

## CHAPTER ONE

## More Inclusion Than Diversion

### Expansion, Differentiation, and Market Structure in Higher Education

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## INTRODUCTION

For scholars of social stratification, the key question about educational expansion is whether it reduces inequality by providing more opportunities for persons from disadvantaged strata, or magnifies inequality by expanding opportunities disproportionately for those who are already privileged. The expansion of higher education and its relation to social stratification deserves special scrutiny. First, whereas primary and secondary education have now become nearly universal in most economically advanced societies, we are witnessing rapid expansion and change at the tertiary level. In addition, higher education is the gatekeeper of managerial and professional positions in the labor market. Finally, and from a theoretical point of view most important, the structure of higher education has been transformed as it has expanded. Particularly in economically advanced countries, expansion has been accompanied by differentiation. Systems that had consisted almost exclusively of research universities developed second-tier and less selective colleges, and much of the growth in enrollment was absorbed by second-tier institutions. Thus, at the same time that members of the working class found new opportunities to enroll in higher education, the system was being hierarchically differentiated so that these new opportunities may have had diminished value.

These differences between systems of higher education provide us with the opportunity to revisit theories about the role of expansion and differentiation in shaping stratification regimes in education. These theories were developed through research on secondary education at the time when it was being transformed from elite to mass education (e.g., Heyns 1974; Rosenbaum 1976; Shavit 1984; Gamoran 1987; Raftery and Hout 1993). Now the educational frontier has shifted, and similar debates arise concerning higher education. Some scholars suggest that higher education expansion, especially when it occurs through hierarchical differentiation, is a process of *diversion*, whereby members of the working class are diverted from elite opportunities and are channeled to positions of lower status (Brint and Karabel 1989). Others have noted, however, that even lower-tier postsecondary schooling represents enhanced opportunity, so that the important effect of expansion may be one of *inclusion* (Dougherty 1994).

Another important dimension along which systems of higher education vary is the extent to which expansion is supported through market-based private financing or more exclusively through public sources. American research on expansion tends to ignore this distinction, taking expansion entirely for granted as a historically inevitable response to consumer demand (Walters 2000). In many other countries, however, higher education is centrally regulated and expansion is tightly controlled. While market-based systems likely result in greater expansion overall, they charge tuition fees that may hinder attendance by the working class. Thus, market-based systems may not promote equality of opportunity any more or less than state-centered systems.

This chapter synthesizes the findings reported by the 15 country chapters that comprise the bulk of this volume. The countries were drawn mainly from Western Europe (France, Italy, Germany, the Netherlands, Sweden, Switzerland, the U.K.), Eastern Europe (Russia, Czech Republic), and East Asia (Japan, Korea, Taiwan), and also include Israel, the United States, and Australia. Across countries and over time, these systems of higher education varied in the rate of expansion, the extent of differentiation, and market structure. These differences allow us to assess several propositions about the relation between forms of higher education expansion and social stratification. We examine how class inequalities in access to higher education vary across systems with different levels of expansion, institutional

differentiation, and private versus public allocation logics. At the conclusion of this chapter we introduce the main findings of each of the country-specific analyses, which are laid out in full in the remainder of the book.

### *Expansion and Stratification*

Following Mare (1980, 1981), many sociologists of education view the educational attainment process as a sequence of transition points at which students either continue to the next level or drop out. Some transition points involve multiple options such as whether, after high school, to attend a first-tier college, a second-tier college or to enter the labor force. At each transition point, students differ greatly in their transition probabilities. For example, those raised in middle-class homes are less likely to drop out, and are more likely to attend first-tier than they are to attend second-tier institutions, compared with students from disadvantaged social origins.

While educational expansion is associated with many advantages, including enhancement of peoples general well-being and of societies' macroeconomic development, scholars have observed that, in and of itself, expansion does not reduce class inequalities in education. Raftery and Hout (1993) have argued that inequality between any two social strata in the odds of attaining a given level of education persists until the advantaged class reaches the point of saturation. Saturation is defined as the point at which nearly all sons and daughters of advantaged origins attain the educational level under consideration. Until that point, the advantaged group is typically better equipped to take advantage of any new and attractive educational opportunities, and class inequalities will persist or even increase as opportunities are expanded. Only when the privileged class reaches saturation at a given level of education, would further expansion of that level contribute to the reduction of inequality in the odds of its attendance because the privileged can not increase their attendance rates past the 100% mark.

This hypothesis, known as "Maximally Maintained Inequality" (MMI), is consistent with results reported by Shavit and Blossfeld (1993) who found that in most countries educational expansion did not reduce educational inequality. More recent studies (e.g., Jonsson, Mills, and Müller 1996; Shavit and Westerbeek 1998) found that as primary and secondary education expanded, class inequalities in their attainment declined. This

result is consistent with Raftery and Hout's argument because the middle classes have reached saturation with respect to attainment of lower educational levels. In a recent paper, Hout (forthcoming b) analyzed data for 25 nations and found that among market economies, socioeconomic inequality in overall educational attainment is inversely related to the prevalence of higher education. This is also consistent with MMI because in societies with market economies, lower levels of education tend to be saturated in the privileged strata.

Although there are also empirical exceptions to MMI (e.g., in some former state socialist societies, inequality is not related to the degree of saturation (Hout forthcoming)) it is consistent with most cases and is considered a useful working hypothesis for studies of educational expansion and stratification (Hout and DiPrete 2006).

#### *Institutional Differentiation and Stratification*

An important critique of the MMI hypothesis and of the Mare model is that they both ignore tracking and other forms of qualitative differentiation within education (e.g., Breen and Jonsson 2000; Lucas 2001; Ayalon and Shavit 2004). Educational choices involve more than just the two options—to continue or to drop out. Most education systems are tracked, in one form or another, and students must choose among various tracks within the system. Several scholars have argued that concurrent with expansion, qualitative differentiation replaces inequalities in the quantity of education attained (e.g., Shavit 1984; Gamoran and Mare 1989). Lucas (2001) recently argued that once saturation has been reached with regard to a given level of education, inequalities in the odds of this level's attainment may be replaced by inequalities in the odds of placement in the more selective track.

A well-known tenet of organization theory is that organizational growth tends to be accompanied by differentiation (Blau 1970). Differentiation is viewed as a means to operate more efficiently by dividing "raw materials" or "clients" into more homogeneous units. Educational expansion often follows this pattern, with systems becoming more complex as greater numbers of students enroll. While differentiation is commonly regarded as a consequence of expansion, it may also *contribute* to expansion, as new places become available in new segments of the education system. Whereas a functionalist view suggests that differentiation allows greater efficiency

(Thompson 1967), social control theorists point out that a differentiated system of higher education preserves the elite status of those born into privilege (Trow 1972; Brint and Karabel 1989).

The mode of differentiation in higher education varies between countries. In some countries, tertiary education is offered primarily by a single type of institution—usually, a research university. Meek and his associates refer to this type of system as *unified* (Goedegebuure et al. 1996). Unified systems tend to be quite rigid. They are controlled by professorial elites who are not inclined to encourage expansion, either of their own universities or through the formation of new ones. Very few systems still belong to this type. In our comparative project, only the Italian and Czech higher education systems are strictly unified. Other systems consist of a mix of institutions that are stratified by prestige, resources, and selectivity of both faculty and students. A well-known example is the American system, which consists of prestigious research universities, a second tier of private and public four-year colleges, as well as many two-year colleges (Karabel 1972; Brown 1995; Grodsky 2003). Meek and his associates refer to this type as *diversified* higher education (Goedegebuure et al. 1996).

Often, the second tier of tertiary education takes the form of vocational or semiprofessional training (e.g., the German *Fachhochschulen*). This system is labeled as *binary* because it consists of two main types of institutions: academic and vocational. Some diversified systems are also binary in the sense that second-tier colleges primarily provide vocational training. In other cases, vocational institutions were upgraded to university status in an attempt to transform the system from a binary to a formally unified one (e.g., Britain and Australia).

