Symposium

Maximally Maintained Inequality and Essentially Maintained Inequality: Crossnational Comparisons

Michael Hout
Survey Research Center
University of California, Berkeley
2538 Channing Way Berkeley, CA 94720-5100, USA
mikehout@berkeley.edu

Abstract

The implications of maximally maintained inequality (MMI) and its alternative essentially maintained inequality (EMI) for inequality of educational opportunity within societies and over time in those societies are well-understood and frequently addressed in the literature. MMI and EMI may also have implications for cross-national differences. The ISSP “Social Inequality” module fielded 1999-2001 provides highly comparable data useful for assessing hypotheses about cross-national variation in inequality of educational opportunity. Patterns of inequality of educational opportunity in the ISSP data are consistent with MMI and EMI: the association between socioeconomic background and education falls as the proportion of the labor force with postsecondary education rises.

Keyword and phrases: education, stratification, inequality

1. Introduction

The role of family background in educational selection is a matter of broad public discussion in most modern nations. Parents, educators, and policy makers agree, in the most general terms, that opportunity should be widely shared among students of all classes. The means of achieving equality of opportunity and, failing to achieve complete equality, how much inequality a society should tolerate are sources of the controversy. The research is clear: inequality of opportunity is substantial everywhere it has been measured. Students whose parents are highly educated and affluent have advantages over students whose parents have less education and other important social resources in virtually every postindustrial society (Shavit and Blossfeld 1993; Vallet 2003) and in most developing countries too (Buchmann and Hannum 2001).

Most theories in the field address the interaction of parents and collective actors in producing a given set of social inequalities (e.g., Collins 1971; Bowles and Gintis 1976). The hypothesis of
“maximally maintained inequality” (MMI) proposed by Raftery and Hout (1993) is an exception. The Breen-Goldthorpe (1997) model is another. Both take rational-choice approaches that begin with the parents, the students, and their interests, add teachers and school administrators, but rule out collective actors like classes and ‘elite. MMI stipulates that parents have great interest in the achievements of their own children, the students themselves have an even greater interest in their own achievement, and together parents and students mobilize the resources at their disposal – their knowledge of academic subjects, their understanding of how schools and colleges work, their material resources, and their connections – to advance the students’ achievements as fully as possible. But the parents take no actions to block other peoples’ children, especially after their own children have passed through the educational system. Thus, Raftery and Hout reasoned, educational barriers for lower and middle class youth arise in an educational system in which the top spots are limited because upper-class youth fill up the available positions. Class barriers persist as long as there are upper-class youth with unfulfilled aspirations. The theory predicts that, once the privileged class’s demand for a given level education is satisfied (Raftery and Hout used the word “saturated”), class barriers fall as middle-class youth can begin to take more advantage of educational opportunities. The spread of mass secondary education has even brought educational opportunity to most lower and working class youth. Thus expanding educational facilities (or, equivalently, shrinking cohort size among school-aged or college-aged youth) reduce inequality of educational opportunity. Conversely, shrinking educational facilities (or, equivalently, rising cohort size among school-or college-aged youth) increase inequality of educational opportunity.

MMI accounts for (1) the existence of class differences in how much education people get, (2) the persistence of these class barriers over time, (3) the occasional decrease or increase of class differences without recourse to conjecture about hard-to-observe collective actors of the sort that conflict theorists propose.

Raftery and Hout (1993) presented evidence from Ireland in support of their theory. Subsequent research in many countries confirmed that Ireland is not alone in the MMI pattern. Variants of MMI appeared in 10 of 13 national studies compiled by Shavit and Blossfeld (1993). The nations that conformed to the MMI model varied considerably in educational structure and in the proportions advancing to the highest levels. Britain, West Germany, Switzerland, Italy, Poland, Hungary, Czechoslovakia, Israel, Australia, and Taiwan all exhibited patterns consistent with MMI. Research in the Philippines (Smith and Cheung 1986) and France (Vallet 1988) anticipated the formulation of the MMI hypothesis, and subsequent research has replicated the MMI pattern in Japan (Ishida 1994), Russia (Gerber and Hout 1995; Gerber 2000), Scotland (Gamoran 1996), and Spain (Salido 1998). Urban China offered an important exception (Zhou, Moen, and Tuma 1998). Shifting priorities of the Chinese communist government raised, lowered, and even reversed class barriers to educational opportunity. The potential for revolutionary regimes to alter stratification patterns also emerged in Hungary for the first cohort educated under communist rule (Hanley and McKeever 1997). On the other hand, class barriers to education in the former East Germany seem to have decreased slightly.
after unification (Kesler 2003).

