQ2S LQ2U

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Table 1 The Class Schema

Original Ten-category version Seven Six

category category

1. Higher grade professionals, administrators and officials; managers in large industrial establishments; large proprietors

 I+II I+II 'professional-managerial'

1. Lower-grade professionals, administrators and officials; higher-grade technicians; managers in small industrial establishments; supervisors of nonmanual employees
2. Routine nonmaual employees in administration and commerce; III III 'routine nonmanual' sales personnel; other rank-and-file service workers

IVa Small proprietors, artisans etc. with employees

 IVa+IVb IVa+IVb 'petty bourgeoisie'

IVb Small proprietors, artisans etc. without employees IVc Farmers and small holders; other self-employed workers in

 primary production IVc IVc+VIIb 'farming'

V Lower-grade technicians; supervisors of manual workers

 V+VI V+VI 'skilled workers' VI Skilled manual workers

VIIa Semi- and unskilled manual workers (not in agriculture etc.) VIIa VIIa 'unskilled workers'

VIIb Agricultural and other workers (including family workers) VIIb in primary production

 Table 2 Percentage Distributions of Class Origin and Class Destination and Total Mobility Rates by Survey Year

 1955 1965 1975 1985 1995

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  Class Origin:   I+II   III   IVab   IVc+VIIb   V+VI   VIIa  Class Destination:  I+II   III   IVab   IVc+VIIb   V+VI   VIIa  Total Mobility Rates:  | 5.8 3.0 20.4 65.3 1.9 3.6   9.6 9.0 22.7 43.6 6.8 8.3   | 7.9 4.1 24.4 53.8 5.5 4.3   18.3 10.4 20.7 25.5 15.2 10.0   | 13.6 4.7 24.3 48.2 4.7 4.5   24.9 10.4 20.8 17.0 15.9 11.0   | 14.7 5.2 26.6 37.5 9.2 6.7   30.4 10.2 20.6 7.3 18.8 12.7   | 20.3 4.3 27.2 30.8 10.6 6.8   37.8 8.0 21.2 5.3 17.5 10.3   |
|    | 45.6  | 60.1  | 65.5  | 69.0  | 68.2  |
|  N (sample size)  | 1180 | 1159 | 1540 | 1516 | 1579 |

Table 3 Outflow Rates by Survey Year

 Outflow Rates to Class Destination:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | I+II | III | IVab | IVc+VIIb | V+VI | VIIa |
| From Class Origin:I+II 1955 | 46.4 | 17.4 | 21.7 | 11.6 | 1.4 | 1.4 |
| 1965 | 51.6 | 14.3 | 14.3 | 7.7 | 6.6 | 5.5 |
| 1975 | 51.9 | 11.9 | 21.4 | 4.3 | 7.6 | 2.9 |
| 1985 | 61.4 | 13.9 | 9.9 | 0.0 | 8.5 | 6.3 |
| 1995 | 66.4 | 5.3 | 13.7 | 0.6 | 9.7 | 4.4 |
| III1955 | 11.4 | 34.3 | 31.4 | 11.4 | 2.9 | 8.6 |
| 1965 | 29.2 | 18.8 | 20.8 | 6.3 | 14.6 | 10.4 |
| 1975 | 31.5 | 17.8 | 19.2 | 6.8 | 15.1 | 9.6 |
| 1985 | 38.0 | 17.7 | 12.7 | 2.5 | 21.5 | 7.6 |
| 1995 | 47.1 | 14.7 | 13.2 | 1.5 | 14.7 | 8.8 |
| IVab1955 | 11.2 | 13.7 | 44.4 | 9.5 | 12.4 | 8.7 |
| 1965 | 17.0 | 14.1 | 40.6 | 7.4 | 13.1 | 7.8 |
| 1975 | 27.3 | 12.0 | 36.1 | 2.7 | 13.9 | 8.0 |
| 1985 | 27.5 | 7.7 | 37.9 | 1.5 | 15.6 | 9.9 |
| 1995 | 31.5 | 7.5 | 34.0 | 0.7 | 18.4 | 7.9 |
| IVc+VIIb1955 | 6.1 | 5.3 | 15.6 | 61.5 | 4.5 | 7.0 |
| 1965 | 13.6 | 7.4 | 14.3 | 40.9 | 14.3 | 9.5 |
| 1975 | 16.0 | 8.5 | 14.0 | 31.0 | 16.0 | 14.5 |
| 1985 | 21.4 | 7.2 | 16.5 | 17.2 | 21.8 | 15.8 |
| 1995 | 24.3 | 7.2 | 21.6 | 15.2 | 17.3 | 14.4 |
| V+VI1955 | 9.1 | 18.2 | 18.2 | 22.7 | 31.8 | 0.0 |
| 1965 | 17.2 | 10.9 | 10.9 | 4.7 | 37.5 | 18.8 |
| 1975 | 23.6 | 11.1 | 16.7 | 5.6 | 38.9 | 4.2 |
| 1985 | 27.1 | 15.7 | 13.6 | 1.4 | 30.0 | 12.1 |
| 1995 | 38.3 | 12.0 | 10.8 | 0.6 | 25.1 | 13.2 |
| VIIa1955 | 2.4 | 9.5 | 26.2 | 14.3 | 19.0 | 28.6 |
| 1965 | 14.0 | 10.0 | 12.0 | 12.0 | 26.0 | 26.0 |
| 1975 | 20.3 | 8.7 | 14.5 | 5.8 | 27.5 | 23.2 |
| 1985 | 22.8 | 15.8 | 13.9 | 2.0 | 19.8 | 25.7 |
|  1995 32.4 11.1 11.1 1.9 27.8 15.7 |

