



At all costs: educational expansion and persistent inequality in the Philippines

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Abstract

This paper studies educational inequality in the Philippines from 1950 to 2015, examining changes in the association between social origin and educational attainment against a backdrop of educational expansions and fluctuating economic conditions. Using data from the World Bank STEP Skills Survey, the study employs a sequential logit model to illustrate trends in secondary and college completion, followed by a multinomial logit model to look into differences in college destinations (type and status) between advantaged and disadvantaged students. The findings indicate that despite sustained expansions in the past six decades, disparities in secondary and tertiary completion deepened in relation to social background. The paper also finds that although expansions occurred mainly in public higher education institutions, it did little to alter the trends in college destinations, with advantaged students still more likely to complete in “high-status” universities than disadvantaged ones. Finally, the paper sheds light on how economic recessions have varying consequences on educational attainment, routing disadvantaged students out of college in the short term, while resulting in significant declines in the likelihood of completing higher education for advantaged students enrolled in “high-status” public entities in the long term.

Keywords Philippines · Higher education · Education policy · Educational expansion · Higher education access · Equality of opportunity

Introduction

Around the world, educational attendance surged following the Second World War, with most advanced economies reaching saturation in secondary while doubling higher education participation (Arum et al., 2007; Bar Haim & Shavit, 2013). This has motivated the study of inequalities in education, or the extent to which ascribed characteristics such as socioeconomic origin or gender, impact attainment in expanding systems (Breen & Jonsen, 2005; Coleman, 1968; Gruijters, 2019). Since then, researches in Europe, the USA, and East Asia have found that expansions have either maintained or intensified the role

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of social background for higher levels of study (Byun & Park, 2017; Shavit & Blossfeld, 1994; Torche, 2005, 2010).

The Philippine case has long puzzled education stratification researchers. Despite having one of the highest income and wealth inequalities in the world (The World Bank, 2018b), its higher education participation rates have historically approximated those of developed countries with higher incomes per capita (A. Orbeta, 2002; The World Bank, 1988), at one point second only to the USA, and outperforming 120 countries including the UK and Japan (Kim & Hunt, 1968; Lande, 1965). That the Philippines reached these levels of attainment appears to defy reason: in a comparative study in 1999, Hout concluded that while most countries exhibited a waning effect of social origins, the Philippine case was inconclusive on “whether the effect of family background is too high or the estimate of post-secondary enrolment is too high...for a country with such low GDP” (2006, p. 246).

This paper studies trends in inequality of educational opportunity in the Philippines in the latter half of the twentieth century: a period marked by intermittent economic growth and opportunistic educational expansion, culminating with the passage of the *Universal Access to Quality Tertiary Education* law in 2017, abolishing tuition in all public higher education institutions. Against this backdrop, the research seeks to examine the following questions: have efforts to expand access across different levels of education in the Philippines reduced inequities in educational opportunity? Does public and private provision in higher education provision reinforce or weaken said inequities? How do economic downturns affect these dynamics?

While previous research in educational inequality in the Philippines have provided quantitative estimates on access of the poor (see A. Orbeta, 2002; Ortiz et al., 2019; E. Tan, 2008), this paper extends the literature by providing a comprehensive picture of education inequality across levels of attainment, spanning reforms from 1950 to 2015. Apart from illustrating the consequence of sequential expansion in access to education, it more importantly sheds light on where inequalities in access between advantaged and disadvantaged students emerge. To my knowledge, the study is also the first to disentangle the relationship between social background, higher education completion, and the characteristics of the institution attended—a critical factor in an education system with 2396 colleges and universities. Finally, the paper further develops the study by Smith and Cheung (1986) on the role of family background on attainment in the Philippines (1918–48), and by Tan (2008) on the role of public entities in enhancing equity in the 1990s.

This paper is organized in six sections. Following the introduction, the second and third sections present the literature on educational expansions and inequalities, and the context of the Philippine education system between 1950 and 2015. The fourth, fifth, and sixth sections then discuss the analytical strategy, results, and discussion.

Theoretical approaches

“Equality of opportunity” in education refers to the extent to which an individual’s chances to access education are independent of one’s ascribed characteristics (Breen & Jonsson, 2005). Many studies have since explored how industrialization and educational expansion, prevalent in developed countries in the West after the Second World War, may have contributed to reducing these inequalities (Breen et al., 2009; Shavit & Blossfeld, 1994). Another branch of study has examined how these inequalities manifest in developing economies, or those which experienced downturns, noting the differing consequences of

macroeconomic conditions on the rich and poor (Gerber & Hout, 1995; Gruijters, 2019; Torche, 2010, 2014).

Most studies on the inequality of educational opportunity have been anchored on two opposing theories. While modernization theory proposes that the expansion of education systems alongside the rise in demand for skilled workers reduces inequality (Treiman, 1970), reproduction theory contends that inequality is instead maintained, with schools helping reinforce the advantage of the elite. Thus far, studies have shown that while expansions are seen to relate to reductions in inequality in some systems, it does not automatically translate into improved opportunities for the disadvantaged, at times even worsening inequalities due to intensified stratification and competition (Cantwell et al., 2018; McCowan, 2016), often in relation to parental education and occupation (Bar Haim & Shavit, 2013; Breen & Jonsson, 2005; Breen et al., 2009).

Given the persistence of inequality, Raftery and Hout (1993) proposed Maximally Maintained Inequality (MMI), contending that expansions will maintain the same rates of education transition across classes and cohorts, all else being equal, unless a given level becomes saturated for the advantaged groups, and as long as the expansion in enrolment for the disadvantaged could not be accommodated in any other way. While the hypothesis has since been found to be applicable in the UK, studies in the USA, Sweden, France, and the Netherlands have varied from MMI, with inequality either diminishing despite “saturation” not being reached by advantaged classes, or shifting from access, to the type and quality of education received (Breen et al., 2009; Hout & DiPrete, 2006; Lucas, 2001).

