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Opportunity without Equity: Educational Inequality and Constitutional Protections in Egypt

Michelle Jackson,[a] Elizabeth Buckner[b]

a) Stanford University; b) Teachers College, Columbia University

Abstract: The claim that the law can be an inequality-reducing weapon is a staple of legal and political discourse. Although it is hard to dispute that legal provisions sometimes work to reduce inequality, we argue that, at least in the domain of equal opportunity in education, the pattern of these effects can be more perverse than has typically been appreciated. Positive laws implemented in the name of promoting equality of opportunity may yield only a narrowly formal equality, with the goal of substantive equality undermined because a high-profile reform will often expose the pathway to educational success. The pathway, once exposed, can then be navigated and successfully subverted by the socioeconomically advantaged. We illustrate such pitfalls of a positive legal approach by examining educational inequality in Egypt, a country with long-standing constitutional protections for equality of opportunity in education. Using data recently collected from a cohort of young people, we show that despite the institutional commitments to equality of opportunity present in Egypt, privileged families have a range of options for subverting the aims of positive legal provisions. We argue that the pattern of educational inequality in Egypt is distinctive relative to countries without similar legal protections.

Keywords: educational inequality; Egypt; equality of opportunity; constitutional protections

> Governments should recognize the key importance of adequate legal frameworks on equality of opportunity in education in line with international standards for ensuring such equality. A strong regulatory framework for public and private education systems grounded in the principle of equality of opportunity provides the essential basis for the establishment of an entire range of programmes and policies aiming at ensuring equality of opportunity.
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> — United Nations Special Rapporteur on the right to education, Kishore Singh (United Nations 2011:18 [Article VIII, 72, a])

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WHEN equality is constitutionally promoted in a very direct way, will this lead to the desired reduction in inequality? Is a simple constitutional mandate a magic-bullet pathway to equality? The purpose of this article is to provide new evidence on these questions.

In recent years, scholars working within the capabilities tradition, notably Sen (2000) and Nussbaum (2007, 2010, 2011), have argued forcefully for the preeminent role of constitutional legislation in promoting social change and human development, with particular focus on the importance of states taking positive action to establish and protect the rights of individuals as opposed to simply outlawing

discrimination (see Nussbaum 2003:39, 2000, 2006). Positive legal provisions are somewhat more nebulous than prohibitions against discrimination, but the aim is to establish a commitment to equality of opportunity within a legal framework, thereby "sending a signal" that human capabilities should be protected and supported, and generating social change in this direction (Ericsson 2011:189). Positive legal approaches to reducing inequality, especially those invoking various types of universal (and thus equalizing) "rights," have come to be viewed as one of the most fundamental inequality-reducing interventions of our time.

In this article, we consider the role that positive legal provisions might play in the amelioration of educational inequality, with particular focus on a country—Egypt—in which protections for equality of educational opportunity have been in place for many decades. The Egyptian constitution serves as a model of a constitutional framework in which equality of opportunity plays a prominent role, and the effect of these assurances of equality of opportunity in Egypt is, we will show, quite profound. But the effect has not been one of a simple reduction in inequalities of educational attainment. We will show, to the contrary, that institutional commitments to equality of opportunity coexist with a starkly high level of educational inequality. Moreover, not only is inequality of educational opportunity relatively high from a comparative perspective, but the constitutional guarantees are associated with an unusual pattern of inequality, a pattern in which the privileged have been able to exploit the meritocratic channels that, by virtue of legal provisions, are now fully exposed and mandated.

It is no surprise, of course, that educational inequality has not been eliminated in Egypt. It is surprising, however, that a generalized positive commitment to equality of opportunity can yield an especially powerful channel for reproduction, thus calling into question the legal reform pathway that has become the preferred approach of scholars within the capabilities tradition, many international nongovernmental organizations, and, indeed, even the United Nations.

Inequality of Educational Opportunity and Positive Legal Commitments

It is rare to find a country in which the value of equality of opportunity in education is not accepted, at least as an aspirational commitment, but far fewer countries explicitly establish this value within a legal framework. Countries that introduce new legal provisions for equality of opportunity in education either enact (a) positive laws, often in the form of constitutional stipulations, or (b) laws that proscribe actions that would lead to inequality of opportunity, such as discrimination (United Nations 2011:12 [Article V, 40, and 41]). In countries without specific constitutional stipulations, such as the United States, legislation has been passed that supports the principle of equality of opportunity in education. Such legislation proceeds either by outlawing behavior that puts up obstacles to equality or by putting in place specific provisions that promote equality.[1] But the strongest generalized commitments to equality of opportunity within education are to be found in constitutional

stipulations, even if only a handful of countries have bona fide constitutionally mandated commitments to equality of opportunity.