In response to deviation of the U.S. case from the MMI pattern, Lucas (2001) proposed the essentially maintained inequality (EMI) model. He noted that in the United States and the Netherlands, MMI failed because the effect of background decreased before the strong condition of saturation was achieved. Yet inequality of opportunity was effectively maintained because the decrease in the association between background and achievement came about as the proportion of successful students from privileged backgrounds exceeded 80 percent – near-saturation. Inequality of educational opportunity may decrease prior to saturation in part because some schools and colleges may reach saturation before others do. In any country, students attend hundreds and probably thousands of secondary schools. Given the nature of school and neighborhood segregation by social class, it seems entirely plausible to think that some schools will serve all the privileged children in their area before others reach that point. Any further expansion of these early to saturate schools will create new educational opportunities that affect middle-class students but not upper-class students, thus marginally decreasing the association between class and education. Aggregated over space and time, this phenomenon yields a decrease in inequality of educational opportunity prior to nationwide saturation.

In all this research, we have learned far more about the significance of class differences within nations and trends in the magnitude of those within-country differences (points 1 through 3 above) than we have about the magnitude of cross-national differences in the strength of association. This paper focuses on cross-national differences.

2. Cross-national Hypotheses

While the MMI/EMI pattern turns out to be a very general one (though not universal), researchers have had a difficult time measuring cross-national differences in the strength of intergenerational associations with any precision. Most studies are designed to investigate the patterns of intergenerational inequality in just one country. Educational systems vary in their details and researchers whose interest is national rather than cross-national in scope take pains to capture those unique aspects. From that viewpoint, little concern need be given to whether the data might be compared with similar data from elsewhere. With the right data, however, it ought to be possible to extend our assessment of MMI and EMI to crossnational comparisons.

MMI and EMI predict slow and contingent change over time in how strongly family background affects educational opportunity. They specify differences among educational levels within nations, however, following Mare’s (1980) research on the United States. In most nations, class affects earlier educational transitions more than it affects later ones. Completion of secondary education typically involves a greater class barrier than entry into post-secondary education entails. In some nations, the successful completion of a university degree is independent of family background – for those who get to university. Thus a nation’s overall level of educational stratification – the weighted sum of the
class barriers particular to each transition (see Mare 1980 for the precise formula) – might decline over time if making the transition becomes universal. For example, a secondary education was optional in many nations sixty or seventy years ago. The class barrier between completion of primary school and entry into secondary education was higher than the class barrier between completing secondary education and entering higher education, even then. Only when secondary education became universal did the high class barrier between primary and secondary education become irrelevant. MMI refers explicitly to the persistence over time of the class barriers at specific transitions.

Thus a rough corollary – not strictly a derivation so much as a generalization in the spirit of the original theory – might be that the strength of the association between family background and educational attainment will be proportional to the prevalence of post-secondary education in that nation. As post-secondary education expands, we can expect the association between family background and educational attainment to weaken. That is the proposition under investigation in this paper. I will propose an appropriate statistical model, fit it in each ISSP country, and assess MMI/EMI in light of the results.

This hypothesis resembles the prediction in Treiman’s (1970) famous paper on industrialization and social stratification. In that paper, Treiman laid out an agenda for comparative research predicated on testing a series of hypotheses about how industrialization, broadly conceived, ought to result in weaker ties across generations. MMI and EMI are more precise than Treiman’s original, for while he was interested in the general tendency of industrialization to move the focus of social differences from birth to adulthood, MMI and EMI propose a specific institutional change – less social selection as the lower tail of the educational distribution is eliminated – that reduces inequality of educational opportunity. One test that would adjudicate between industrialization and educational change as the source of changing inequality of educational opportunity would be to compare the association between our measure of inequality of educational opportunity and a common indicator of industrialization, e.g., the proportion of the labor force engaged in agriculture, with an indicator of educational expansion, e.g., percent of the labor force with post-secondary education. If MMI and EMI correctly focus on the educational system, then the correlation between inequality of educational opportunity and the prevalence of higher education will be stronger than the correlation between inequality of educational opportunity and the prevalence of farming.