The co-occurrence of expansion and differentiation is the basis for claims that higher education expansion is primarily a process of *diversion*, channeling members of the working class to lower-status postsecondary opportunities in order to reserve higher-status opportunities for the elite (Brint and Karabel 1989). According to this view, as tertiary education expands and as differences between social strata in the odds of attaining tertiary education decline, between-strata differences widen with respect to the *kind* of tertiary education attended. Swirski and Swirski (1997) argued that as the second-tier system expands, first-tier institutions become more selective and class inequalities in access to first-tier institutions increase. An alternative view, however, is that expansion of lower-tier postsecondary

education enhances opportunity by bringing into higher education students who would otherwise not have continued past secondary school (Dougherty 1994). Furthermore, one could argue that as higher education expands, first-tier institutions must compete for students and may lower admission thresholds. According to this logic, education expansion that leads to higher overall rates of tertiary enrollments is a process of *inclusion*, even if expansion is accompanied by differentiation.

#### TERTIARY MARKET STRUCTURE AND EDUCATIONAL INEQUALITY

Many studies of the relation between educational expansion and educational stratification suffer from an important theoretical inconsistency. On the one hand, they assume that expansion is *exogenous* to the stratification process, and that it affects the educational opportunities available to individuals (e.g., Raftery and Hout 1993). At the same time, these studies assume that educational expansion reflects rising individual incentives to attend school for longer periods of their life course. Some argue that incentives rise in response to changes in the occupational structure (e.g., Blau and Duncan 1967; Treiman 1970b). Others believe that incentives rise because groups and individuals compete for access to the best jobs (Collins 1979) or because parental expectations are such that children's education is likely to equal or exceed that found in the prior generation (Erikson and Jonsson 1996x). Regardless of the specific mechanism, these theoretical orientations share the assumption that expansion is *demand-driven*, namely, that schools expand in response to growing aggregate demand by individuals for education.

Garnier, Hage, and Fuller (1989) and Walters (2000) argue convincingly that this assumption is applicable to the American case, where education is decentralized and deregulated and where private and local educational institutions expand to meet consumer demand. As Walters writes:

The literature on American school expansion has largely treated the growth of enrollments as a demand-driven process, determined almost exclusively by the decisions of students and their families about whether to send their children to school. *The availability of schooling is taken for granted. . . .* (p. 242, emphasis added)

In many other countries, education is centrally regulated and numerous constraints are imposed on its expansion. As Garnier et al. (1989) argue, where states are strong, they can ration elite education (e.g., in first-tier institutions) while expanding mass education (e.g., through second-tier colleges). In some countries, there are formal quotas on admissions (e.g., Sweden; see Jonsson and Erikson in Chapter 5 of this volume). In addition, states can simply constrain funding for education, enact rigorous curricular prerequisites or institute restrictive accreditation requirements that effectively limit expansion.

Systems of higher education vary greatly in the degree to which they rely on public or private provision to support tertiary education. Furthermore, the responsiveness of education systems to consumer demand changes over time. Since the 1980s, some systems have undergone deregulation and privatization that facilitates rapid expansion in response to growing demand. In some systems private institutions aggressively stimulate and generate demand for their services through the use of promotional and marketing strategies (witness the increase in “nontraditional” students, the spread of the concept of “life-long learning,” or the “College for All” campaigns implemented in the United States).

We anticipate that where higher education is largely funded from private sources, enrollment rates exceed those found in publicly funded systems. Privately funded colleges and universities rely on enrollment for revenue and are thus client-seekers. Furthermore, private institutions may engage in demand-generating activities, such as advertising, and the development of specialized programs that cater to well-defined groups of potential clients. Expanded funding from private sources can also potentially increase the overall level of support for higher education by supplementing—as opposed to substituting for—sustained public sector resource commitments (Arum 1996). At the same time, however, some institutions of higher education are also status-seekers. That is, they engage in various activities intended to enhance their prestige in terms of attracting “high quality” faculty and students relative to competing institutions. Most important in this regard is social exclusion in the process of student selection through the elevation of admissions criteria.

Clearly, the imperatives of client-seeking and status-seeking behaviors conflict with one another. Client-seeking implies low admissions criteria

while status-seeking implies fewer clients than could otherwise be admitted. The conflict is often resolved through the differentiation of a status-seeking first tier of institutions and a client-seeking second tier which is less selective and enjoys lower prestige. Thus, we expect to find greater enrollment rates and more institutional differentiation in market systems than in state-funded systems.

Class inequalities in the odds of progression to tertiary education may also differ between the two regimes, but we are unable to hypothesize a priori what direction these differences might take. Class inequalities in the odds of educational progression are due primarily to class differences in ability (including cultural capital), financial resources, and motivation. It is likely that in regimes that have expanded tertiary education through reliance on private sector funding there is less stringent educational selection on ability and there could thus be lower class inequalities than in more rigid government funded systems. At the same time, in highly privatized systems class inequalities may be mediated more directly by family differences in the ability to pay tuition fees.

#### SUMMARY OF PROPOSITIONS

The discussion of educational expansion, differentiation, and market structure suggests six propositions as follows.

##### *Expansion and Educational Stratification*

1. Expansion is not associated with inequality at the level where expansion occurs, unless saturation is approached (i.e., inequality is maximally maintained).

##### *Institutional Differentiation and Selection*

2. Tertiary expansion and differentiation are related, with causal effects operating in both directions: diversified systems are more likely to have higher overall enrollments rates, and vice versa.
3. The differentiation of higher education (both the diversified and binary modes) diverts students away from first-tier enrollment.

##### *Market Structure, Differentiation, and Access*

4. On average, enrollment rates are higher in systems with more funding from private sources.
5. Systems with higher levels of funding from private sources are likely to be more diversified than state-centered systems.

6. The degree of reliance on private funding is associated with inequality in access to higher education, but the direction of the association cannot be determined a priori.

#### METHODOLOGY: A COLLABORATIVE COMPARATIVE STUDY

This research project reflects what has been termed the “fourth generation” of comparative stratification research that has focused on the extent to which organizational variation across countries affects both intergenerational mobility and associations between social class and educational attainment (Treiman and Ganzeboom 2000; see also Ganzeboom, Treiman, and Ultee 1991). We employ a collaborative comparative methodology of the kind previously used by Shavit and Blossfeld (1993), Shavit and Müller (1998), Arum and Müller (2004), and others. Research teams in a sample of countries were asked to conduct similar studies of higher educational attainment using nationally representative data. The country studies each applied a common theoretical and methodological framework that had been agreed upon by the teams and was capable of generating findings comparable across countries. Once the country studies were completed, we as the project coordinators analyzed the findings comparatively and report the results in this chapter.

Our sample of countries is not a probability sample. Rather, we selected countries that represent variation in the main macrolevel variables of interest (extent of expansion, differentiation, degree of privatization), and where researchers were available who were familiar with our paradigmatic framework and had access to the necessary data (see Appendix Table A for a description of the data sets utilized for this project). The project includes 15 national teams consisting of 34 researchers and focuses on higher education systems in advanced economies, where expansion of secondary and tertiary education is further along than elsewhere (for a review of the strengths and limitations of applying such a framework to countries at earlier stages of development, see Buchmann and Hannum 2001).

Each country chapter contains a detailed description of tertiary education in the country, including organizational arrangement, size, regulation, administration, funding, and a description of changes and reforms that the system may have undergone in recent decades. In addition, the

chapters report the results of logit regressions of several educational transitions including:

- i. eligibility for higher education;
- ii. entry into higher education; and
- iii. entry into first-tier higher education.

Most regressions are estimated for roughly 10- to 15-year cohorts born since World War II and include the following independent variables: parental education, father's occupational class when respondent was in secondary school, and gender. Additional regressions also include track placement at the secondary level and ethnicity (where appropriate).

To sort out changes that reflect secondary expansion from those that reflect variation in postsecondary education, chapters report analyses that are both conditional and not conditional on eligibility for higher education. In addition to these compulsory components, teams could include "free style" information in supplementary analyses that they considered important for an understanding of tertiary educational attainment and stratification in their specific countries.