Table 4 Inflow Rates by Survey Year

 Inflow Rates from Class Origin::

|  |  |  |
| --- | --- | --- |
|  I+II III IVab IVc+VIIb | V+VI | VIIa |
| To Class Destination: I+II1955 | 28.3 | 3.5 | 23.9 | 41.6 | 1.8 | 0.9 |
| 1965 | 22.2 | 6.6 | 22.6 | 40.1 | 5.2 | 3.3 |
| 1975 | 28.4 | 6.0 | 26.6 | 31.0 | 4.4 | 3.6 |
| 1985 | 29.7 | 6.5 | 24.1 | 26.5 | 8.2 | 5.0 |
| 1995 | 35.7 | 5.4 | 22.6 | 19.8 | 10.7 | 5.9 |
| III1955 | 11.3 | 11.3 | 31.1 | 38.7 | 3.8 | 3.8 |
| 1965 | 10.8 | 7.5 | 33.3 | 38.3 | 5.8 | 4.2 |
| 1975 | 15.6 | 8.1 | 28.1 | 39.4 | 5.0 | 3.8 |
| 1985 | 20.0 | 9.0 | 20.0 | 26.5 | 14.2 | 10.3 |
| 1995 | 13.5 | 7.9 | 25.4 | 27.8 | 15.9 | 9.5 |
| IVab 1955 | 5.6 | 4.1 | 39.9 | 44.8 | 1.5 | 4.1 |
| 1965 | 5.4 | 4.2 | 47.9 | 37.1 | 2.9 | 2.5 |
| 1975 | 14.1 | 4.4 | 42.2 | 32.5 | 3.8 | 3.1 |
| 1985 | 7.1 | 3.2 | 49.0 | 30.1 | 6.1 | 4.5 |
| 1995 | 13.2 | 2.7 | 43.7 | 31.4 | 5.4 | 3.6 |
| IVc+VIIb 1955 | 1.6 | 0.8 | 4.5 | 92.0 | 0.0 | 1.2 |
| 1965 | 2.4 | 1.0 | 7.1 | 86.4 | 1.0 | 2.0 |
| 1975 | 3.4 | 1.9 | 3.8 | 87.8 | 1.5 | 1.5 |
| 1985 | 0.0 | 1.8 | 5.5 | 89.1 | 1.8 | 1.8 |
| 1995 | 2.4 | 1.2 | 3.6 | 89.2 | 1.2 | 2.4 |
| V+VI 1955 | 1.3 | 1.3 | 37.5 | 43.8 | 6.3 | 10.0 |
| 1965 | 3.4 | 4.0 | 21.0 | 50.6 | 13.6 | 7.4 |
| 1975 | 6.5 | 4.5 | 21.2 | 48.6 | 11.4 | 7.8 |
| 1985 | 6.7 | 6.0 | 22.1 | 43.5 | 14.7 | 7.0 |
| 1995 | 11.2 | 3.6 | 28.6 | 30.4 | 15.2 | 10.9 |
| VIIa1955 | 1.0 | 3.1 | 21.4 | 55.1 | 7.1 | 12.2 |
| 1965 | 4.3 | 4.3 | 19.0 | 50.9 | 10.3 | 11.2 |
| 1975 | 3.5 | 4.1 | 17.6 | 63.5 | 1.8 | 9.4 |
| 1985 | 7.3 | 3.1 | 20.7 | 46.6 | 8.8 | 13.5 |
|  1995 8.6 3.7 20.9 42.9 13.5 10.4 |