3. A Statistical Model of Educational Stratification

The original MMI was expressed in terms of Mare’s (1980) model of educational transitions. Modifications by Mare (1993) and Lucas (2001) inform my work here. Consider educational achievement as ordered outcomes: complete primary, incomplete secondary, complete secondary, incomplete post-secondary, and complete post-secondary education. The odds on a favorable outcome – more versus less education – depend on family background. Under this revised model, the
odds on more versus less education increase as background status increases in a uniform proportion expressed in the following equation:

\[ y_{ijk} = \beta_{0j} + \beta_{1k} D_{ik} + \beta_{2k} X_i D_{ik} + \gamma_k Woman_i D_{ik} \]  

(1)

for persons \( i = 1, \ldots, N \), educational transitions \( j \) = 1, \ldots, 4, and countries \( k \) = 1, \ldots, 25; where \( \beta_{0j} \) is the intercept for educational transition \( j \), \( \beta_{1k} \) and \( \beta_{2k} \) gauge the effects of country and background status, \( D_{ik} \) is a dummy variable equal to 1 for country \( k \) and 0 otherwise, \( X_i \) is person \( i \)'s family background, and \( Woman_i \) is a dummy variable equal to 1 for women and 0 for men. Note that \( \beta_{0j} \) does not vary by country – only by educational transition – while \( \beta_{1k} \) and \( \beta_{2k} \) vary by country but not by educational transition. I further generalize the model for this paper by breaking \( X_i \) into three components of family background, instead of forming a single index. Thus the revised model is:

\[ y_{ijk} = \beta_{0j} + \beta_{1k} D_{ik} + (\beta_{2} FaEd_i + \beta_{3} MaEd_i + \beta_{4} Books_i) (1 + \delta_k D_{ik}) + \gamma_k Woman_i D_{ik} \]  

(2)

where \((1 + \delta_k D_{ik})\) is the mathematical form for the interaction between background and country, \( FaEd \) refers to father’s education, \( MaEd \) refers to mother’s education, and \( Books \) refers to the number of books in the respondent’s home when she or he was growing up. Father’s and mother’s education is classified in seven levels – the five used for respondents plus “none” and “incomplete primary” to accommodate the educational experience of the parental generation for elderly respondents in some of the ISSP countries. Books were counted as 0 = “none”, 1 = “1 or 2”, 2 = “around 10”, 3 = “around 20”, 4 = “around 50”, 5 = “around 100”, 6 = “around 200”, 7 = “around 500”, and 8 = “1,000 or more” (see Evans et al. 2002). To identify the model, I set \( \delta = 0 \) for Ireland, i.e., all countries’ level of stratification is measured relative to stratification in Ireland’s. Father’s education, mother’s education, and books in the home focus on the educational and cultural barriers to educational attainment (see Lynch and O’Riordan 1998). In nearly every nation, the effects of these aspects of family background exceed those of occupation and income (Fischer et al. 1996).

To allow for change across cohorts in the level of education and, perhaps, in the class barriers to achieving it, I include a two-parameter cohort effect:

\[ y_{ijk} = \beta_{0j} + \beta_{1k} D_{ik} + (\beta_{2} FaEd_i + \beta_{3} MaEd_i + \beta_{4} Books_i) (1 + \delta_k D_{ik} + \phi_1 B_{1i} + \phi_2 B_{2i}) + \gamma_k Woman_i D_{ik} \]  

(3)

where \( B_{1i} \) equals person \( i \)'s year of birth minus 1950 and \( B_{2i} \) equals \( B_{1i} \) if \( B_{1i} \) is positive and equals 0 for cohorts born before 1950; \( B_{2i} \) allows the trend to change after 1950.