This shift in inequalities, from the level attained, to the type received, relates to criticisms of MMI in its inability to account for differences in the characteristics of schools attended by students coming from different social origins. Later embodied in Effectively Maintained Inequality (EMI), Lucas proposed that once a certain level of education becomes saturated or quantitatively similar, the socioeconomically advantaged will secure qualitative advantages for themselves, given their ability to navigate complex school systems or afford programs and institutions often out-of-reach to the disadvantaged (Lucas, 2001, 2017). This has since been extended to show how qualitative advantages may exist even prior to saturation, whether in the status or selectivity of the institution and program, or the subject pursued (Ayalon & Shavit, 2004; Ayalon & Yogev, 2005; Torche, 2005).

Further scholarship has since substantiated these, noting the heightened association of social background and school characteristics, with the disadvantaged often ending up in less selective institutions, which in turn have far-reaching effects on completion, achievement, and returns (Alon, 2009; Brewis, 2019; Brint & Karabel, 1989; Byun & Park, 2017; Crawford et al., 2017; Goldrick Rab, 2006; Luo et al., 2018; McCowan, 2007, 2016; Salto, 2018; Torche, 2011). In the USA for instance, attendance of the poor in community colleges has been found to limit completion of a bachelor’s degree, while also negatively impacting adult occupational status (Brint & Karabel, 1989; Goldrick Rab, 2006).

The Philippine case

As with the rest of the world, the postwar period in the Philippines was characterized by significant population growth, rapid urbanization, and a massive expansion of its education system (McHale, 1961). With newfound independence from colonial powers, the college diploma, previously unattainable to ordinary Filipinos during the Spanish regime (1521–1898), became the way to gain standing in the new social order (Carson, 1961;

McHale, 1961). As the government struggled with elementary, secondary was left to local governments and the private sector (E. A. Tan, 2001; The World Bank, 1988), while the unmet demand for college, which could not be accommodated by pre-war institutions, was filled by newly established private entities (Gonzalez, 1989; Lande, 1965; Orata, 1956). With surging demand in the 1950–60s came the proliferation of many “institutions of higher learning in name only” (Orata, 1956, p. 168), with most keeping tuition fees and admission requirements to a minimum (Carson, 1961; Isidro, 1957) in order to cater to students who are unable to access prestigious and competitive public programs. These early years were also critical in that it set the framework for private education governance in the country through *The Corporation Law* (1906) and *The Private School Law* (1917), both enabling private non-profit and for-profit institutions to operate (Yee, 2020).

By the 1970s, the Philippines saw a four-fold increase in college enrolment since the 1950s (Arcelo & Sanyal, 1987) as it faced the worst inflation since the war (Villegas, 1986). This led the government to implement wide-ranging reforms to curb the high rates of college graduates entering a stagnant labor market (Baluga, 1987; Cardozier, 1984; Maca, 2018; Perlman, 1978; Ruiz, 2014). These included the following: the introduction of the National College Entrance Examination, the streaming of students to technical-vocational education, the institution of professional licensure exams, and the adoption of a labor export program that established supports for Filipinos wanting to migrate. During this time, education spending fell lower than 2% of GDP (The World Bank, 2018a). By 1985, the Philippines was badly hit by the worst economic recession, identical to the one faced in Latin America by Brazil, Chile, Colombia, and Mexico (Fig. 1) which had profound consequences on inequality (Torche, 2010).

Following the People Power Revolution of 1986, the country hurdled severe backlogs in classrooms, seats, and textbooks. Despite this, the government pursued vigorous expansions in secondary, abolishing all fees in all public secondary institutions in 1989 and triggering a mass migration from private to public (A. Orbeta, 2002; The World Bank, 1988). Inevitably, the growing number of secondary completers was accompanied by a strong pressure to expand public higher education. The 1990s thus saw public institutions increasing by 30% (Presidential Commission on Educational Reform, 2000; E. Tan, 2008), with research evincing that the poor were least likely to be in high-status public institutions (E. Tan, 2008), but instead in public entities that are of “low quality at high unit cost”

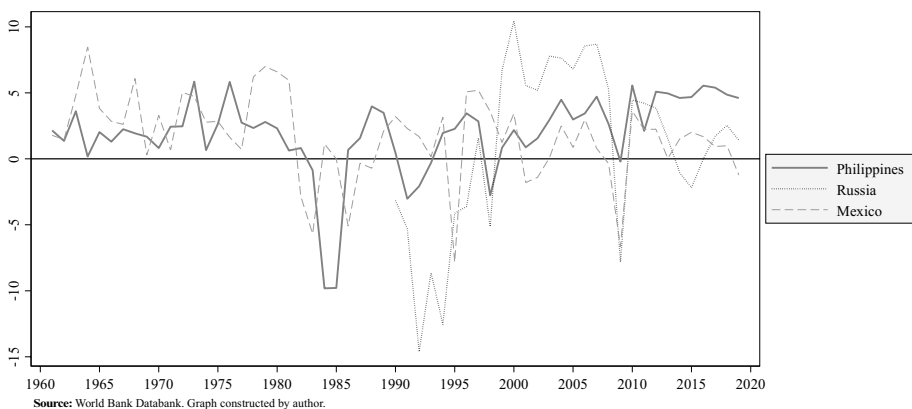


Fig. 1 Gross domestic product growth, in percentages

(Presidential Commission on Educational Reform, 2000). Despite this, public expansion was unremitting from 2001 to 2010, with 38 new entities established, mostly during election years.