Table 5 Outflow Rates from and Inflow Rates to Class V+VI and VIIa

 Combined for Japan by Survey Year

Outflow Rates from Class V+VI and VIIa Combined to Class Destination:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  I+II  |  III  |  IVab IVc+VIIb V+VI/VIIa  |
| 1955 | 4.7 | 12.5 | 23.4 9.4 50.0 |
| 1965 | 15.8 | 10.5 | 11.4 7.9 54.4 |
| 1975 | 22.0 | 9.9 | 15.6 5.7 46.8 |
| 1985 | 25.3 | 15.8 | 13.7 1.7 43.6 |
| 1995 | 36.0 | 11.6 | 10.9 1.1 40.4 |

Inflow Rates to Class V+VI and VIIa Combined from Class Origin:

 I+II III IVab IVc+VIIb V+VI/VIIa

 1955 1.1 2.2 28.7 50.0 18.0

 1965 3.8 4.1 20.2 50.7 21.2

 1975 5.3 4.3 19.8 54.7 15.9

 1985 6.9 4.8 21.5 44.8 22.0

 1995 10.3 3.6 25.7 35.1 25.3

Table 6 Fit Statistics of the Constant Social Fluidity (CSF) Model and

 Other Models to the Origin by Destination by Year Japanese Table

 % %

 G-square df p misc. reduction

1. Constant Social Fluidity Model 128.07 100 0.031 4.12 93.03
2. Constant Social Fluidity Model 157.64 114 0.004 4.93 91.42

 with Effect Matrices

1. Variable Effect Matrices Model 89.87 70 0.055 2.94 95.11
2. Effect Matrices Model with Variable 122.62 108 0.159 3.98 93.32

 Paramters for Selected Years

Table 7 Estimates of Origin-Destination Effect Matrix Parameters in the Origin by Destination by Year Japanese Table

 1955 1965 1975 1985 1995

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Effect Matrix Parameter:   |  |  |  \*\*  |   |   |
|  DIG(I+II)  | 1.042 | 1.042 | 0.613 | 1.042 | 1.042 |
|    | (0.165)  | (0.165)  | -0.21  | (0.165)  | (0.165)  |
|  DIG(III)  | 0.583 | 0.583 | 0.583 | 0.583 | 0.583 |
|    | (0.164) \*\* | (0.164)  | (0.164)  | (0.164)  | (0.164)  |
|  DIG(IVab)  | 0.585 | 1.097 | 1.097 | 1.097 | 1.097 |
|    | (0.175)  | (0.088) \*\*  | (0.088)  | (0.088)  | (0.088)  |
|  DIG(IVc+VIIb)  | 2.527 | 1.949 | 2.527 | 2.527 | 2.527 |
|   | (0.125) | (0.191) | (0.125) | (0.125) | (0.125) |
|   |   |   |   |  \*\*  |  \*\* |
|  DIG(V+VI)  | 0.775 | 0.775 | 0.775 | 0.208 | 0.208 |
|   | (0.177) | (0.177) | (0.177) | (0.142) | (0.142) |
|   DIG(VIIa)  |  0.565 |  0.565 |  0.565 |  0.565 |  0.565 |
|    | (0.149)  | (0.149)  | (0.149)  | (0.149)  | (0.149)  |
|  HI1  | -0.117 | -0.117 | -0.117 | -0.117 | -0.117 |
|    | (0.05)  | (0.05)  | (0.05)  | (0.05)  | (0.05)  |
|  HI2  | -0.204 | -0.204 | -0.204 | -0.204 | -0.204 |
|    | (0.095)  | (0.095)  | (0.095)  | (0.095)  | (0.095)  |
|  AF2A  | 0.346 | 0.346 | 0.346 | 0.346 | 0.346 |
|   | (0.103) | (0.103) | (0.103) | (0.103) | (0.103) |
|   |   |   |  \*\*  |   |  \*\* |
|  AF2B  | 0.148 | 0.148 | 0.324 | 0.148 | 0.324 |
|   | (0.065) | (0.065) | (0.066) | (0.065) | (0.066) |
|   AF1  |  -0.937 |  -0.937 |  -0.937 |  -0.937 |  -0.937 |
|  (0.198) (0.198) (0.198) (0.198) (0.198) |

\*\* indicates that the parameter is significantly different from the CSF parameter.

Table 8 Trends in Log Odds Ratios between Two Adjacent Survey Years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   |  1955-65  |  1965-75  |  1975-85  |  1985-95  |
| [First Pattern]  | 63% | 46% | 34% | 41% |
| [Second Pattern]  | 21% | 34% | 43% | 39% |
| [Third Pattern]  | 16% | 20% | 23% | 20% |
| UniDiff parameter | -0.106 | -0.004 | 0.114 | -0.137 |
| St. error | (0.065) | (0.069) | (0.072) | (0.080) |
| Change in G-square | 2.498 | 0.005 | 2.417 | 2.915 |