We could entertain some other models for ordered categories for these data instead. For example Clogg and Shehadeh (1994) describe a model for adjacent categories that is very much in the spirit of Duncan’s (1979) uniform association model and Goodman’s (1979) RC model. DiPrete’s (1990) application of the stereotype ordered regression model is a more flexible alternative in the spirit of
my own SAT model (Hout 1984). While these models will give us different views of the within country inequality of opportunity (the $\beta$s), I seriously doubt whether using one of them instead of the model in equation (3) would alter substantially the estimates of crossnational differences in the extent of inequality of opportunity (the $\delta$s). If I am right, then alternative specifications of the within country part of the model will, nonetheless, yield estimates of differences among countries that are similar to the ones I obtain here. Only experimentation with the functional form of the within country part will be definitive, of course.

4. Data

The International Social Survey Programme (ISSP) is an ongoing series of crossnational cooperative studies. Scholars and survey organizations in member nations replicate a common battery of questions – 60 in all – each year. The data are comparable except for the limits imposed by linguistic and institutional differences among nations. In 1999 the ISSP’s theme was inequality. A total of 25 nations participated fully. Thus, the 1999 ISSP inequality module offers the possibility to gain strictly comparable measures of how family background affects educational attainment and to assess the extent of cross-national variation in those effects with more precision than previous research could do.

The countries are: Ireland, Norway, Sweden, France, and Germany (entered as two nations – East and West – because most respondents were educated before reunification and that matters for educational inequality (see Kesler 2002)) from Northwestern Europe, Spain, Portugal, and Cyprus from Southern Europe, Hungary, the Czech Republic, Slovakia, Slovenia, Poland, Russia, and Latvia from Eastern Europe, and Australia, New Zealand, the United States, Canada, Brazil, Chile, the Philippines, Israel, and Japan from outside Europe. The questions were asked in the same order in each country and the wordings are as close as possible considering the many different languages spoken in these nations. The interviews were conducted face-to-face in some nations; others use self-completion. Some of the samples are better than others. The rich countries except France and about half of the others use full probability sampling methods; France and about half of the lower income nations use quotas. In each nation I limited the analysis to persons aged 25 years and over in order to give all cohorts the chance to finish their educations, i.e., the 16-24 years olds in the samples might still be in school so their education reflects their education so far, not their ultimate educational attainment.
Figure 1: Educational Attainment by Year of Birth, Gender and Nation

Graphs by Nation

Maximally Maintained Inequality and Essentially Maintained Inequality
5. Results

Educational opportunity has expanded dramatically world-wide since the 1950s (Schofer and Meyer 2005). Nations built schools, colleges, and universities at impressive rates, and in many countries private institutions compete with public ones to provide education. Nonetheless educational attainment varies widely across the ISSP countries. Figure 1 displays some of the variation, smoothed by a model ⁴. Nations are arrayed according to their initial levels of education calibrated on an arbitrary scale that ranges from −5 to +5. Brazil is lowest initially and has the lowest national mean. The USA is highest initially and overall. Change across cohorts is positive in every nation; it ranges from a low of two points in several Eastern European nations to five points in Cyprus and Russia. Ireland is among the fastest rising nations, increasing 4.5 points from the 1920s cohort to the most recent one.

In this environment of modest-to-dramatic increases in educational attainment, MMI predicts that social class barriers to education will fall in some nations. More precisely, stratification will abate in nations where the educational aspirations of elites are met – a point that Raftery and Hout (1993) called “saturation” (also see Whelan and Hannan 1999). Until saturation is reached, though, MMI predicts that the effect of family background on education will persist unchanged. Table 1 shows the multivariate evidence in the form of ordered logit regression coefficients.

Table 3 presents the key coefficients from the model in equation [3] ⁵. They are the baseline effects of father’s education, mother’s education, and books at home, two terms to capture change across cohorts, and twenty-four terms to capture the cross-national variation in family background effects. As noted above the “rough corollary” of MMI predicts that these differences will be proportional to the prevalence of post-secondary education. Initially I listed the nations in order of ascending post-secondary enrollment – the proportion of each nation’s sample that had at least some post-secondary education. That failed to reveal any pattern of interest so I redid the list, still using the proportion with at least some post-secondary education, but first doing the ranking among the nations with at least some form of market economy and then separately ranking the formerly socialist nations ⁶. Figure 2 displays the same data on the y-axis with post-secondary enrollment on the x-axis. The difference between the market and socialist economies is immediately evident and I will discuss it shortly.