Since 2010, three major expansion bills were passed: (1) the addition of kindergarten education as a pre-requisite to grade 1 beginning 2012, (2) the addition of grades 11 and 12 in 2016 and 2017, as precondition for entry to college, and (3) the abolition of tuition and fees in all public colleges and universities beginning 2017. Today, while elementary and secondary have since become largely public (Fig. 2), higher education continues to be served by a formidable but receding private sector, alongside a rapidly growing public sector, together comprising a diverse array of 2396 colleges and universities.

Examining the Philippine system from 1918–48, Smith and Cheung remarked that educational attainment was “an ever-expanding pie that is always sliced in the same proportions” (1986, p. 1387). Much however has changed since, with access being attained by a larger proportion of Filipinos than ever before. This has fueled notions that “if education is free, it will reach the poor” (E. Tan, 2008), justifying sustained expansions since, now at the higher education level. Whether or not it has indeed improved educational opportunities for disadvantaged students—specially, in relation to completion, and the type of institution attended—remains an empirical question in the Philippine case, and is thus the focus of this paper.

The study examines an unattended intersection in the literature on educational expansion, probing the consequences of economic downturns and private education provision, on inequalities. While MMI was developed against a backdrop of rapid industrialization and economic growth in Ireland in the 1960s, the Philippines pursued expansion amidst economic downturns, as it struggled to transform its economy from an agricultural to an industrial one (Ruiz, 2014; The World Bank, 2013, 2018b), more akin to the cases of Latin America and Russia (Gerber, 2000; Torche, 2005, 2010, 2014).

In contrast to both countries however, wherein educational expansion occurred in a predominantly public and a small but emergent private system, the Philippines moved from private-dependence to “deprivatization” (Kwiek, 2017). Thus, while the literature indicates the vulnerability of disadvantaged students during economic downturns in publicly dominated systems, with inequalities often being maintained or worsened, its consequences in

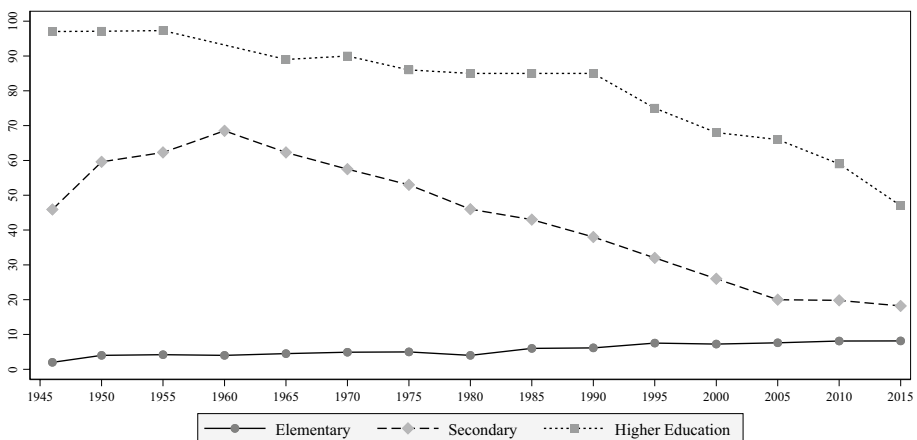


Fig. 2 Private education share in student enrolment (1946–2015), in percentages

privately dominated ones remain untested. Thus, for this paper, I ask: How has educational expansion related to trends in attainment between advantaged and disadvantaged students in the past decades? How are high-status college destinations allocated in privately dominated and market-oriented systems? Does public expansion relate to reductions in inequalities in access?

Data and methods

Data

The data used for this study is the World Bank Philippines—STEP Skills Measurement Household Survey 2015–2016, a global initiative to study skills requirements in labor markets in low- and middle-income countries (The World Bank, 2016a). Data was collected from August to November 2015, following a four-stage sample design, stratified for urban regions (The World Bank, 2016b). All analyses are weighted to account for the multi-stage sampling design used. Since the dataset uses an urban sample, findings will be limited to those residing in urban areas, as well as those who may have migrated to urban areas for education or employment. While the full dataset contains a total of 3000 individuals, only 2639 respondents born between 1950 and 1992 (aged 23–65 in 2015) were included. This is to ensure that all respondents have completed their education at the time of data collection, avoiding right censoring. While the response rate for the survey was at 94.8%, some covariates had missing values, notably, parental education (22.66%). Alternate models were thus generated to check for the impact of these values in the analysis.

Measures

Table 1 provides descriptive statistics of the variables used, arranged by birth cohort. The outcome variable, highest grade completed, simplifies the standard International Standard Classification of Education (ISCED) 1997 used in the survey (The World Bank, 2018c) resulting in three categories: “Less than Secondary”, for those with no level attained, less than elementary, completed elementary, and less than secondary (Levels 0, 1, 2), “Secondary” for those who completed secondary, other post-secondary non-tertiary, and less than college (Levels 3 and 4), and “College”, to include those who finished associate, bachelors, and professional degrees, and postgraduate programs (Levels 5A, 5B. and 6). This is in line with the sequential design of the Philippine education system, with the attainment of the previous level being a pre-requisite for admission to the next.

My main variable of interest is parental education, which serves as proxy for socioeconomic status given the unavailability of direct measures for socioeconomic background (Buchmann & Hannum, 2001; Hout, 2006; Shavit & Blossfeld, 1994; Smith & Cheung, 1986). In the interest of parsimony, a dominance approach (Erikson, 1984) will be used reflecting the parent with the highest level of attainment. This assumes that the advantages accrued by children correspond to the highest level of human capital in the family, as used in other studies (Torche, 2019).