The claim that equality of opportunity in education should be positively promoted is, on the face of it, both sensible and desirable. But there is good reason to be skeptical: the law can, of course, operate as a successful instrument of social change in some domains, but there may be special perils in using positive legal mechanisms to address equity issues in the realm of educational opportunity. It is our contention that such provisions may even have the potential to undermine the very equality of opportunity that they are designed to guarantee.

Wherein lies this potential? In the modern state, positive laws that aim to promote equality of opportunity must be encoded within state institutions to operationalize legal concepts on the ground. The institutional encoding is, by its nature, public, and it lays out clear, explicit, and inflexible pathways through the educational system. Through this institutional encoding, the law leaves exposed the pathway to educational success, and, at least with respect to social background, an exposed pathway might be dangerous because it leaves open the potential for subversion.

The effect of institutional encoding can be understood by contrasting an encoded regime with one in which the rules for getting ahead in the educational system are somewhat ambiguous. The United States, for example, has an educational regime in which there is some ambiguity about how to gain entry into elite college institutions.[2] Although many parents and their children bet that heavy participation in leadership activities (e.g., student government) yields positive admission decisions, some bet on the "straight and narrow" road of high grades and test scores, others bet on success in sports or other vocations (e.g., music), a few assume that there is a big payoff to high specialization in a narrow academic field (e.g., accomplished computer programming), and yet others emphasize activities oriented toward the "social good" (e.g., setting up a new charity). In practice, most parents and students bet on a mixture of these and other strategies, but no one knows with certitude which mixture is the right and optimizing one. The effect of such ambiguity is that some upper-class parents and children will deploy their resources in suboptimal ways and hence fail, whereas some lower-class parents and children will deploy their (less substantial) resources in optimizing ways and hence "thread the needle" and succeed. The resulting noise induced by ambiguity about the rules thus weakens the class–outcome association.

But what happens, by contrast, when the rules for getting ahead are crystal clear? In Egypt, for example, the constitutionally mandated commitment to equal opportunity led to a test-based regime with the result that everyone knows precisely what it takes to succeed. As a result, upper-class parents can pour their resources into winning under the mandated test-score regime with full and perfect knowledge that this is precisely the optimizing strategy. It follows that their resources are well deployed and that those who have the resources thus have a clear and reliable upper hand in the competition to get ahead. When resources are unequally distributed, the best friend of the poorly resourced lower-classes is ample noise in the system. The constitutionally mandated reforms perversely work to eliminate all such noise and thus enable the upper-classes to exploit the clear rules fully to their advantage.

There is much sociological precedent for the idea that the law is not necessarily a successful instrument of social change (e.g., Durkheim 1893; Chambliss 1978). There is also much empirical research that suggests that the impact of legal instruments might be limited because of a societal failure to implement and police the laws as the law-makers had intended. The latter research tradition has produced "gap studies," as they have come to be known, documenting the gap between the legal ideals and their operationalization in the real world (see Sarat 1985 for a useful summary, also Sandefur 2008:340–341). Work on "decoupling" similarly points to a mismatch between legal instruments and organizational practices, such that policies aiming to ameliorate inequalities are poorly applied or undermined in a real-life context (esp. Kelly and Dobbin 1998; Kalev, Dobbin, and Kelly 2006).

Where we differ from these approaches is in arguing that, as regards equality of educational opportunity, positive laws might in fact be implemented just as planned. It is not a matter of the powerful using their power to establish a "gap" between legal ideals and their operationalization, or a mismatch between the aims of a positive law and its real-world application. Rather, we are arguing that a successfully implemented law exposes the pathways to success, with privileged families having the resources to then navigate these pathways. We are assuming here that the exposed institutionalized pathways to success are exposed to all, not just to the privileged, so students of non-privileged origins will, in principle, have the opportunity to engage in purposive action in order to achieve their educational goals. That the pathways are well-known to all is not, however, inequality-reducing insofar as one also needs ample resources to successfully act on the knowledge. Although our simple model thus assumes that legal encoding eliminates ambiguity for the upper-class and lower-class alike, insofar as ambiguity is in fact more successfully eliminated for the upper-class, the inequality-generating effects will only be more powerful.