The results support MMI in market economies but not in socialist ones. The combined effect of the three family-background variables is, in the nations with market economies, about as strong as percentage of the labor force with post-secondary education predicts. The correlation is .79. Brazil, West Germany, Portugal, Spain, and Chile have lower post-secondary enrollments than Ireland; all but Chile also have stronger background effects (and the effect in Chile, though less, is not significantly less than in Ireland). Similarly all the nations below Ireland on the list are predicted to have a weaker effect of family background on education, and all but one of them does. The exception is the Philippines. It is hard to say whether the effect of family background is too high or the estimate
### Table 1  Coefficients for Model of Cohort Trends and Cross-national Differences

<table>
<thead>
<tr>
<th>Robust Variable</th>
<th>Coefficient</th>
<th>s.e.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father’s education</td>
<td>.370</td>
<td>.023</td>
</tr>
<tr>
<td>Mother’s education</td>
<td>.326</td>
<td>.022</td>
</tr>
<tr>
<td>Books at home</td>
<td>.485</td>
<td>.028</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in $\beta$s across cohorts ( $\varphi_1$ and $\varphi_2$ )</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort</td>
<td>-.005</td>
<td>.002</td>
</tr>
<tr>
<td>Cohort after 1950</td>
<td>-.006</td>
<td>.002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Differences in $\beta$s among nations ( $\delta_k$)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>.399</td>
<td>.098</td>
</tr>
<tr>
<td>West Germany</td>
<td>.048</td>
<td>.100</td>
</tr>
<tr>
<td>Portugal</td>
<td>.246</td>
<td>.078</td>
</tr>
<tr>
<td>Chile</td>
<td>-.026</td>
<td>.065</td>
</tr>
<tr>
<td>Spain</td>
<td>.247</td>
<td>.074</td>
</tr>
<tr>
<td>Ireland</td>
<td>.000</td>
<td>-</td>
</tr>
<tr>
<td>Sweden</td>
<td>-.205</td>
<td>.068</td>
</tr>
<tr>
<td>Philippines</td>
<td>.029</td>
<td>.073</td>
</tr>
<tr>
<td>New Zealand</td>
<td>-.423</td>
<td>.064</td>
</tr>
<tr>
<td>Cyprus</td>
<td>-.092</td>
<td>.070</td>
</tr>
<tr>
<td>Australia</td>
<td>-.346</td>
<td>.070</td>
</tr>
<tr>
<td>Japan</td>
<td>-.349</td>
<td>.064</td>
</tr>
<tr>
<td>France</td>
<td>-.177</td>
<td>.067</td>
</tr>
<tr>
<td>Canada</td>
<td>-.386</td>
<td>.072</td>
</tr>
<tr>
<td>Norway</td>
<td>-.158</td>
<td>.069</td>
</tr>
<tr>
<td>Israel</td>
<td>-.170</td>
<td>.067</td>
</tr>
<tr>
<td>USA</td>
<td>-.442</td>
<td>.062</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>-.228</td>
<td>.064</td>
</tr>
<tr>
<td>Hungary</td>
<td>-.272</td>
<td>.066</td>
</tr>
<tr>
<td>East Germany</td>
<td>-.463</td>
<td>.094</td>
</tr>
<tr>
<td>Slovakia</td>
<td>-.308</td>
<td>.070</td>
</tr>
<tr>
<td>Poland</td>
<td>-.152</td>
<td>.072</td>
</tr>
<tr>
<td>Slovenia</td>
<td>.001</td>
<td>.075</td>
</tr>
<tr>
<td>Latvia</td>
<td>-.532</td>
<td>.067</td>
</tr>
<tr>
<td>Russia</td>
<td>-.374</td>
<td>.068</td>
</tr>
</tbody>
</table>

- Number of cases: 25,896
- Log-likelihood: -31,697.53
- Pseudo $R^2$: .214
of post-secondary enrollment is too high for that nation; Philippine post-secondary enrollment is high for a country with such low GDP. The English-speaking nations of Canada, USA, New Zealand, and Australia all have slightly lower than expected family background effects, even for nations with very high post-secondary enrollment, but the deviations for these countries are not statistically significant.