To study the relationship between higher education characteristics and social background, I examine differences in institutional type (“public” or “private”) and status (“regular” or “high status”). In the absence of explicit rankings in the Philippines, I use publicly recognized government recognitions for private (autonomous/deregulated) and

Table 1 Descriptive statistics by birth cohort (%), weighted

	Cohort								
	(1) 1950–54	(2) 1955–59	(3) 1960–64	(4) 1965–69	(5) 1970–74	(6) 1975–79	(7) 1980–84	(8) 1984–89	(9) 1990–92
Highest grade completed									
Less than secondary	28.36	27.36	30.63	31.51	31.96	35.45	30.18	29.31	12.83
Secondary	37.86	38.62	33.31	33.68	44.61	38.87	36.66	33.42	37.36
College	33.78	34.02	36.06	34.81	23.43	25.69	33.17	37.26	49.81
Transition rates									
1: Completing secondary	71.64	72.64	69.37	68.49	68.04	64.55	69.82	70.69	87.17
2: Completing college	47.15	46.84	51.99	50.83	34.44	39.79	47.50	52.71	57.14
Parental education									
Primary and lower	60.03	70.86	60.43	53.34	56.95	66.50	61.34	50.59	26.17
Secondary and higher	39.97	29.14	39.57	46.66	43.05	33.50	38.66	49.41	73.83
Gender									
Male	47.65	48.33	50.56	50.98	51.74	44.67	49.42	50.94	32.04
Female	52.35	51.67	49.44	49.02	48.26	55.33	50.58	49.06	67.96
Observations (unweighted <i>N</i>)	149	187	253	295	355	385	434	437	144

public institutions (Level 4) as proxy for “high status.” These recognitions consider several factors, including percentage of accredited programs, research productivity, extension programs, and employability of graduates, among others. While in practice relating to indices of quality, for this study, such recognitions will be exclusively interpreted as signals of quality to students, parents, and prospective employers.

Analytical approach

Since the aim of the paper is to measure changes in the relationship between social background and educational attainment, I use the widely employed sequential logit model proposed by Mare. By viewing educational attainment as a series of yes or no decisions for the subsample at risk of making that decision, the Mare model enables me to estimate this association for each transition, control for educational expansion, and identify at which point inequalities emerge (Benito & Alegre, 2012; Blossfeld et al., 2015; Buis, 2011; Gruijters, 2019; Mare, 1980). Following a long line of research highlighting the importance of formal qualifications when it comes to labor outcomes, I am interested in the successful completion of a transition. Thus, if an individual moves to the next transition but is unable to complete it, said student is counted in the previous transition (Blossfeld et al., 2015).

Since the main aim of the paper is to assess trends in inequality of education opportunity in the Philippines in relation to policy reforms and macroeconomic conditions from 1950 to 2015, and not to identify nor quantify variables and the degree by which they impact inequality, I use a cohort analysis approach (Torche, 2005, 2010). As the data shows that the full sample was eligible to begin secondary, the study will focus on the two later transitions: completing secondary, conditional on completing elementary (Transition 1), and completing college, conditional on completing secondary (Transition 2). Birth cohorts will follow 5-year intervals, covering those born from 1950 to 1992 (23–65 years old at the time of the survey), yielding nine groups, depicted in Fig. 2: Cohort 1 (1950–54), Cohort 2 (1955–59), Cohort 3 (1960–64), Cohort 4 (1965–69), Cohort 5 (1970–74), Cohort 6 (1975–79), Cohort 7 (1980–84), Cohort 8 (1985–89), and Cohort 9 (1990–92). These cohorts were tested as both continuous and categorical variables, with results indicating that 5-year intervals provide the most significant insights (Fig. 3).

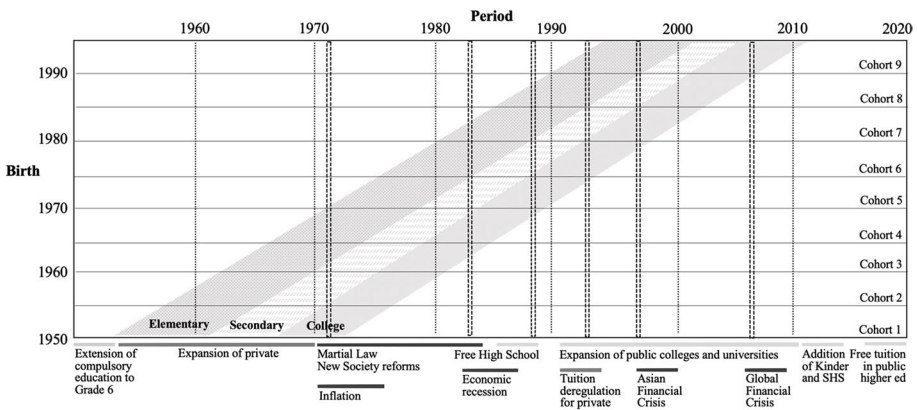


Fig. 3 Projected educational career of respondents, by birth cohort. (Note: the dashed vertical lines represent severe economic recessions which occurred between 1950 and 2020)

To test MMI, I estimate the conditional probability of passing through each transition relative to the explanatory variables (Buis, 2017), with birth cohort as a continuous variable. I then analyze main and secondary effects, examining interactions between birth cohort and parental education, using both linear and quadratic models. My later analysis showed a difference of 9.3 and 6.8 in BIC for the first and the second transition respectively, providing very strong support for the use of the latter (quadratic) model. To further the analysis, I later assess the unconditional probability of completing college to consider the cumulative effect of the same social background variables in one's educational career.