The balance of this article proceeds as follows. We begin by outlining how the constitutional mandate to equal opportunity has been deeply woven into Egypt's educational institutions; we then discuss the institutional and economic forces that work on behalf of and in opposition to this legal intervention; and we turn next to the evidence on how this constitutional mandate, when superimposed on a highly unequal economic system, has in fact affected class-based inequality. We will show that, although educational access is indeed tied closely to test scores and is in this sense narrowly meritocratic, the educational system has become so thoroughly transparent that upper-class parents now have a much-simplified road map that they follow rigorously and with great success. We conclude by laying out the conditions under which meritocratic legal reforms might be implemented in ways that do not allow for such circumvention.

The Institutional Encoding of Constitutional Guarantees

In many respects, the Egyptian constitution serves as a model of a legal framework in which equality of opportunity plays a prominent role. The roots of contemporary constitutions can be found in the 1923 Constitution, which established that public education would be free of charge and regulated by the government, and that

primary education would be compulsory for both boys and girls (Articles 17, 18, and 19). In July 1952, Gamal Abdel Nasser's successful coup d'état transformed Egypt from a monarchy to an independent republic, and, in line with the revolution's populist and nationalist ideals, Nasser ushered in wide-ranging economic and social reforms that had "enormous ripple effects on all other institutions of the society and on the day-to-day lives of citizens" (Nagi and Nagi 2011). The 1956 constitution became the first Egyptian constitution to be passed by popular consent in a referendum of the same year and was notable for its provisions to guarantee both universal education and employment. The years of political upheaval that followed led to suspensions, re-adoptions, and alterations of the 1956 constitution until a new constitution was adopted in 1971. It is this constitution that was the foundation of Egyptian law until the recent revolutions, although much of the content of the 1971 constitution is also present in the 2011–2014 revisions (with significant modifications largely confined to provisions relating to the system of government and the electoral process).

The 1971 constitution states boldly and clearly that "the State shall guarantee equality of opportunity to all citizens" (Article 8). With regard to education, Article 18 states that "education is a right guaranteed by the State. It is compulsory at the primary stage, and the State shall strive to make it compulsory at the other stages." Alongside the commitments to equality of opportunity and to a set of educational entitlements, Article 23 commits to organizing the national economy "... in accordance with a comprehensive development plan which ensures the growth of the national income, fair distribution, higher living standards, elimination of unemployment, the increase of job opportunities, the linking of wages to productivity and the determination of minimum and maximum wages in a manner which guarantees the reduction of disparities between incomes." The most recent constitutions preserve the rights and affirmations of the 1971 constitution, but education is now compulsory until the end of the secondary stage (Article 19), and equal rights are guaranteed to all citizens regardless of "... religion, belief, sex, origin, race, color, language, disability, social class, political or geographic affiliation or any other reason" (Article 53). These constitutional commitments to equality of outcome and equality of opportunity are staggeringly progressive from a cross-national perspective.

The constitutional protections have had important consequences for the structure of the educational system, most notably for the provision of education and for the ways in which children are selected and sorted within the public education system. The educational system as it exists today was largely established after the Nasser-led revolution; the institutional reforms that were passed at that time were soundly consistent with the constitution's goals of social justice and equality and were specifically designed to counter the colonialist legacy of reserving higher education for the wealthy and well-connected. Reforms included the establishment of a national secondary exit examination (known as the *Thanawiya 'amma*[3]) to determine placement in higher education institutions, guarantees of admission to higher education to all secondary school graduates, the elimination of tuition fees at all levels of education, and the guarantee of public sector employment for

all university graduates (Howard-Merriam 1979; Arabsheibani 1988; Rugh 2002; Cupito and Langsten 2008).

The Egyptian education system requires nine years of schooling for all children (six years of primary schooling, plus three years of lower secondary), although it is fair to say that these regulations are often loosely enforced (Assad, Levison, and Zibani 2010). Merit-based considerations are placed at the forefront in determining the type of educational career that a student will experience, and each transition in the Egyptian education system is linked to a standardized national examination. At the end of preparatory school (9th grade), students take the Basic Education Certificate Examination, which determines upper-secondary school track placement; students are placed into either the general (academic) track or the vocational track. Vocational secondary schools are widely considered to be "second-class" schools, as transition from a vocational school to university is rare (Richards 1992).