There is no discernable link between post-secondary enrollment and the effect of family background for the socialist nations, though. Family background effects are weak in the two former Soviet nations – Russia and Latvia – as expected for nations with high post-secondary enrollment. But background effects are also weak in the former DDR (Eastern Germany), a nation with far lower post-secondary enrollment. The effects of family background are 25% less in Hungary, the Czech Republic, and Slovakia than in Ireland even though only 10% of adults in those nations continued their educations past the secondary level.7)
The pattern in Figure 2 reveals association, not causation. For all we know reducing the association between social origins and educational transitions might increase post-secondary enrollments or a some third, unmeasured factor, could be responsible for the pattern in the figure – influencing both without either post-secondary enrollments or the effect of family background influencing one another. If it could be shown that raising post-secondary enrollments reduces the inequality of educational opportunity (as gauged by the association between family background and educational transitions), then we could counsel policy-makers interested in reducing inequality of educational opportunity to admit more students or build more colleges and universities. However, if the relationship in Figure 2 is due to a causal relation that runs the opposite way from inequality of educational opportunity to enrollment, then our counsel would be expect enrollments to rise after some other policy lowers inequality of educational opportunity. And if the relationship in Figure 2 is due to the simultaneous influence of some hidden factor, it is that factor the policy-maker needs to manipulate.

Wealth is one possible unobserved common factor lurking behind the pattern in Figure 2. Treiman (1970) spells it out as the theory of industrial development. An obvious indicator of wealth and industrialization is gross domestic product (GDP) per capita. Less obvious is the fact that everyone in the data finished their schooling by the year of the survey so the relevant GDP per capita would be from some point in the past instead of at the time of the survey. Ideally we would choose a date close to the year that the average person in each nation left school. That optimal strategy is not practical since reliable GDP data are hard to obtain for the post-socialist nations during their socialist periods. Therefore, I use GDP per capita in 1991 –the first year that the Penn Tables (see Firebaugh 2003) record GDP per capita for all the ISSP nations.

The pattern in Figure 3 does not contradict the wealth/industrialism thesis. The relationship between inequality of educational opportunity and GDP per capita is not quite as strong as between GDP per capita and post-secondary education, but it is pretty close. The correlation is .70 (compared to .79 for education) among market economies. Furthermore, there appears to be a relationship between inequality of educational and GDP per capita in the post-socialist as well as the market economies. But that relationship in the post-socialist nations depends almost entirely on the East German case. Unfortunately we only have one GDP figure for Germany in 1991; it is not reported for East and West separately. And GDP per capita was almost certainly significantly less in the eastern part than in the western part of reunified Germany. If we make the pretty reasonable assumption that East German GDP per capita was 70 percent as big as that for all of Germany and that West German GDP per capita was an offsetting 15 percent above that of all of Germany, then the correlation in the post-socialist nations is much weaker (.41) than in the market economies (.70).

The effect of family background on educational attainment decreased across cohorts, faster after 1950 than before. That result is inconsistent with a strong version of MMI but perfectly consistent with EMI. MMI predicts no decrease until saturation.
Figure 3: Effect of Family Background on Education by GDP per Capita: Nations with Market Economies and Post-Socialist Nations

There are some universals that could contribute to a weakening of educational stratification across cohorts. Almost every nation became saturated at the primary level, i.e., primary education is universal among middle-class families in cohorts born since 1960 (much earlier in the wealthier nations). Most nations are at or near saturation in secondary enrollment and a few in secondary completion. These universals would contribute to a downward trend.