To test EMI, or the relationship between social background and the type and status of higher education institution attended, I use a multinomial logit model to estimate the unconditional probability for four types of outcomes: (1) no degree, for those who did not make it to the transition to college, (2) regular, to include those who made it to college but not to high-status institutions, whether public or private, (3) high-status public, and (4) high-status private. For this analysis, variables have been limited to three to four categories only as it is the “sweet spot for testing the qualitative question of EMI” (Lucas & Byrne, 2017, p. 139). To test for Independence of Irrelevant Assumptions (IIA), I used the Suest test which indicated that additional control variables were independent of other alternatives, as the Hausman test is sensitive to weighted and clustered data.

Results

Inequality of opportunity in educational transitions

Results from the sequential logit models are presented as odds ratios in Table 2. To aid in interpretation, predicted transition probabilities are presented in Fig. 4 by parental education, with “primary and lower” for “disadvantaged” and “secondary and higher” for “advantaged.”

The first transition is the completion of secondary education, for which the entire sample was eligible ($n = 2372$). Table 1 shows relative stability in secondary completion for the 1950–54 to 1970–74 Cohorts, before hitting a low of 64.55% for the 1975–79 Cohort, then steadily climbing to 87.17% for the 1990–92 Cohort. The latter cohorts likely benefitted

Table 2 Using parental education (2 levels) vs. birth year, weighted

	Transition 1 Completing secondary	Transition 2 Completing college
Parental education		
Secondary and higher (ref: primary education and lower)	2.522*	2.453**
Birth year		
Secondary and higher # birth year	0.995	1.005
Secondary and higher # birth year # birth year	1.012	1.007
Female (ref: male)	0.917	0.973
Female # birth year	1.005	1.003
Female # birth year # birth year	1.002	1.000
Observations	2372	1651

Exponentiated coefficients: * $p < 0.05$, ** $p < 0.01$

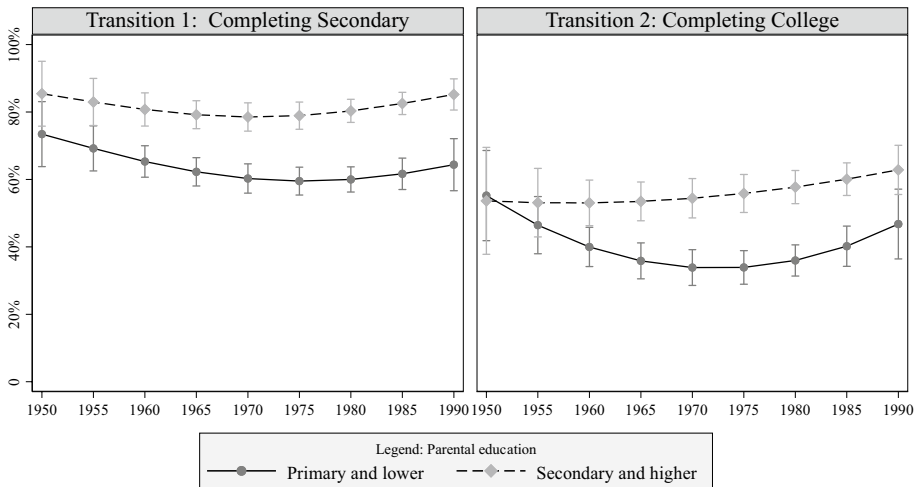


Fig. 4 Average conditional transition probabilities (by parental education)

from the Free High School law (1989), with completion increasing by 23% between the 1975–79 and 1990–92 Cohorts.

Despite these gains, relative inequality in relation to parental education was maintained from 1950 to 2015 (Fig. 4). While for the 1950–54 Cohort, parental education was not significant in the likelihood of making it through the transition, by the 1990–92 Cohort, this gap had increased to 20 percentage points. This is supported by the odds ratios in Table 2, which shows parental education as being significant ($p < 0.05$). Furthermore, while secondary completion peaked for advantaged students at 85%, it contracted for the disadvantaged between the 1950–54 and 1990–92 Cohorts, from 73 to 65%. Contrary to MMI which predicts that inequalities will decline as the advantaged approaches saturation, data shows the opposite for the Philippines, with inequality even moderately widening during this period, similar to Chile (Torche, 2005).

Two findings are of note: *first*, the economic recession of the 1980s appears to have a long tail, affecting the 1970–74 and the 1975–79 Cohorts. Where, against a backdrop of private-dominated provision, the deterioration of economic conditions appears to have aggravated inequalities in secondary completion relating to earlier dropouts, particularly in secondary for the 1970–74 Cohort and in elementary for the 1975–79 Cohort. *Second*, while *Free High School* may have reversed the downward trend in secondary completion, it appears unable to overcome the socioeconomic gap in educational attainment for the 1975–79 to 1990–92 Cohorts.

The second transition is the completion of college education for the subsample that successfully hurdled secondary ($n = 1651$). Table 1 shows relative stability in college completion, until falling dramatically by 17 percentage points for the 1970–74 Cohort (from 50.83 to 34.44%), and persisting for the later cohorts. For this transition, parental education is seen to have an even stronger association with college completion ($p < 0.01$) (Table 2).

As portrayed in Fig. 4, relative inequality in college completion worsened during the period, with the advantaged maintaining a stable position while the disadvantaged suffered successive declines. Plots diverge beginning the 1960–65 Cohort, the first cohort that entered college following the introduction of the National College Entrance Exam and the

streaming of students to technical-vocational education options, signifying increasing inequality in college attainment beginning the 1970s. The same figure shows how between the 1950–54 and 1970–74 Cohorts, the probability of completing college worsened dramatically for the disadvantaged (20 percentage points), from 55% for the 1950–54 Cohort, to 35% for the 1970–74 and 1975–79 Cohorts.