## VARIABLES AND CLASSIFICATIONS

### *Higher Education Eligibility and Attendance*

The main objective of this research project is to reveal systematic inequalities in access to higher education across social strata. We define higher education as tertiary programs that are either academic or occupationally oriented. We operationalize the former as all programs leading to academic degrees such as a BA or BsC (undergraduate degrees), Laurea, Diplom, MA or MsC (lower-level graduate degrees), or their equivalents. The second tier includes all two-year college programs, whether vocational or academic, as well as polytechnics (e.g., in the U.K.), *Fachhochschulen* (Germany), *Srednee Spetsial'noe Uchebnoe Zavedenie* (SSUZy in Russia), or *instituts universitaires technologiques* (IUT in France). We exclude programs that are typically shorter than two years or those attended predominantly by students of upper secondary school ages (e.g., vocational and technical programs in Australia and Israel).<sup>1</sup> Students who attended either academic or second-tier programs are defined as having attended higher education. Those who attended academic programs are defined as having attended

first-tier programs, except in the United States and Israel. In the former, the first tier was defined as having attended four-year programs in selective institutions, while in the latter it was defined as having attended a university rather than a college.

Eligibility for higher education is defined as a certificate, or completed course of study at the secondary level, that formally allows continuation into some form of academic higher education. Higher education systems differ in their eligibility requirements. In some cases (France, Germany, Israel, Italy, Russia, and Switzerland) admission into higher education requires a secondary school matriculation certificate. In the Czech Republic, Japan, Korea, Taiwan, and the United States, completion of secondary education is required. In Australia, it entails completion of Year 12—the preparatory year for university study. In Britain, eligibility for upper tertiary education requires two or more A-level examinations (i.e., advanced secondary qualification examinations). In the Netherlands, there are multiple routs into higher education, but the most common are via the completion of academic five-year secondary education (VWO) or via four-year vocational postsecondary education (HBO). In Sweden, the eligibility rules have changed several times during the period of observation. Until the mid-1960s, eligibility for university studies was defined as having passed the examination at the upper secondary level (studentexamen). Since then, it was defined as having completed a three- or four-year program of study at the upper secondary level. In all countries, there are both main and alternative routes into higher education. The operationalization of eligibility in this chapter proxies the main routes into higher education in the various countries and tends to ignore the secondary ones. A related limitation is that in some countries different tiers of higher education have different eligibility requirements. In the country-specific chapters, this issue when relevant is addressed at length (see in particular Chapter 5 on Sweden and Chapter 11 on the Netherlands). For the comparative analysis presented here, however, a uniform definition was required. These compromises are necessary, since modelling such a large number of alternative routes into higher education would not be empirically feasible.

### *Modes of Differentiation*

As noted, we capitalize on the existence of marked differences between countries in the organizational form of higher education. However, these

TABLE 1.1  
*Classification of countries by mode of differentiation in higher education*

<i>Country</i>	<i>Mode of differentiation</i>
Britain	Binary
France	Binary
Germany	Binary
Netherlands	Binary
Russia	Binary
Switzerland	Binary
Israel	Diversified
Japan	Diversified
Korea	Diversified
Sweden	Diversified
Taiwan	Diversified
United States	Diversified
Australia	Other/Mixed
Czech Republic	Unified
Italy	Unified

differences also thwart a strictly comparable definition of higher education across cases. National postsecondary educational programs vary in eligibility requirements, content, duration, form of accreditation and certification, and in the settings in which they are offered (university, college, private institute, etc.). While educational systems typically exhibit some mix of organizational forms, we follow Meek et al. (1996) who classify them into three ideal typical modes of differentiation. Column 2 in Table 1.1 classifies countries by these organizational categories. The classification pertains to the most recent decades covered by the data in each country and is based on information provided in the respective chapters. Six of the cases are binary, six are diversified, and two are unitary. Australia does not fall comfortably into any of the three categories, but whether we include it as a unified case or exclude it from the analysis does not substantially affect the results we report in findings that pertain to mode of differentiation.<sup>2</sup>

In *unified systems*, the bulk of postsecondary education is held in universities, is predominantly academic and theory-oriented, and is designed to train students for entry into research or high-skill professions. *Binary systems* combine academic higher education with second-tier programs that are occupationally oriented. However, occupationally oriented programs vary greatly in length and prestige across countries. In Germany, for example, *Fachhochschule* programs typically last four years, whereas in France the *diplôme universitaire technologique* (DUT) requires only two

years. And yet, the French *instituts universitaires technologiques* (IUT), in which the DUT programs are offered, are more selective than regular universities, whereas in Germany the *Fachhochschulen* are often less selective than universities. In most *diversified systems*, second-tier education includes both occupationally oriented programs and programs that may lead to academic education. The prime examples are the American, Japanese, and Taiwanese junior colleges that offer both vocational and academic two-year preparation for entry into four-year programs.

### *Market Structure*

Private/public distinctions in education can be proxied in many ways, such as the degree of state institutional control, student enrollments in the private sector, the number of private institutions, and the private/public mix of funding. We conceptualize the market structure of higher education by focusing on the extent to which the system is driven by a consumer logic, that is, the extent to which colleges and universities are dependent on resources provided by private sources. We operationalize this variable as the percent of national expenditures on higher education that come from private sources as reported by the OECD (OECD 1985–92, table II.1.9, p. 50; OECD 1996, table F1.1c, p. 61).<sup>3</sup> We rely on OECD data here because they report reliable and comparable data on privatization for most countries in our sample. Our focus on examining the implications of private compared to public financial support for higher education systems is consistent with resource dependency theoretical orientations from the sociology of organizations literature; this approach suggests that institutional dependence on particular resource flows has consequences for the form, structure, and practices of organizations (Pfeffer and Salancik 1978).

### *Measures of Inequality*

As noted above, logit regressions (i)–(iii) include measures of father's class and parental education. Father's class was measured on an EGP or a very similar class schema (Erikson and Goldthorpe 1992), and parental education was measured on the CASMIN educational schema (Müller et al. 1989). Both schema are shown in Appendix Table B. From each equation we extracted the log-odds of attaining a particular educational outcome contrasting respondents whose fathers were in classes I or II (the so-called service classes that include professionals, managers, and owners of large

firms) against those whose fathers were in classes V and VI (the skilled working class). We also extracted the log-odds of achieving an educational outcome contrasting parents with higher education against those with only secondary education. The average of these two log-odds statistics provides a composite summary measure of the relative effects of social background on educational transitions and thus serves as our measure of inequality between social strata, for each educational outcome (i)–(iii).<sup>4</sup>

#### COMPARATIVE CASE-STUDY RESEARCH

There is a long-standing debate about the merits of variable-oriented and case-oriented comparative research (e.g., Abbott 1992; Ragin 1997; Goldthorpe 2000a). The former aims to test hypotheses about relationships between variables and to generalize from samples to populations of cases. This genre assumes probabilistic models of causation. Change in *X* (e.g., educational expansion) can increase or decrease the probability of an outcome (e.g., equalization of educational opportunities between social classes) but does not determine the outcome fully. Therefore, probabilities can only be computed in relatively large samples of cases. However, with a large number of cases, it is difficult for the researcher to gain an intimate understanding of the idiosyncratic narratives and causal processes operating within cases. Variable-oriented studies have been criticized for tracking cases as mere carriers of variables and categories and ignoring their other characteristics. Causality is attributed to statistical associations between variables by the degree of statistical fit between a theoretical model and data rather than sought in narrative and process (Abbott 1992). By contrast, case-oriented research treats cases holistically and seeks to achieve a deep and full understanding of each. Causality, if sought, is to be found in the historical development of the case, the narrative prevalent within it, or its cultural or structural context. Case-oriented studies are usually limited to one or a few cases and no formal attempt is made to generalize beyond them. Thus, variable-oriented researchers are frustrated by their inability to fully understand their cases while case-oriented researchers are limited by their narrow, if deep gaze, and weak capacity to generalize from sample to population.