Upper-secondary school in Egypt lasts for three years (grades 10–13). At the end of upper-secondary school, students in the general (academic) track take the Academic Secondary Certificate Examination, or *Thanawiya 'amma*, which is a prerequisite for university admission (Helms 2008). Performance on this secondary exit examination determines the higher education options that are available to young people, and university placement involves a careful matching of student preferences with university places in which student preferences are honored in line with the student's position in the *Thanawiya 'amma* score distribution. Consistent with the constitutional commitments, generous government subsidies then allow high academic achievers to attend public universities at no cost (Hargreaves 1997). In principle, and by institutional design, therefore, access to higher education is merit-based, with admission granted only to those students who score highly on the *Thanawiya 'amma*. Even when confronted with criticism of the higher education admissions process in 2001, Egypt's Minister of Higher Education, Mufid Shebab, remained a staunch advocate of the examination system on both logistical and ideological grounds, stating that "the application system still has one significant virtue: equal opportunity" (Al-Ahram Weekly 2001).

In placing an emphasis on examination scores as the key to progression across educational transitions, merit-based selection is woven through the institutional structure of education in Egypt. In other words, the commitment to equality of opportunity expressed in the constitution is matched by the institutional arrangements of a highly stratified and selective education system.

How Encoding Makes Privilege More Efficient

The key question to which we now turn is whether a system of this sort, when imposed on a society with substantial inequality of condition, will indeed equalize opportunity. As the foregoing section made clear, the constitutional guarantees of equality of opportunity have been carefully encoded within educational institutions, an encoding that occurs primarily through the linking of test scores to educational transitions, and secondarily through the provision of free public education at all levels. Can we expect this encoding to lead to an equalization of opportunity?

The key threat in this regard is that the encoding and subsequent exposure of the pathways to success may lead to actions on the part of privileged students and families that effectively subvert the underlying aim of substantive equality. The most obvious example of subversion is the role that private tutoring plays in the attainment of test scores. Private tutoring in Egypt is so prevalent that both scholars and local media argue that it has now become the only way to pass the tests, even if the quality of tutoring is often low. High-quality tutoring is a privilege that only the wealthy can afford (Hartmann 2008; Fahim and Sami 2011; Sobhy 2012). The importance of such "shadow education" in Egypt is not at all surprising given the difficulties in securing high-quality schooling through the public education system, particularly in rural areas where many of the poor live, but it undermines the principle of substantive equality of opportunity, at least as it relates to socioeconomic background. The role of shadow education in sustaining inequalities in educational attainment has been well-documented in the cross-national sociological literature (e.g., Baker and LeTendre 2005; Bray and Silova 2006; Buchmann, Condron, and Roscigno 2010), but in the Egyptian case, shadow education takes on a special importance precisely because test scores have been encoded as the means to success. Because the significance of test scores for placement is well understood, the wealthy can focus their ample resources on concentrated coaching for the tests, and they can expect this investment to pay off.

The private tutoring form of subversion will, of course, show up as merit-based allocation. A second form of subversion, one which is more overt and not cloaked as merit, is the outright purchase of private schooling when test scores are not high enough. Private institutions exist at all levels but play an important role at the secondary and college levels, as they provide a home for students without satisfactory preparatory and *Thanawiya 'amma* scores. Where even the highest-quality private tuition has failed to raise test scores to satisfactory levels, private schooling allows the weak but wealthy students access to the prestigious academic tracks. Although less than 5 percent of our sample attended private schools at the secondary level, almost 70 percent of those in the top one percent of family wealth or income are to be found in such institutions.

A third form of subversion is a hybrid form that will show up in some cases as meritocratic allocation and in other cases as non-meritocratic allocation. We are referring here to subversion through corruption or bribery, referred to as *rashwa*, which is quite common in Egyptian society (Anderson 1987). Once again, the resources available to the wealthy provide superior opportunities to engage in such practices, which in the educational context include (a) the corruption of test procedures to enable cheating and (b) direct payments to teachers and educational officials that allow students to secure placements despite low test scores. The former type of corruption will create the appearance of meritocratic allocation insofar as the wealthy children do at least secure high test scores (albeit through cheating), whereas the latter type does not create such an appearance (because placement is directly secured without having the requisite test scores in hand). In explaining why it is that low-performing children of wealthier backgrounds are still able to access the academic track and public university, *rashwa* and corruption must be considered likely suspects.