Notably, the widest gap in college completion is seen for the 1970–74 and 1975–79 Cohorts. That completion remained constantly low for the disadvantaged in these two cohorts despite increased selectivity in the subsample that made it to college defies convention, with most studies typically finding that the few who reach college are so talented or motivated that it cancels out their initial disadvantage (Buis, 2011; Cameron & Heckman, 1998; Gruijters, 2019). One plausible explanation for this is economic scarring, or the long-term consequences of recessions, leading to reduced economic activity, high unemployment, and a decline in wages (Irons, 2009), weakening the ability of families to afford education (Fallon & Lucas, 2002 as cited in Torche, 2010). If this is the case, it means that economic recessions deter even the most able disadvantaged students to complete college.

Following the economic recession of the 1980s, the gap in attainment continued to widen, with inequality persisting at 20 percentage points from the 1970–74 to the 1985–89 Cohorts despite intensified public sector growth. To illustrate, by the 1985–89 Cohort, individuals whose parents completed “primary or lower” had a 40% chance of completing college conditional on completing high school, compared to 60% for those whose parents completed “secondary or higher.” This gap only appears to narrow after two decades (14 percentage points for the 1990–92 Cohort). Concluding declining inequality would be premature however due to the change in the profile of the disadvantaged, with more parents completing secondary or higher (73.83 vs. 26.17%), and the small sample size of this cohort ($n = 132$), leading to high standard errors.

Cumulative inequality in overall educational attainment

Despite its usefulness in examining the role of social background across transitions, the Mare model has been criticized for selection bias from unobserved variables which affect the ability of individuals to make it through transitions (Buis, 2011; Cameron & Heckman, 1998), and for its tendency to obscure the cumulative effect of social background in educational attainment (Buis, 2017; Gruijters, 2019; Torche, 2010). To account for these limitations, I run a logit model on absolute inequality in educational attainment for the full sample ($n = 2372$) to predict the unconditional probability of college completion. Results are presented in Table 3 as odds ratios, and illustrated in Fig. 5.

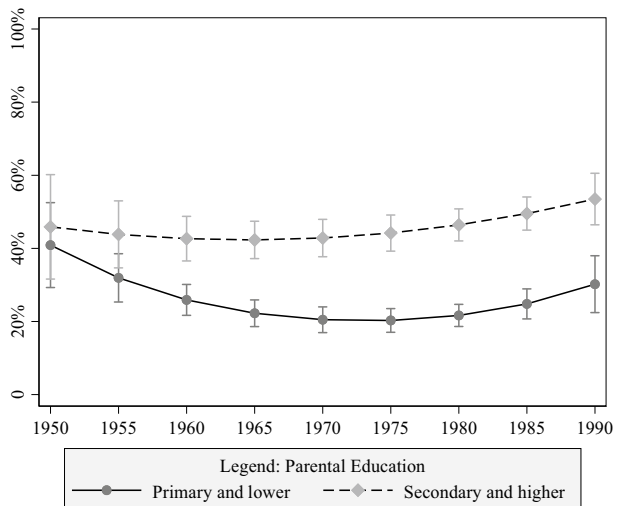
Table 3 shows the significance of the quadratic term for birth year ($p < 0.05$) and an even stronger association of parental education ($p < 0.001$) in the unconditional probability of college attainment. Figure 5 meanwhile illustrates increasing inequality between advantaged and disadvantaged groups, from a gap of only 5 percentage points for the 1950 Cohort, to as much as 22 percentage points for the 1990 Cohort. Notably, by 2012, disadvantaged students were even less likely to complete college (30%) than after the Second World War (40%). Increasing inequality is even more evident here than in the conditional transition probability model, with the advantaged remaining on a stable if not upward trajectory, as the disadvantaged saw successive setbacks in attainment.

Table 3 Logit model to predict college attainment

Variables	Model
Birth year	1.002
Birth year # birth year	1.002*
Parental education Secondary and higher (ref: primary and lower)	3.089***
Secondary and higher # birth year	1.009
Secondary and higher # birth year # birth year	0.999
Female (ref: male)	0.952
Female # birth year	1.004
Female # birth year # birth year	1.000
Observations	2372

Exponentiated coefficients: * $p < 0.05$, *** $p < 0.001$

Fig. 5 Predicting college attainment by parental education (unconditional)



Differences in higher education destinations

While the results thus far suggest increasing inequality in college completion, it does not provide insight on whether differences in destinations are apparent between advantaged and disadvantaged students, as premised by EMI. Using multinomial regression, I find that higher parental education (secondary and higher) is strongly and negatively associated with not having a degree ($p < 0.001$), and is positively associated with college attendance, whether in a regular, a high-status public or private institution ($p < 0.001$), holding all other predictors constant (Table 4).