The collaborative comparative method aims to bridge these extremes. On the one hand, in this chapter we study a sufficient number of cases to attempt to formulate some tentative generalizations about the relationships

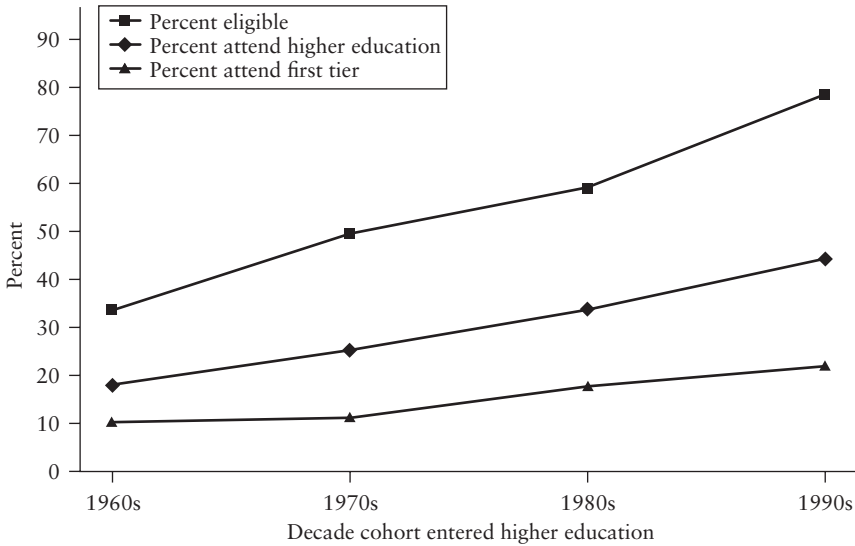


Figure 1.1. Average Trends in Higher Education Eligibility and Attendance in 15 Countries

between variables.<sup>5</sup> On the other hand, the individual country chapters provide detailed contextual, historical, institutional, and statistical information on each of the cases.

#### ANALYSIS AND FINDINGS

##### *Expansion and Educational Stratification*

In Figure 1.1 we describe change across cohorts in the rates of eligibility and attendance of higher education and of the first tier. The horizontal axis of the figure is labeled by the decade during which the birth cohort would have made the transition from secondary to higher education.<sup>6</sup> We see a marked expansion, across the four decades, in all three educational levels. On average, the eligibility rate for higher education increased from about 35% to about 80%, and attendance of higher education increased from under 20% to over 40% on average. Attendance rates in the first tier also increased about twofold during the four decades.

Following Raftery and Hout's MMI hypothesis, our Proposition 1 suggests that inequality between social strata in the odds of attaining an educational level is stable over time and is unaffected by educational expansion

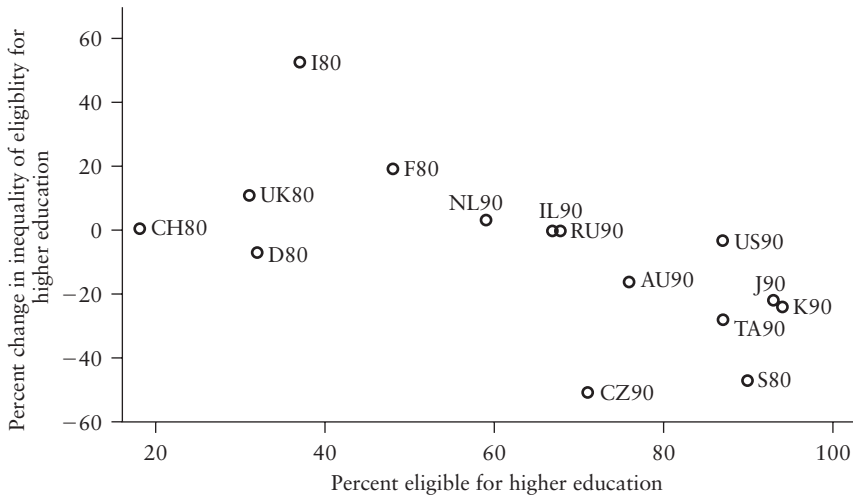


Figure 1.2. Association between Percent Eligible for Higher Education and Percent Change in Inequality of Eligibility

NOTE: In this and subsequent scatterplots, the countries are labeled by their acronym and the decade during which the last cohort attended higher education. The acronyms are: AU, Australia; CH, Switzerland; CZ, Czech Republic; D, Germany; F, France; I, Italy; IL, Israel; J, Japan; K, Korea; NL, Netherlands; RU, Russia; S, Sweden; TA, Taiwan; UK, Britain; US, United States.

unless the proportion attaining it nears saturation. We begin to assess this hypothesis in Figure 1.2, which depicts the association across countries between eligibility rates and change in inequality of eligibility. The data points in the plot are labeled by the country acronym and the decade during which the youngest cohort attended higher education. We measured change in inequality as the percent difference between the two youngest cohorts in the mean effects of father's class and parental education on the log-odds of eligibility.

Figure 1.2 reveals that inequality in eligibility declined in five countries, was about stable in nine, and increased in one (Italy). The observed pattern is largely consistent with the saturation hypothesis. For this project, we operationalize saturation as educational attainment rates exceeding 80%.<sup>7</sup> In four of the five countries in which inequality declined, eligibility was greater than 80%, and in all but one or two of the countries (Australia is borderline) in which eligibility rates were lower than 80%, inequality was stable or increased over time.

The limitation of Figure 1.2 is that it depicts the relation between changing inequality and saturation, but does not represent expansion. We address this limitation by examining the partial correlations between saturation and expansion on the one hand, and changing inequality on the other hand. We measure expansion as percent *change* between the two youngest cohorts in eligibility rates. The bivariate correlation of expansion with change in inequality of eligibility is weak (0.13). To take account of expansion and saturation simultaneously, we define a dummy variable which is coded 1 for the five cases in which 80% or more of the youngest cohort were eligible for higher education (i.e., U.S., Japan, Korea, Taiwan, and Sweden) and estimate a linear regression of change in inequality of eligibility on both expansion of eligibility and the saturation dummy ( $R^2 = 0.24$ ). The standardized effect of expansion is virtually null ( $r = -0.04$ ) but the effect of saturation is sizeable and negative as expected ( $r = -0.50$ ). This is precisely the pattern of results predicted by MMI and Proposition 1.

Next we repeat the analysis for the transition from eligibility to the actual attendance of higher education. First, we relate change in inequality in the log-odds of making the transition to higher education to the percent of eligibles who attended higher education. We hypothesize that, in the presence of expansion, as the proportion of eligibles who attend higher education exceeds 80%, inequality at that transition point would decline. Figure 1.3 displays the bivariate relation between the percent of eligibles who attended higher education and change in inequality in the transition from secondary to higher education attendance ( $r = -0.36$ ).<sup>8</sup> A detailed inspection of the figure shows that inequality in the transition from eligibility to higher education was relatively stable in six of the thirteen cases shown (Korea, U.S., France, Britain, Czech Republic, and the Netherlands), increased in three, and declined in four. Of these four cases, the proportion of eligibles who continued to higher education exceeded 80% in two (Israel and Italy). The exceptions are Taiwan and Japan, where inequality declined without saturation. In both cases, colleges were allowed to expand rapidly in the 1990s, after a period of retrenchment and consolidation (for details, see Chapters 3 and 6). In both, but especially in Taiwan, college enrollments expanded at a much faster pace than the rate of eligibility, and inequality in the transition to higher education declined. Figure 1.3 also reveals one case in which inequality in the parameters examined did not decline despite saturation: in the United Kingdom, rates of higher education enrollment

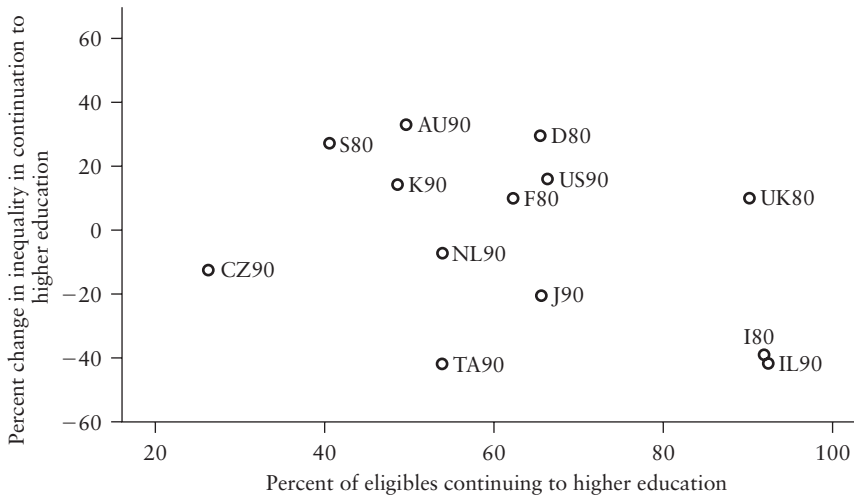


Figure 1.3. Association between Percent of Eligibles who Continued to Higher Education and Change in Inequality in the Log-odds of Continuation

NOTE: Switzerland and Russia are excluded (see note 8).

among those eligible were very high, but little expansion occurred over the period covered by the data (see Chapter 8).