The trends are weak, though significant. Reducing educational stratification at the rate of 0.5% per single-year cohort up until 1950 and then accelerating to 1.1% per year for subsequent cohorts, these trends, if they were to continue, would wipe out educational stratification by the time the cohort born in 2050 leaves university seventy years or so from now. I offer this calculation as illustration of the modest pace of change implied by the results, not as my prediction about the future.
6. Conclusion

The “maximally maintained inequality” (MMI) and “effectively maintained inequality” (EMI) models point to post-secondary enrollments as a key to cross-national differences in inequality of educational opportunity. While many previous analyses have used MMI to address change and persistence of class barriers within countries and differences in the pace of change where and when it occurs, the potential of MMI and EMI to address cross-national variation in inequality of educational opportunity has been, till now, largely untapped. The evidence extends the hypothesis by showing an association between post-secondary enrollments and the overall level of association between family background and educational success in more mature market economies but not in transition economies of the formerly socialist nations. The small number of developing countries – three – makes it hard to generalize, but the developing countries in the ISSP conform to the pattern set by the mature market economies.

While the relationship between post-secondary education and the inequality of educational opportunity is significant and in the predicted direction, the relationship is far from perfect, even among the nations with mature market economies. Perhaps the relationship is weakened by measurement errors in the key independent variable. This paper uses post-secondary education in the whole labor force. We could do better with a measure that captured variation among cohorts within nations. And perhaps some other aspect of higher education, e.g., percentage with college degrees instead of percentage with some college, would be better. Using estimates from samples that average about 1,000 cases adds sampling error to these measurement problems; sampling errors in the estimates of the percentage with post-secondary education would bias the estimate of the relationship between the post-secondary percent and inequality of educational opportunity toward zero.

Despite the limitations, the evidence here points toward the conclusion that MMI and EMI continue to offer a useful perspective on inequality of educational opportunity, even when the focus is cross-national instead of over-time. The most important element of this theory is its ability to account for patterns without resorting to hypotheses about a conspiracy among elites or efficacious class action. Understanding parents, students, and schools is sufficient to account for why educational advantages persist across generations. The MMI/EMI perspective points to universal access as a key to removing class barriers.

The much lower class barriers in the nations that had socialist governments before 1991 suggest that sociologists of education should not completely rule out collective action or class action. The socialist elites of the Soviet Union and Eastern Europe lowered inequality below what MMI would have predicted from the size of their post-secondary educational systems.

The main competitors to MMI and EMI are not the conflict theories but Breen and Goldthorpe’s (1997) mobility theory. Their theory is nonlinear. They propose that students progress through the educational system without sorting or selection until they reach their parents’ level. Then they are sorted and selected. Lower-class students reach that level first, then middle-class students,
and finally upper-class students. Breen and Jonsson (2003) specify a model for testing this theory. Comparing their model with the one presented here would be a fruitful direction for future research.

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Note
1) The exceptions were the United States, the Netherlands, and Sweden. Subsequent work has raised doubts that MMI applies in the Israeli case.
2) Rijken (1999), Ganzeboom, Rijken, and Treiman (2000), and Evans et al. (2002) are sophisticated cross-national research. But they are not as relevant as they could be because they mostly focus on linear models of educational attainment. Only Rijken (1999) has data on educational transitions – the evidence relevant for MMI/EMI.
3) Austria, Bulgaria, Great Britain, and Northern Ireland also participated in most aspects of the 1999 ISSP, but these countries neglected to include the mandatory family background variables so their data cannot be used in this study. While 1999 was the preferred year for data collection, Hungary and Slovenia fielded it in 1998, several countries fielded the module in 2000, and three (Brazil, Ireland and Slovakia) in 2001.
4) The model is the full version of equation [3]. I will discuss it in detail when I get to the family background results. The data in Figure 1 refer to the three-way interaction of cohort, gender, and nation.
5) The full model fits 105 parameters. Most of them are irrelevant for present purposes, and 56 of them determine the patterns in Figure 1.
6) Nearly all of the respondents from formerly socialist nations had left school during the socialist period, so I will refer to them as “socialist nations” from now on.
7) It is an interesting sidebar to note that the Czech Republic and Slovakia are statistically identical in this analysis, considering that they were, in fact, just one nation during the period when nearly all the respondents in the ISSP were educated.
8) And Lucas (2001) proposed EMI to address MMI’s weakness in the American case.

References