To better test EMI, Lucas and Byrne propose the use of predicted probabilities as it is more robust in predicting the variance in destinations (2017), and because “regression-type coefficients by themselves cannot reveal whether social background moves people over thresholds” (Lucas, 2001, p. 1671). Thus, using the same multinomial logit model, I present estimated probabilities for the four possible outcomes. Figure 6 illustrates how following the Second World War, advantaged students were more likely to be enrolled

Table 4 Results from multinomial regression model (average marginal effects, weighted)

	No degree	Regular	High status public	High status private
Highest educational attainment of parents				
Primary and lower (ref.)				
Secondary and higher	-0.2117***	0.1341***	0.0546***	0.0230***
Birth cohorts				
1950–59 Cohort (ref.)				
1960–69 Cohort	-0.0099	-0.0403	0.0395	0.0107
1970–79 Cohort	0.0926*	-0.0535	-0.0179	-0.0212
1980–92 Cohort	-0.0207	-0.0052	0.0133	-0.0125
Gender				
Male (ref.)				
Female	-0.0026	0.0049	-0.0021	-0.0001
Observations	2345	2345	2345	2345

Exponentiated coefficients: * $p < 0.05$, *** $p < 0.001$

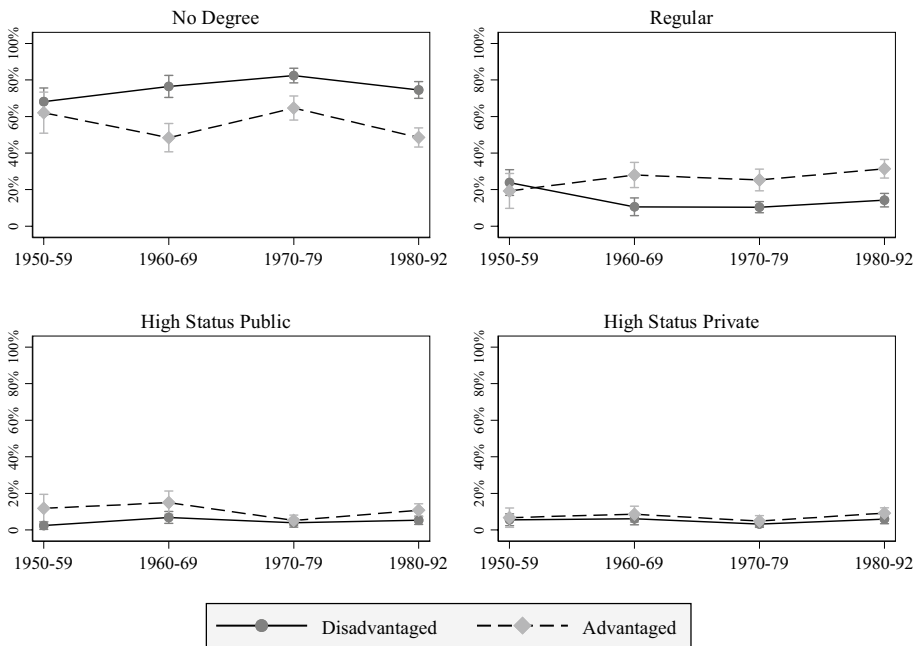


Fig. 6 Average predicted probabilities by birth cohort (unconditional), weighted. Note: Lucas and Byrne (2017) caution against calculating standard errors for the predicted values in testing EMI as it leads to over-correction of the test. Standard errors are thus only presented here as additional reference

in high-status institutions compared. Notably, the proportion of advantaged vs. disadvantaged students was more even in high-status private entities than in public ones (3% vs. 2% for those born in 1980–92).

As economic conditions frayed in the 1980s, the likelihood of completing in regular institutions for the 1960–69 Cohort diverged by 17 percentage points for advantaged and disadvantaged students, with the probability of attaining college halved for the latter. Nuancing my previous findings that quantitative inequalities worsened for disadvantaged students in general, I find that in the short term, it is disadvantaged students enrolled in regular institutions who are routed out of college, with the probability of having “no degree” increasing by 6 percentage points (1970 and 1980 Cohorts). Further declines however are also evident in the long-term (1970–79 Cohort), with the proportion of those enrolled in high-status entities, public and private, dropping by 3 percentage points.

Contrary to my hypothesis that the well-off are shielded from economic shocks, I find delayed consequences among advantaged students in the 1970–79 Cohort. Where, unlike disadvantaged students who saw immediate declines in college completion, setbacks only later emerged for those with high-SES, with the percentage with “no degree” increasing by 16 percentage points, while those completing from high-status public entities declined by 10 percentage points. There are various possible explanations for this. *First*, this may imply a further distinction among “advantaged” students, with those in high-status private being more resilient and able to continue paying for high tuition fees despite economic downturns, in contrast to advantaged students in high-status public institutions who pay relatively low fees. *Second*, this could also be attributed to the highest educational attainment of parents for the 1975–79 Cohort (see Table 1), for whom a larger percentage of whom are less educated (66.5%) relative to other cohorts.

Finally, contrary to the usual expectation that intensified public expansion could democratize access to high-status institutions, my findings suggest the opposite. In fact, data shows that the likelihood of completion in high-status public is very strongly associated with having higher-educated parents ($p < 0.01$). As shown in Fig. 6, as public entities expanded, inequality increased, with the advantaged doubling their likelihood of completing in high-status public, and benefitting more than disadvantaged students (1980–92 Cohorts). There are two possible reasons for this: prior to the 2017 abolition of fees, public entities also charged tuition, thus still making one’s ability to pay consequential, although to a lesser extent. It is also likely that the high demand for finite slots in high-status public entities intensified competition, favoring those with higher-educated parents.

Discussion

The paper had two primary objectives: to assess changes in the association between social background and educational attainment from 1950 to 2015 and to examine the relationship between ascribed characteristics and higher education destinations. The findings indicate that expansions did not reduce educational inequality in the Philippines, with the gap in secondary and college completion between advantaged and disadvantaged even widening from the 1950–55 to the 1990–92 Cohort. These results are consistent with those of Smith and Cheung which characterized the Philippine system as “an ever-expanding pie that is always sliced in the same proportions” (1986, p. 1387).