Next, we estimate a regression similar to the one reported earlier, in which we study the combined effects of saturation and expansion on change in inequality of higher education attendance. The dependent variable is inequality in the transition from eligibility to higher education, and the independent variables are two: a dummy variable representing saturation (coded 1 for countries in which 80–100% of eligibles attended higher education, i.e., Italy, Israel, and the U.K.), and expansion in the transition rate from eligibility to higher education (measured as the percent increase between the two youngest cohorts in the proportion of eligibles who attend higher education.) The bivariate correlations between expansion and saturation on the one hand, and the dependent variable on the other hand, are  $-0.36$  and  $-0.45$  respectively. However, when both variables are included in the regression equation ( $R^2 = 0.21$ ) their standardized effects are  $0.06$  and  $-0.50$ . Thus, on average, across the thirteen countries that are included in this analysis, saturation would seem to reduce inequality while expansion alone does not.

In sum, MMI is supported by our data: expansion can attenuate educational inequality but its effect is not a linear one. Rather, educational expansion tends to attenuate inequality when it reaches the point at which educational attainment at a particular level is nearly universal.

#### DIFFERENTIATION AND INCLUSION

Our next empirical question concerns the extent to which institutional differentiation stratifies opportunities in higher education. Specifically, we address two hypotheses: first, that differentiation and expansion are related (Proposition 2); and second, that the differentiation of higher education diverts students from first-tier education (Proposition 3). To this end, we compare attendance rates in higher and first-tier education in unified, diversified, and binary systems. In addition, we compare inequalities of access to higher and first-tier education between diversified and binary systems.

Table 1.2 examines the relations between expansion, differentiation, and inequality. Although we do not have sufficiently detailed measurement of differentiation nor adequate variation within country over time to model formally the relationship between change in differentiation and change in enrollment, we nevertheless find substantial differences in eligibility rates between diversified systems as well as between binary and unified systems. In the diversified systems eligibility is nearly universal (86%) on average, compared with 42% and 54% in the other two categories. Moreover, diversified systems have the highest tertiary attendance rates. Thus, we find general support for Proposition 2: both eligibility and attendance rates tend to be higher in diversified systems. Table 1.2 does not reveal the mechanisms that link differentiation and higher rates of tertiary enrollments, but the country-specific chapters suggest that more diversified systems tend to have more lenient requirements for eligibility for higher education. In most diversified systems (U.S., Japan, Korea, Taiwan, and Sweden in recent decades) eligibility is conferred upon graduation from secondary school, whereas in most binary systems (Britain, Germany, France, Russia, and Switzerland) students must pass a series of matriculation examinations to be eligible. Matriculation examinations are generally more selective than graduation. Therefore, where matriculation examinations determine eligibility, fewer students are eligible than in systems that require only graduation. In addition, in most

binary systems the distinction between vocational and academic education begins at the secondary level, where many students are already diverted from tertiary education (Kerckhoff 1993).

Proposition 3 suggested that the differentiation of higher education may divert students from first-tier higher education. Column 3 of Table 1.2 contradicts this claim as it pertains to diversified systems: the cohort proportions attending the first tier in diversified and unified systems are similar. By contrast, in binary systems first-tier attendance rates are very low.

Whereas columns 1–3 of Table 1.2 respond to questions about differentiation and overall rates of eligibility and higher education attendance, columns 4–6 address questions about inequality, as represented by average logit coefficients for effects of parents' educational and occupational backgrounds on eligibility for and attendance in higher education and its first tier. In column 4 we compare the three modes of differentiation with respect to inequality of eligibility. We find that inequality of eligibility is similar in unified and binary systems (0.92 and 1.0) and is somewhat lower in diversified ones (0.77), consistent with our interpretation that diversified systems have more lenient eligibility requirements. Thus, we conclude that diversified systems are more inclusive than both binary and unified systems: a larger proportion of the population is eligible for and attends higher education, and inequality occurs at a lower rate. The contrast between diversified and binary systems is particularly compelling, favoring diversified systems which exhibit both more expansion and less inequality.

The greater inclusiveness of diversified systems could be illusory, if students from disadvantaged backgrounds lacked access to first-tier higher education. Column 6 suggests this is not the case. Inequality of access to the first tier appears slightly lower in diversified than in binary systems (1.3 versus 1.6 in the logit metric). This contrast is robust to controls for expansion: in a regression on first-tier inequality controlling for percent of first-tier enrollment, diversified systems exhibited lower inequality by the same margin as reflected in column 6.

In both diversified and binary systems, inequality is greater for first-tier enrollment than for enrollment in higher education overall (compare columns 5 and 6). Unified systems have only one tier, so that comparison is not relevant, but it is noteworthy that while diversified systems exhibit lower inequality in higher education enrollment than unified systems, the latter exhibits lower rates of first-tier enrollment inequality. Thus, the

TABLE I. 2  
Means and standard deviations (in parentheses) of eligibility, attendance, and inequality by mode of differentiation

Mode of differentiation	<i>n</i>	(1) Percentage eligible for higher education	(2) Percentage attend higher education	(3) Percentage attend first-tier higher education	(4) Inequality in eligibility	(5) Inequality in higher education	(6) Inequality in first-tier higher education
Binary	6	42.3 (18.2)	30.7 (7.6)	12.2 (5.0)	1.0 (.49)	0.99 (.30)	.85 (.33)
Diversified	6	86.3 (9.9)	51.8 (10.0)	24.2 (2.2)	.77 (.29)	.80 (.26)	1.3 (.99)
Unified	2	54.0 (24.0)	26.5 (10.6)	26.5 (10.6)	.92 (.71)	.85 (.33)	1.6 (1.21)
Total	14	62.8 (26.0)	39.1 (14.2)	19.0 (8.1)	.90 (.43)	.88 (.28)	1.4 (1.01)

NOTE: Australia is excluded (see footnote 2). The figures in columns 4–6 are average logit coefficients of fathers' class effects (the effect of the service class versus the skilled manual working class) and parental education (higher versus secondary education).

differentiation of higher education may come at some cost to inequality of first-tier enrollment, although this conclusion is necessarily tentative since it is based on only two unified cases. The more robust conclusion is that diversified systems exhibit both greater enrollment levels and less inequality than binary systems at all levels of higher education. Thus, we find strong support for Proposition 2 (differentiation and expansion are related), but Proposition 3 (differentiation leads to diversion) is largely refuted. Diversified systems exhibit more first-tier enrollment at lower rates of inequality than binary systems. The relative class-based odds of first-tier enrollment still appear lowest in the unified systems (which have only one tier), but diversified systems offer more access to higher education overall at little cost to enrollment in the first tier.

#### MARKET STRUCTURE, DIFFERENTIATION, AND ACCESS

Finally our analysis turns to a set of questions that focus on the role of market structure on higher education differentiation, expansion, and inequality (Propositions 4–6). As noted above, we operationalize market structure as the percent of higher education funding that is provided through private sector sources. As was the case in our analysis of differentiation, data limitations prevent formal modeling of changes in funding from private sources within country over time. Nevertheless, we are able to explore the extent to which private sector involvement is related to the scale, scope, and allocation of higher education (i.e., the extent to which it is associated with expansion, differentiation, and inequality).