By virtue of the constitutionally mandated reforms, wealthy parents now know exactly what it takes (i.e., test scores) to get into academic tracks and four-year colleges. In other societies without legally mandated meritocracy of this sort, there is always some amount of ambiguity about what it takes to get ahead, with the result that poor parents sometimes make inspired bets and thus do well by their children, whereas well-off parents sometimes make less inspired bets and thus fail their children. In this sense, transparency about the rules of the game is inevitably to the benefit of wealthy parents, as it allows them to yield full reproductive value for the dollar. If wealthy parents know that test scores are needed, it is then just a matter of doing what is necessary to achieve those scores.

The Structure of Inequality in Educational Opportunity in Egypt

Egypt tolerates substantial inequalities in educational attainment, particularly as regards region, socioeconomic background, and gender (Egypt Human Development Report 2003; Langsten and Hassan 2007; Assad and Barsoum 2007; Assad et al. 2010). The key question that we take on is whether inequalities in educational attainment are the straightforward consequence of meritocratic processes, which are consistent with the constitutional commitments to equality of opportunity. We will build the case that constitutional provisions in Egypt are associated with special institutional arrangements and that the extent and pattern of educational inequality in Egypt is unusual.

We do not claim that our methodological approach is definitive. A true causal effect of constitutional provisions on inequality of educational opportunity could only be obtained through experiment, but countries, quite reasonably, tend not to pay attention to the demands of scientific inquiry when they introduce constitutional provisions. Alternative approaches to pinpointing causal effects would involve exploiting forms of identifying variation—changes over time or place, for example—but these techniques of causal inference are also unavailable. However, even in the absence of a research design that would allow for (relatively) unproblematic causal interpretations, our results should give pause to those accepting and promoting the "commonsense" case for constitutional provisions without any evidence in favor of these legal instruments.

We proceed with analyses of socioeconomic inequalities in educational attainment based on data drawn from the *Survey of Young People in Egypt* (SYPE), a nationally representative sample of Egyptian youth aged 12–29 conducted in the first quarter of 2009 by the Population Council in collaboration with the Egyptian Cabinet Information and Decision Support Center (Population Council 2010). The survey was carried out on a multi-stage stratified cluster sample of households in which young people were present that drew on the 2006 Population Census to select a representative sample of Egyptian youth. The final sample of interviewed households included 11,372 households yielding 15,029 young people; weights are provided in the data to allow results to be generalized to the population (Population Council 2010:266–267).

The sample design of the SYPE has one significant limitation for scholars wishing to track inequality of educational opportunity: measures of parental socioeconomic status are collected only for those individuals still living in the parental home. Although it is common for Egyptian men to remain in the parental home throughout their twenties, even if they are married, very few women remain in their parent's household after marriage.[4] This means that, although we are able to observe inequalities in educational attainment for almost all men, we observe inequalities only for those women who have remained in the parental home. When we observe the older women in the dataset, we are observing a group that is highly selected with respect to social background, educational performance, and the propensity to go forward at educational transitions. We are therefore forced to exclude all older women (aged 20 and older) from our analyses. As a consequence, while we include both men and women older than 16 in our descriptive analysis of high school transitions, for the four-year college analyses, we select only men living in the parental household who are aged between 20 and 27 (where we present combined results for men and women, we also include separate-sex analyses in the online supplement).[5] In the performance and decomposition analyses, where it is important to compare across transitions, we present results pertaining only to men.

Our analyses focus on the role of socioeconomic background in conditioning educational opportunities and the extent to which inequalities in educational transition-taking are influenced by performance on the tests taken throughout the school career. We describe below the measures on which these analyses are based.

Socioeconomic background: Most cross-national research on educational inequality employs measures of socioeconomic background based on the educational or occupational achievements of the parents. In less developed countries, other measures of socioeconomic background are more appropriate given the lower levels of educational attainment and economic development. Our measure is the wealth and income rank of the household in which the student resides, which is based on a composite measure of the assets and resources of the household developed by SYPE.[6] Total household assets have been shown to be a valid measure of socioeconomic background in developing countries (Vu, Tran, and Le 2011) and to reliably predict educational enrollment outcomes (Filmer and Pritchett 2001). The household assets and resources captured in our measure include: family members per room, the material of the floors, drinking water source, type of toilet facility, presence of a kitchen, type of cooking fuel, presence of electricity, garbage disposal method, and ownership of various household assets and durable goods. The household questionnaire, in which information on assets and resources is collected, is completed by the head of the household; in our sample, the head of household is a parent (usually the father) of the sampled individual. The composite measure of assets and resources is provided in the data as a continuous scale, and we divide this scale into wealth/income tertiles, quintiles, and percentiles.