As it stands against the literature, the Philippine case deviates from the MMI hypothesis, while approximating findings in Brazil, Colombia, Mexico (Torche, 2010), Russia (Gerber, 2000; Gerber & Hout, 1995), and China (Gruijters, 2019), where worsening inequality was observed *despite* expansions. The Philippine experience likewise corroborates findings in Russia and Latin America, on how economic downturns could

compound existing inequalities while providing evidence on the distinct short- and long-term consequences faced by advantaged and disadvantaged students.

Specifically for higher education, I find that despite sustained expansions, inequalities widened and persisted at 20 percentage points since the 1980s. These highlight three novel insights demonstrated by the Philippine case: (1) when private-dominated provision coincides with economic recessions, drastic declines in completion are seen among disadvantaged students, and even the most able and motivated ones, and (2) public expansion appears to benefit advantaged and disadvantaged groups in the same proportion, increasing the ability of disadvantaged students to complete college, but unable to narrow the gap between the two.

In relation to higher education characteristics, I find that in the context of economic recessions, disadvantaged students are deterred from completing in regular institutions in the short-term, and in high-status institutions in the long term. Strikingly, only long-term consequences are evident for advantaged students, with significant declines observed in their likelihood to complete in high-status public institutions, alongside a commensurate increase in completion in regular entities. This proposes a modification to EMI, which states that “when quantitative differences are common qualitative differences are also important; if so, the socioeconomically advantaged will use their socioeconomic advantages to secure both quantitatively and qualitatively better outcomes” (Lucas, 2017, p. 485). Where, in the Philippine case, given that advantaged students remained in school at the cost of transferring to a regular institution in times of economic recessions, one may say that the advantaged appear to cede qualitative advantages to maintain quantitative ones.

Notably, the findings also show that the role of parental education was most associated with the predicted probability of completing in a regular higher education institution, as compared to having no degree. In short, while parental education is able to predict the probability of an individual to complete college *per se*, it is unable on its own, to predict completion in high-status public or private institutions. There could be various reasons for this: for instance, it is possible that predicting entry to “high-status” institutions requires higher levels of attainment from parents (college or graduate studies), or alternately, that other socioeconomic variables (e.g., type and sector of employment, extended family networks) come into play, which could not be tested using available data.

These findings provide relevant insight for policy. With findings suggesting inequalities in attainment emerging in secondary, government interventions to improve access for higher education must begin there. At the secondary level, with secondary graduation rate at only 48% for the poorest compared to 78% on average, this means paying special attention to critical dropout points, specifically, the transition from 7th grade to secondary, from junior to senior high school, and from high school to college (see recent study by A. C. Orbeta et al., 2021). Such interventions require a gender lens: for boys, this pertains to financial supports that account for the opportunity cost of them staying in school versus going to work. Meanwhile, for girls, this includes interventions that address early pregnancy, as well as traditional responsibilities at home (e.g., taking care of siblings).

At a systems level, with secondary participation rate at 90% as of 2021, this points to the need for the Department of Education to formulate programs that locate the remaining 10%. Likely, “last mile learners” and out-of-school youth that have historically faced severe deterrents to participation. Apart from its current Alternative Learning Systems (ALS) program which enables those who dropped out in elementary to return to high school, this means mapping out and profiling the 10% of learners to enable the Department to come up with responsive programs that meet the learners where they are.

For higher education, while the *Universal Access* law has since lowered the financial barriers to participation, the findings suggest the need to (1) introduce interventions as early as secondary, considering that most of the poor dropout in the transition between secondary to tertiary (e.g., providing disadvantaged students guidance on institution/program choice, waivers for application fees, review classes for entrance exams), (2) guarantee adequate and timely funding early on (see Dynarski, 2022), (3) deliberately lower the barriers in attending “high-status” institutions (pertaining to the cap of P60,000 in the current financial assistance program of government), and (4) have supportive and agile systems that enable said students to complete (e.g., flexibility in policies for working students, providing bridging classes and mentorship). This requires a review of Republic Act 10,931, and the implementing guidelines of the Tertiary Education Subsidy, to ensure that it is able to fulfill the intents of the law—that is, to enable the poorest of the poor to finish college.

The study is not without its limitations. While reforms occurred nationally, the available data limits the samples to individuals living in urban areas at the time of data collection, relating to two key caveats in the interpretation of our findings. First, considering the massive overseas migration of Filipino professionals from the 1970s to 1990s (many of whom were college graduates in urban centers but are no longer residing in the Philippines), the findings of this study may understate trends in urban contexts. On the other hand, given that poverty in the Philippines is disproportionately rural with 80% of the poor living in rural areas (The World Bank, 2018b), it must be emphasized that the findings of this paper provide only a partial view of reality, with trends likely to differ in rural contexts, and nationally.

Other methodological limitations of the study include the lack of a direct measure for socioeconomic background, the inability to control for previous achievement, and the presence of unobserved characteristics, such as motivation and extended family supports, known to impact the likelihood of complete transitions and gaining admission to high-status institutions. Given this, results may confound these unobserved variables, likely overstating the role of expansions in the ability of individuals to complete transitions.

Despite its limitations, the study plays a modest yet important function, providing an initial baseline for further research on educational stratification in the Philippines given drastic reforms which followed the period covered by the study, from 2016 to 2022. These include the addition of grades 11 and 12 and the introduction of academic and technical-vocational and livelihood strands in 2016, the implementation of the *Universal Access to Quality Tertiary Education Act* beginning 2017, and the Covid-19 pandemic in 2020–2022, all of which are likely to impact the trends observed in this study.

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Data availability The data that support the findings of this study are available, but restrictions apply to the availability of these data, and so are not publicly available. The data may be made available however from the author upon reasonable request and within the allowable parameters.

Declarations

Conflict of interest The author declares no competing interests.

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