Figure 1.4 displays the relation between market structure and the size of the higher education sector. There is a strong positive association between these variables ( $R^2 = 0.44$ ), consistent with Proposition 4. However, in supplementary analysis (results not shown), we found no significant relation between private funding and attendance in higher education when the latter was considered only for the subset of the cohort that was eligible. This finding suggests that where higher education is largely funded by private sources, it expands through the adoption of lenient eligibility criteria. Similar results were found when we examined attendance rates solely for first-tier higher education.<sup>9</sup>

Table 1.3 examines the relation between private funding and mode of institutional differentiation (classified as unified, binary, or diversified).

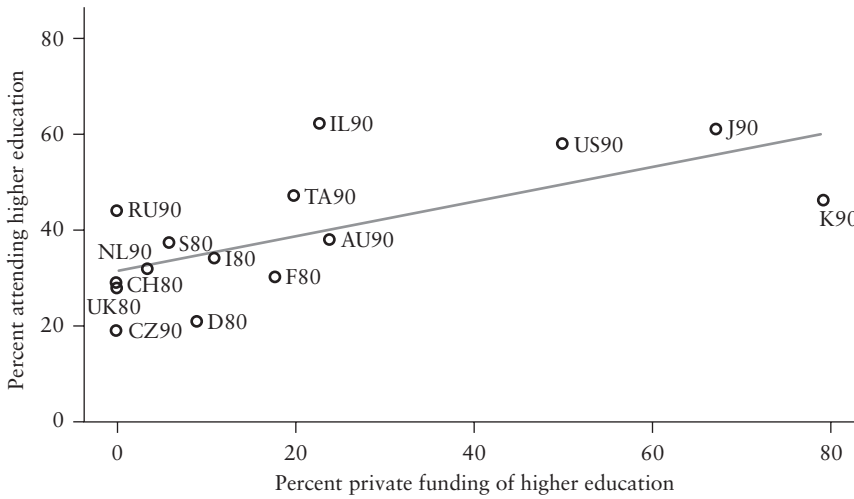


Figure 1.4. Association between Percent Private Funding and Percent Attending Higher Education

TABLE 1.3  
Private sector funding and mode of differentiation in higher education

Mode Of differentiation	TERTIARY EDUCATION RELIANCE ON PRIVATE-SECTOR FUNDING		
	Low	Moderate	High
Unified	Italy Czech Republic		
Binary	Germany Russia Switzerland Britain Netherlands	France	
Diversified	Sweden	Israel Taiwan	Japan Korea United States

Both unified systems exist in settings where tertiary education is funded primarily through public sources. When variation and delineation in organizational type occur in systems with low levels of private funding, it is usually binary rather than the less structured and weakly demarcated diversified form (Sweden is the one exception). Diversified higher education systems appear primarily in countries where higher education relies on private

funds to a larger degree. Thus, we find support for Proposition 5: reliance on private sources of funding is conducive to greater differentiation. More important however, in systems with a high degree of private funding, the mode of differentiation is more likely to be diversified than binary.

Given that greater reliance on private funding of higher education is associated with institutional differentiation, one would also expect increased rates of tertiary attendance in these settings. We find this indeed to be the case. The partial correlation coefficient between private funding and higher education expansion (i.e., change over time), net of the overall original size of the higher education system is 0.29. Countries with lower rates of expansion tend to have lower rates of private funding and to have either unified or binary institutional forms. This pattern is also consistent with Proposition 5.

Finally, we address Proposition 6 by exploring the relation between the degree of reliance on private funding and inequality in attendance at higher education. When exploring zero-order correlations between our measures of inequality in higher education attendance and the extent to which the system was supported by private sector funding, we found no evidence of any significant association (correlation coefficient = 0.03). We found similar patterns when we examined the association of private funding with change over time in social background effects and when considering attendance solely in first-tier institutions. However, the absence of a direct correlation between private sector funding and inequality in higher education masks the presence of two contradictory patterns of association underlying this phenomenon of null overall (or “total”) effects.

In Figure 1.5, we present a path diagram that captures the extent to which private sector funding is associated with variation in both higher education attendance and higher education inequality. Specifically, private sector funding exhibits a positive direct association with inequality in higher education, as identified by the partial correlation coefficient of 0.31 in the diagram. However, the extent to which private sector funding contributes to increased inequality is mitigated by the indirect link between private sector funding and inequality via higher overall rates of tertiary enrollments. In path diagrams, such an indirect effect can be calculated as the multiplicative product of the two partial correlation coefficients ( $0.67 \times -0.43 = -0.29$ ).

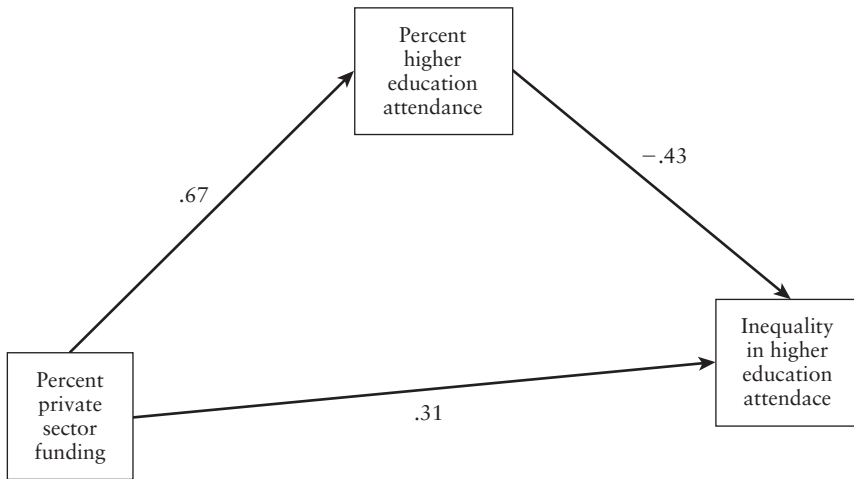


Figure 1.5. Path Diagram of Associations between Private-sector Funding, Higher Education Attendance, and Inequality in Higher Education

These results indicate that the beneficial effect of private funding is due to its positive effect on increased levels of educational attendance, which in turn reduces inequality of access. Net of this indirect connection, increased reliance on private sources of funding tends to magnify inequality. We suspect that in highly privatized systems, class inequalities may reflect family differences in the ability to pay tuition fees.

In sum, our findings suggest that privatization of financial sources of support for higher education can be beneficial up to a point. In so far as it contributes to the expansion of higher education, it reduces inequality. Controlling for expansion, privatization enhances inequality of access; taken as a whole, however, privatization is associated with larger higher education systems and similar aggregate levels of inequality overall.

#### A NOTE ON GENDER INEQUALITY

Although it was not the main focus of our inquiry, we would be remiss if we did not mention the findings related to variation in gender inequality, which also appear in each of the country-specific chapters. Consistent with what other researchers have observed (e.g., Bradley 2000), our findings indicate

that men's advantages in educational attainment declined dramatically during the second half of the twentieth century. The erosion of the male advantage is especially pronounced for participation in postsecondary education. In all countries for which data are available, and in both the conditional and unconditional models, men's relative advantage declined. Only among German, Korean, and Taiwanese high-school graduates do men still hold a small advantage relative to women in the odds of entering postsecondary education. In late-Soviet Russia, where women already held a substantial advantage in the odds of postsecondary enrollment given secondary completion, men reduced the gaps but still enroll at lower rates than women. A similar picture is seen with regard to gender differences in the odds of attending first-tier institutions of higher education.