Educational performance: Students sit for tests and examinations throughout their educational careers, and the SYPE includes self-reported scores on these tests and examinations. While it would have been desirable to obtain records of the test scores from administrative sources, these are not available in the SYPE data. We use measures of performance from the primary, preparatory, and academic secondary

(*Thanawiya 'amma*) levels and standardize each performance measure to a mean of 0 and standard deviation of 1 so that we can compare across different tests.

We focus our attention on two educational transitions that are especially important in the Egyptian case. The first important transition is the transition to upper-secondary school (equivalent to the middle to high school transition in the United States), at which point students are tracked into either academic or vocational education. In our sample, 42 percent of students attended an academic rather than vocational upper-secondary school. The second transition that we consider is the transition to four-year college. College education is a highly desirable commodity across the world, but, in Egypt, attending four-year college is particularly consequential as a degree-level qualification guarantees employment in the public sector. Approximately 32 percent of our sample attended a four-year college.[7]

Curvilinearities in Educational Outcomes

To set the stage for our assessment of equality of educational opportunity, we first show the extent of socioeconomic inequalities in educational outcomes. Only the most naïve scholar would imagine that Egypt's constitutional provisions had successfully eliminated inequality of educational opportunity, but it is important to ask just how far this recent cohort of young people is from experiencing equality with respect to social background and how the level of inequality compares to other countries. To this end, in Figure 1 we plot the proportion of students making the transition to the upper-secondary academic track and the transition to four-year college in each of the wealth/income percentiles.

To summarize the relationships, we fit non-parametric simple regressions using lowess smoothing to account for the very different slopes in different parts of the wealth/income distribution; an alternative approach, in which for each transition we fit piecewise OLS regressions to different parts of the wealth/income distribution, confirms that the slopes in the upper part of the wealth/income distribution (the 60th percentile and above) are significantly steeper than the slopes in the lower/middle part of the distribution (the 59th percentile and below). In other words, it would appear that, although wealth/income is invariably consequential for educational outcomes, a unit increase in wealth/income in the upper part of the distribution is more consequential for educational outcomes than a unit increase in the lower/middle part of the distribution. The pattern is remarkably similar across the two transitions, which is unsurprising given the dead-end nature of the education system: those students who fail to enter the academic track in high school face significant obstacles in attending four-year college.

Are the non-linear associations between family wealth/income and educational transitions that we observe for Egypt unusual from a cross-national perspective? There are unfortunately few comparable analyses for other countries, but we are able to make a direct comparison with analyses of four-year college attendance in the United States conducted by Chetty et al. (2014).[8] Alongside the mean rates of transition-taking for Egypt, we have included in Figure 1 the equivalent rates for four-year college attendance in the United States. The overall mean rate of college attendance is higher in the United States than in Egypt, which reflects an educational