Table 9 Percentage Distributions of Education by Survey Year

 1955 1965 1975 1985 1995

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  High  | 10.1 | 9.7 | 15.7 | 23.2 | 27.2 |
|   Medium  |  14.1 |  22.0 |  32.7 |  43.1 |  47.5 |
|   Low   |  75.8  |  68.3  |  51.6  |  33.7  |  25.3  |
|  N (sample size)  | 1180 | 1159 | 1540 | 1516 | 1579 |

Table 10 Fit Statistics of the Constant Social Fluidity (CSF) Model and Other Models for the Origin by Education by Year Table and for the Education by Destination by Year Table

 % %

 G-square df p misc. reduction

Origin by Education by Year Table:

1. Constant Social Fluidity Model 46.37 40 0.226 2.74 96.12

1. Constant Social Fluidity Model 48.95 43 0.246 2.85 95.90

 with Effect Matrices

Education by Destination by Year Table

1. Constant Social Fluidity Model 66.53 40 0.005 3.27 96.94

(1a) CSF Model (1955 is different) 39.01 30 0.125 2.37 98.21

1. Constant Social Fluidity Model 71.17 43 0.001 3.44 96.45

 with Effect Matrices

(2a) CSF Model with Effect Matrices 47.8 36 0.09 2.56 97.80

 (1955 is different)

1. Effect Matrices Model with Variable 50.81 38 0.08 2.75 97.67

 Parameters for Selected Matrices

 in 1955

Table 11 Estimates of Origin-Education Effect Matrix Parameters in the Origin by Education by Year Japanese Table

 1955 1965 1975 1985 1995

Effect Matrix Parameter:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  SO1  | 1.181 | 1.181 | 1.181 | 1.181 | 1.181 |
|    |  (0.094)  |  (0.094)  |  (0.094)  |  (0.094)  |  (0.094)  |
|  SO2  | -0.421 | -0.421 | -0.421 | -0.421 | -0.421 |
|    |  (0.175)  |  (0.175)  |  (0.175)  |  (0.175)  |  (0.175)  |
|  MO1  | -0.552 | -0.552 | -0.552 | -0.552 | -0.552 |
|    |  (0.086)  |  (0.086)  |  (0.086)  |  (0.086)  |  (0.086)  |
|  MO2U  | 0.917 | 0.917 | 0.917 | 0.917 | 0.917 |
|    |  (0.175)  |  (0.175)  |  (0.175)  |  (0.175)  |  (0.175)  |
|  MO2S  | 0.672 | 0.672 | 0.672 | 0.672 | 0.672 |
|    |  (0.168)  |  (0.168)  |  (0.168)  |  (0.168)  |  (0.168)  |
|  MO2F  | 1.320 | 1.320 | 1.320 | 1.320 | 1.320 |
|    |  (0.140)  |  (0.140)  |  (0.140)  |  (0.140)  |  (0.140)  |
|  MO2P  | 0.477 | 0.477 | 0.477 | 0.477 | 0.477 |
|  |  (0.142)  |  (0.142)  |  (0.142)  |  (0.142)  |  (0.142)  |

Table 12 Estimates of Education-Destination Effect Matrix Parameters in the Education by Destination by Year Japanese Table

 1955 1965 1975 1985 1995

Effect Matrix Parameter:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   |  \*\*  |  |  |  |  |
|  HQ1  | 1.652 | 0.972 | 0.972 | 0.972 | 0.972 |
|   | (0.260) | (0.086) | (0.086) | (0.086) | (0.086) |
|   |  \*\*  |  |  |  |  |
|  HQ2  | -0.041 | -1.382 | -1.382 | -1.382 | -1.382 |
|   | (0.342) | (0.139) | (0.139) | (0.139) | (0.139) |
|   |   |   |   |   |   |
|  LQ1  | -0.474 | -0.474 | -0.474 | -0.474 | -0.474 |
|   | (0.122) | (0.122) | (0.122) | (0.122) | (0.122) |
|   |  \*\*  |  |  |  |  |
|  LQ2U  | 2.705 | 1.562 | 1.562 | 1.562 | 1.562 |
|   | (0.406) | (0.129) | (0.129) | (0.129) | (0.129) |
|   |  \*\*  |  |  |  |  |
|  LQ2S  | 2.251 | 1.379 | 1.379 | 1.379 | 1.379 |
|   | (0.379) | (0.118) | (0.118) | (0.118) | (0.118) |
|   |  \*\*  |  |  |  |  |
|  LQ2F  | 2.706 | 1.898 | 1.898 | 1.898 | 1.898 |
|   | (0.229) | (0.131) | (0.131) | (0.131) | (0.131) |
|   |   |   |   |   |   |
|  LQ2P  | 1.155 | 1.115 | 1.115 | 1.115 | 1.115 |
|  | (0.106) | (0.106) | (0.106) | (0.106) | (0.106) |

\*\* indicates that the parameter is significantly different from the CSF parameters.