How did gender inequality in higher education change between the two most recent cohorts in our data? Already in the next-to-last cohort, men and women reached parity, on average, in the odds of attending higher education. The mean effect of gender in that cohort was negligible. By the last cohort, the gender gap increased in favor of women who, on average, were 1.14 times as likely as men to attain higher education. On average, women's advantage (or men's disadvantage) increased by 20% between the two most recent cohorts. We also find that the decline in the male advantage is related to its magnitude in the next-to-last cohort: it declined most in countries where men initially enjoyed a large advantage (Taiwan, Korea, Japan, Israel, and Czech Republic). The correlation between the magnitude of the decline and the prior male advantage is 0.57. In addition, women's advantage in access to higher education increased (or their disadvantage declined) more rapidly in countries where higher education expanded fastest. The partial correlation between female's advantage and the expansion of higher education between the two recent cohorts (controlling for female advantage in the next to last cohort) is 0.29 suggesting that women took somewhat better advantage of expansion than men. The correlation between women's advantage and reliance on private sector funding is  $-0.22$ , reflecting the fact that in two of the countries with very high proportion of private funding (Korea and Japan) gender inequality in higher education was large until recently. Among other countries there is no systematic relationship between private funding and gender inequality. Similarly, we do not find notable differences when comparing gender inequality of access to higher education between binary, diversified, and unitary systems.

In sum, our data show an average widening of the gender gap in higher education favoring women, and indicate that the gap expanded fastest in systems where attendance rates expanded most. While there are differences across systems in the rate of change, overall there is a fairly uniform pattern of women's increasing participation in higher education, closing the gap, and then often coming to outperform men in higher education enrollment.

#### DISCUSSION AND CONCLUSIONS

Findings from this project provide evidence of the relations among institutional expansion, differentiation and privatization, and the stratification of individual educational opportunity. We briefly review the findings in these three areas, before discussing their theoretical and policy implications. We conclude with an outline of the chapters found in the rest of this book.

Our synthesis of country-specific findings indicated that expansion is pervasive, and that under certain conditions, it may lead to declining inequality. In particular, expansion to the point of saturation was associated with declining inequality in eligibility for higher education in four countries (Japan, Korea, Taiwan, and Sweden), and with a decline in inequality in the transition from secondary to tertiary education in two countries (Italy and Israel). With a few exceptions, inequality rates were stable or increased in other cases. These findings supported Proposition 1, that inequality is maximally maintained. Among the exceptions, we took particular note of declining inequality in the transition to higher education in two other countries that underwent sharp expansion after a period of consolidation (Japan and Taiwan). These cases suggest that rapid expansion in a diversified and deregulated system of higher education can broaden involvement in higher education across the social strata, apparently without any greater tendency to divert those of disadvantaged origins to lower-tier institutions.

We also found that expansion and institutional differentiation are related; in particular, diversified systems of higher education exhibit higher rates of eligibility and correspondingly higher rates of enrollment than unified and binary systems (consistent with Proposition 2). Moreover, we found that binary systems divert students away from higher education as a whole and from its first tier. In diversified systems, the proportions attending higher education are much larger than in other systems and, contrary

to our expectations (see Proposition 3), the proportions attending first-tier institutions are more comparable to those of unified ones.

Finally, we examined the extent to which variation in private support for higher education was associated with institutional expansion and differentiation as well as stratification of educational opportunities. Our synthesis of country-specific findings suggests that systems with more private sector involvement tend to expand more rapidly and are more diversified (consistent with Propositions 4 and 5). In approaching this project, we hypothesized that while privatization is associated with inequality of access to higher education, we could not specify a priori the shape of the association (Proposition 6). On the one hand we assumed that the client-seeking behavior of private institutions would be associated with expansion, a weakening of social selection, and thus greater inclusion of the lower strata. On the other hand we expected that reliance on private funding could potentially lead to higher tuition fees on average and would increase inequality of access. Our analysis suggests that both mechanisms are likely operative and that these countervailing trends in combination largely balance each other out in their effects. Specifically, privatization is associated with expansion of opportunity and a corresponding lessening of social inequality, but privatization net of expansion is associated with increased inequality of access. Thus, whereas privatization through the indirect effect of expansion tends to draw persons into higher education, it also has direct effects that are exclusive; overall, the total effect of privatization on educational stratification is neutral.

How do these findings stand with respect to claims about inclusion and diversion? Overall, we found much stronger evidence of inclusion than of diversion. Whereas privatization was associated with inclusion and diversion in about equal amounts, expansion and diversification tended to be largely inclusive. First, overall expansion was inclusive in the sense that even when social selection is stable, expansion means that more students from all strata, including those from disadvantaged backgrounds, are carried further into the education system, and for the cohort as a whole inequality is reduced. Second, expansion in a context of saturation often results in declining inequality, clearly a case in which expansion stimulates inclusion. We observed this pattern for both eligibility and attendance of higher education. Third, whereas binary systems tended to exhibit both more inequality and lower rates of tertiary enrollment, diversified systems

offered much higher rates of enrollment with no greater inequality overall, and just moderately greater inequality of first-tier enrollment compared to our two unified cases. Diversified systems are thus more inclusive overall than either binary or unitary systems.

Our first claim, that expansion is inclusive even without declining inequality, gives a new interpretation to a familiar set of findings. Previous work characterized cases of rising enrollment and stable odds ratios for educational transitions as “persistent inequality” (Shavit and Blossfeld 1993). In our view, this conclusion misses an important point: When a given level of education expands, we should expect increasing inequality of enrollment at the *next* level due to the increased heterogeneity of the eligible population (see Rijken, Maas, and Ganzeboom, Chapter 11 of this volume). Consequently, when inequality in an expanding system is stable rather than on the rise, the system should be regarded as increasingly inclusive because it allows larger proportions of all social strata to attend. By this notion, not only should most of our cases be regarded as increasingly inclusive, but so should those reported by Shavit and Blossfeld (1993) despite the stability that they find in the parameters of the educational stratification process. Looking within countries over time, our findings generally mirror those in *Persistent Inequality*: stable odds ratios, conditional on eligibility (Figure 1.3). Only post-Soviet Russia exhibited increasing inequality.<sup>10</sup> Of the four cases of downward changes in odds ratios, two may be explained by saturation (Israel and Italy) and two by rapid expansion following consolidation (Japan and Taiwan).<sup>11</sup>

Our findings and conclusions have policy implications. *Persistent Inequality* emphasized that expansion enables the privileged classes to retain their relative edge in the process of educational stratification. Our interpretation is different. Of course, we recognize that class inequalities in the *relative* shares of education persist over time and are difficult to change. Much research has shown that in most instances the privileged classes manage to maintain their advantages over time. Given the stability of *relative* inequalities, the most that policy can achieve under ordinary (i.e., nonrevolutionary) political circumstances is change in the absolute size of the educational pie (i.e., expansion). Yet we reach a slightly more optimistic conclusion here: namely that the expanding pie is increasingly inclusive even when relative advantages are preserved, because it extends a valued good to a broader spectrum of the population. Moreover, we found that diversified systems

tend to be more inclusive than binary systems—without diverting students from the first tier—and we noted four cases of expansion in which relative inequalities actually diminished somewhat. Our findings thus imply that educational expansion is an equalizing force and that diversification is not inconsistent with inclusion.

Critics of our position may argue that education is a positional good (Hirsch 1976). That is, the value of an educational credential is not absolute but rather is determined by relative ordering on the hierarchy of credentials. To the extent that education *is* a positional good, change in the size of the educational pie is not likely to affect the opportunity structure that individuals and classes face in the labor market, which can only be affected by change in *relative* educational inequalities between classes. But is education a strictly positional good? The value of education also lies in the human capital it instills in students (e.g., Kerckhoff, Raudenbush, and Glennie 2001). This seems particularly clear for specific vocational and professional training (Boesel et al. 1994, 137), as well as for basic and advanced literacy and numeracy, but it is arguably more generally applicable (Kerckhoff, Raudenbush, and Glennie 2001). To the extent that attainments in the labor market reflect the human capital component of education, it makes sense to enhance the latter through the expansion of higher education. Moreover, even if education were strictly a positional good, it would still make sense for individual countries to expand their systems of higher education. Workers now compete in a global labor market and education is positional in relation to its global distribution. Therefore, countries that enhance the absolute educational distribution of their youths give them an edge in the competition against youths in other countries.