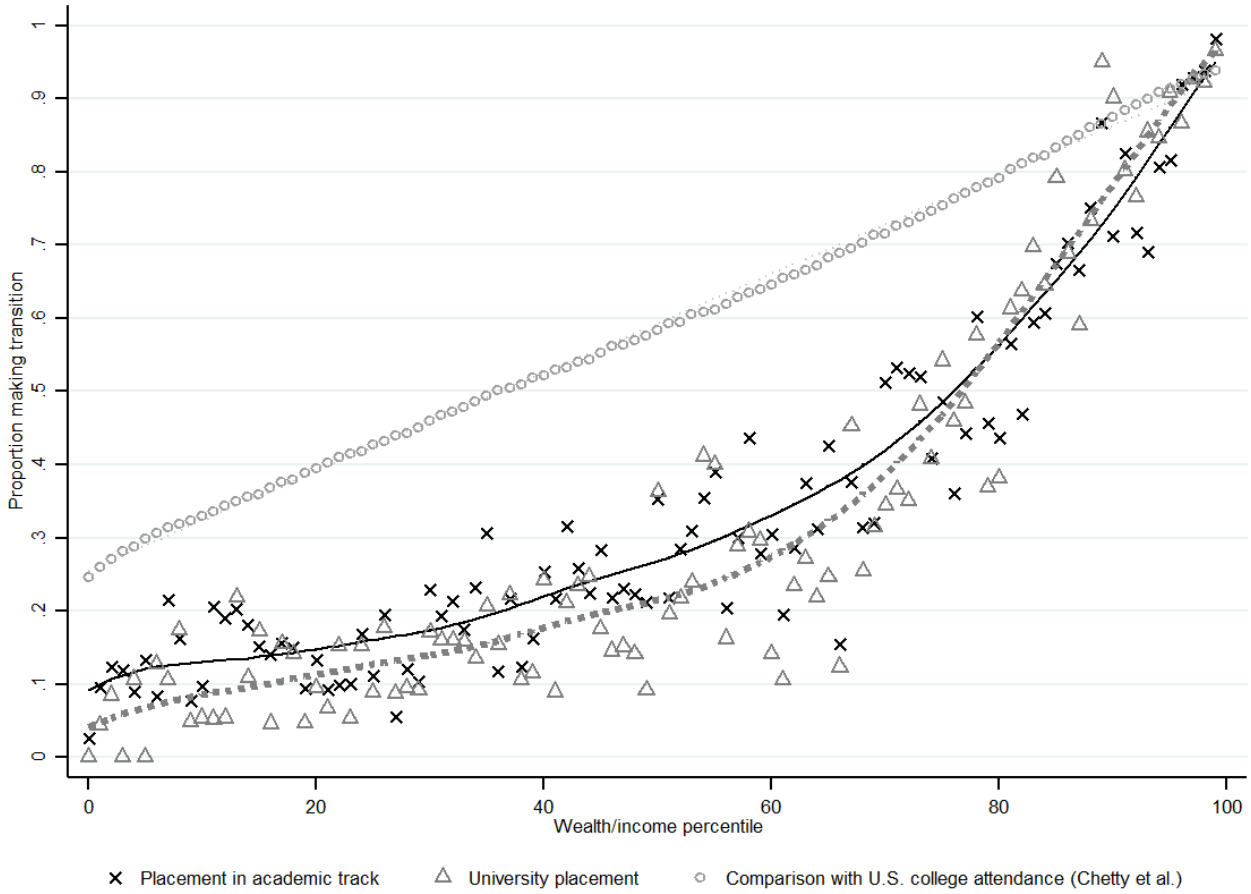

Figure 1: Mean proportion of students* placed in upper-secondary academic track and making the transition to four-year college (unconditional) for each wealth/income percentile.

Note: *Analysis of placement in academic track includes both men and women; four-year college analysis is for men only. Academic track analysis, n = 4,947; four-year college analysis, n = 2,423

system difference between "college for all" and "college for the academic elite," but what is of most interest is the shape of the relationship between family income and rates of college attendance. In the United States, we see a clear linear relationship, which stands in sharp contrast to the non-linear relationships for the two Egyptian transitions. At the top of the income distribution, students in both countries have around the same probability of attending college, and the difference in the shape of the relationship arises because students at the bottom of the distribution are less likely to attend college in Egypt than in the United States and, even more importantly, because students in the middle of the income distribution are much more educationally disadvantaged in Egypt than in the United States.[9]

How might this curvilinearity be interpreted? It may be noted here that it is at least consistent with the conventional understanding of how private tutoring is secured in Egypt. We might posit, for example, a stylized model of Egypt in which (a) test scores are the most important determinant of academic track and university

placement, (b) knowledge about the importance of test scores is well-diffused and hence parents will, when they have the means, invariably use them to ensure that their children have the requisite test scores, (c) the main means to securing high test scores is via private tutoring, and (d) it is virtually impossible to afford the necessary high-quality tutoring for parents falling under the income threshold. This stylized model would lead to precisely the curvilinearity observed in Figure 1. For parents below the threshold (which appears to be around the 60th percentile), the model implies uniformly low outcomes, as any marginal increases in income or wealth are still not enough to purchase the necessary tutoring. For parents above that threshold, there is an immediate improvement in educational outcomes, as it is well-known that private tutoring is the way forward; hence, once the means are available, the parental investment is nearly inevitable (as is the payoff). Although there are, to be sure, many assumptions embedded in this stylized model, some of them will be shown to be on the mark as our analyses unfold.