The fifteen country specific case studies in the book are organized into three broad categories: (1) diversified systems, (2) binary systems and (3) unified and other systems. Here we offer an outline of the presentation with key findings from the country-specific chapters highlighted to aid the reader in approaching this volume.

### *Diversified Systems*

Chapter 2 examines recent changes in higher education in Israel. During the 1980s there was a growing imbalance between increasing demand for higher education and the restricted capacity of the few universities that

existed at the time. As demand mounted, the universities raised their admissions criteria resulting in growing social inequality of access through the late 1980s. The expansion of higher education through the creation and accreditation of colleges and foreign extensions reversed this trend during the 1990s. These less selective institutions provided students from less privileged social origins with an alternative to the university; as a result, inequalities between strata in the odds of attending higher education declined. Social inequality in access to the veteran universities remained high but stable.

Chapter 3 describes a highly diversified Japanese higher education system that expanded dramatically in both the 1960–75 and the post-1985 periods due to newly established private universities, but stagnated in the intervening decade due to state regulatory policies. There was little change in the effects of social background on higher educational attainment over the period of observation. While parental education effects were constant over time: parental occupation had weakening effects on higher education attendance but increasing effects on the sorting of students between four-year and two-year institutions.

Distinctive features of South Korean higher education identified in Chapter 4 include its high degree of centralization, high level of privatization, and its rapid expansion, particularly during the 1990s and especially in the junior college sector. Inequality of eligibility, overall higher education enrollment, and four-year university enrollment were largely stable throughout the second half of the twentieth century, with one important exception: the impact of father's education on university enrollment increased substantially. In the oldest cohort, respondents whose fathers completed tertiary education were about twice as likely as those whose fathers completed only secondary education to enroll in university; by the youngest cohorts, these rates differed by a factor of five.

Chapter 5 reports that during the twentieth century, higher education expanded dramatically in Sweden, and class inequality in the odds of enrollment declined. However, the two processes may not be causally related. The authors propose that expansion and the lowering of admissions criteria may have had a small beneficial effect leading to a slight decrease in social inequality. They suggest that the reason for the limited effect is that new educational opportunities are to a large extent used by middle-class students with mediocre grades but high educational aspirations.

Chapter 6 demonstrates that Taiwanese higher education since the 1940s has been expanding quickly, but the expansion was not linear. During the 1970s, in an attempt to meet the economy's demand for skilled labor, national constraints were imposed on the relative share of academic secondary education and on the expansion of academic tertiary institutions. During this decade, inequalities between social strata increased and then declined after restrictions were lifted and the expansion of academic education resumed. In addition, social inequality in the odds of attending the more selective four-year institutions increased by comparison to two-year colleges.

The volume's final chapter on diversified higher education systems (Chapter 7) presents an examination of changes in higher education in the United States. Unfettered by strong governmental regulation, U.S. higher education has expanded dramatically and in multiple directions. This expansion has solidified the diversified character of the higher education system and established a strong vocational component. Social-class differences have remained stable across cohorts. Students from more privileged families continue to have an advantage in all educational transitions, from eligibility to higher education to entry into elite colleges and universities. Although the disparities between social strata are reduced after controlling for academic achievement, they are still substantial and persist over time. In contrast to the stability of social-class differences, women and African Americans have made substantial inroads in access to higher education.

### *Binary Systems*

The volume begins its examination of binary higher education systems with Chapter 8 on Britain, where increasing enrollment in higher education has increased opportunities for all individuals since the late 1980s. A comparison of two cohorts immediately prior to this period (from the late 1970s and the late 1980s) shows some lessening of inequality in eligibility for lower tertiary levels but no change in inequality of upper tertiary eligibility or of postsecondary qualifications attained. For the cohort entering higher education in the late 1980s, although service-class children maintained their advantage, children from unskilled or semiskilled manual origins made some gains relative to children from skilled manual origins. Perhaps the most dramatic change between these two cohorts was the complete disappearance of the male advantage in eligibility for upper tertiary education and in postsecondary attainment conditional on eligibility.

In France (Chapter 9), the decrease in social inequality in attending tertiary education, characteristic of the first half of the twentieth century, stopped since WWII and was followed by an increase in social inequality for the cohorts born in the late 1960s. Although the rise in the rate of tertiary education was impressive, it did not lead to a reduction in social inequalities. One explanation for persistent inequality of access to higher education in France is that the rise in the completion rate of secondary education was partly achieved through the creation of vocational *baccalauréat* which may have diverted many working-class students from higher education to direct entry into the labor force. In addition, inequality of access to the *grandes écoles* has increased because these elite institutions expanded at a much slower pace than the university system.

The authors of Chapter 10 identify a pattern of declining effects of social background on attainment within German's segmented higher education system over time. These effects occurred prior to 1980 and have leveled off subsequently. These changes reflect declining effects of social background on secondary education (*Arbitur*) and completion occurring at rates greater than the increasing effects of social background on those making successful post-*Arbitur* transitions into higher education.

Contradictory pressures in the Netherlands (Chapter 11) were found to lead to stability in inequality of higher education attainment: an expanding risk set may contribute to increased social selectivity, even as education policies aim to reduce inequality of access. While the authors expected these pressures to operate differently at different levels of the Netherlands's binary system of postsecondary education, this was not the case. In general, patterns of inequality were stable over the last two decades of the twentieth century. These findings were reconciled with previous research on the Netherlands through presentation of unconditional models in which inequality *did* decline significantly. Most of the change has occurred at the transition between lower secondary and senior vocational education, so the conditional inequality parameters for higher education attendance were not affected.

Chapter 12 reveals increasing effects of social background on Russian higher education in the post-Soviet era. The growing significance of parental education and occupation on all higher education outcomes modeled occurred as the baseline odds of completing secondary education decreased. Prior to this change, however, the Soviet system was characterized by a bottleneck limiting access at the postsecondary transition point.

Chapter 13 provides findings on the binary higher education system in Switzerland, which experienced a gradual expansion of both levels from the late 1960s to the late 1980s. While this expansion was associated with the gradual differentiation of the institutions of tertiary vocational education, the changes were not related to variation in the effects of social background on either higher education enrollment or completion. The effects of parental education were particularly strong determinants of higher education access. Not only were social background effects stable across cohorts in Switzerland, but the effects of gender and the underrepresentation of women in higher education also remained relatively constant.

#### *Unified and Other Systems*

The final three chapters of the book focus on unified and other systems of higher education. Chapter 14 focuses on changes in the higher education system in Australia involving reorganization of institutions into a comprehensive national system, changes in financing, and increasing enrollments. These changes have been associated with declining class-based inequality in attendance. Specifically, the effect of parental occupation on higher education participation has decreased for the latest cohorts.

Chapter 15 shows that despite substantial reform efforts, higher education in the Czech Republic has been slow to change. Higher education expansion has not kept pace with rising educational aspirations, nor with substantial increases in the number of secondary graduates. Tertiary education remains a unified system with essentially no lower tier. As a result, the transition from secondary to tertiary education has become extremely competitive, and the offspring of semiskilled and unskilled workers have been the big losers in this competition: inequality between this group and all other class categories has increased significantly during the postcommunist period.

Chapter 16, the book's concluding chapter, examines Italy, a country with one of the lowest levels of higher education attainment in the industrialized world. While higher education has expanded, such growth has not occurred as spectacularly as in other countries. Furthermore, university enrollments have grown faster than the number of degrees conferred. Many more Italians start tertiary-level programs than complete them. The exclusively academic nature of postsecondary education (modified only in the late 1990s) accounts for this discrepancy. Italian universities do not cater

to weaker students and thereby tend to reduce the opportunities for higher education of individuals originating from lower socioeconomic strata. Class inequalities in the odds of attaining a university degree decrease progressively, but the effects of parental education, which are stronger than those of class, have been stable and have even increased.

Overall, the chapters provide a detailed description of how variation in expansion, differentiation, and privatization shape access to higher education in advanced countries. It is only through understanding these institutional effects that effective education policy and social theory can be developed.