The Overall Extent of Inequality

The non-linear pattern of educational inequality in Egypt is, then, noteworthy relative to the U.S. standard. But what of the extent of inequality? The most important question here is whether Egypt's constitutional mandate for equal opportunity has reduced the odds ratios pertaining to origin-based inequalities in educational access. Calculating odds ratios for our data, we see that students originating in the top quintile of the wealth/income distribution are around 18 times more likely ($p < 0.001$) than those originating in the bottom quintile to enter the academic track rather than to enter the vocational track or leave school, and around 30 times more likely ($p < 0.001$) to make the transition to college.

How do the odds ratios for Egypt compare to those for other countries? In the sociological literature, there fortunately exists a body of odds ratio estimates of educational inequality for a substantial group of countries against which we can compare our estimates of inequality in Egypt (see Shavit et al. 2007; Breen et al. 2009; Jackson 2013). These estimates are disproportionately available for Western countries, particularly for countries within Europe, but Shavit et al. (2007) also include estimates for three Asian countries, along with estimates for Australia and Israel. The odds ratio estimates in the cross-national studies are calculated on the basis of parental class and/or education (which are not available in the Egyptian data), but a division of our wealth/income distribution into tertiles allows for a reasonable approximation to a three-class (service/salariat, intermediate, and working class) analysis in other countries. The analysis of income tertiles for Egypt gives a log odds ratio of 2.3 (top versus bottom tertile) for the transition to the upper-secondary academic track, a log odds ratio of 2.6 for the unconditional transition to four-year college, and a log odds ratio of 1.5 for the four-year college transition conditional on having attended upper-secondary academic education.

The level of inequality in upper-secondary academic track placement appears to be higher than average, but not extreme, from a cross-national perspective. Jackson and Jonsson (2013: figure 11.2, T1) report an average log odds ratio of 1.8 for the equivalent transition in the eight countries in their analysis, and Egypt's log odds

ratio of 2.3 is lower than the estimate for Italy (where the log odds ratio is around 3). The estimates reported in Breen et al. (2007: figure 6, transition 2) for slightly older cohorts show inequalities for most countries that are smaller than Egypt's level, but both Italy and Ireland have equivalent or higher levels of inequality at this transition than Egypt. The story is much the same for the transition to college conditional on eligibility. Estimates for inequality in access to all types of tertiary education can be found in Arum et al. (2007: table 1.2), Breen et al. (2007: figure 6, transition 3), and Jackson and Jonsson (2013: figure 11.2). Taking these estimates together, the log odds ratios expressing inequality in college access average to around 1, although for some countries the inequality is somewhat higher: the United States, for example, has a log odds ratio of 1.5, whereas Italy once again stands out with a log odds ratio of 1.8. Arum et al. (2007, table 1.2) additionally report an average log odds ratio for inequality in first-tier higher education that is 1.4 for the fourteen countries in their analysis. The latter average is reported for a slightly less extreme comparison of social origin than that presented here, so our estimate of 1.5 establishes Egypt's level of inequality in college access (conditional on eligibility) as being fairly close to the cross-national average for inequality in first-tier higher education.

The extent of socioeconomic inequality at the two educational transitions, therefore, does not mark out Egypt as being particularly distinctive from a cross-national perspective. The cross-national comparison does emphasize that inequalities in Egypt are on the higher side of those observed for other countries, but Egypt never stands out as being an extreme case. These results demonstrate that the constitutional guarantees have certainly not eliminated inequality, nor have they produced an educational system as equal as those observed in many other countries.

Where Is Inequality Expressed?

We have to this point shown that, despite the constitutional mandate, there is much inequality in Egypt. Additionally, we have shown that this inequality takes a curvilinear form, with the payoff to additional family wealth and income especially high above the 60th percentile. We suggested that, because parents beneath that threshold would be hard-pressed to afford high-quality private tutoring and private schooling, there was little that they could do to assist their children in preparing for tests (hence the relatively flat line for those of low wealth/income). The latter interpretation was advanced, however, without direct evidence on test scores themselves. We thus examine next the relationship between test scores and socioeconomic standing.

In Figure 2 we present mean scores for male students in each wealth/income percentile for two tests in the Egyptian educational system: the test at the end of primary school and the crucially important preparatory examination, which determines track placement in upper-secondary school.[10] The strength of the association between socioeconomic background and test score performance clearly differs depending on which part of the wealth/income distribution is considered, with flatter lines characterizing the slopes at the bottom/middle of the distribution and steeper slopes toward the top.

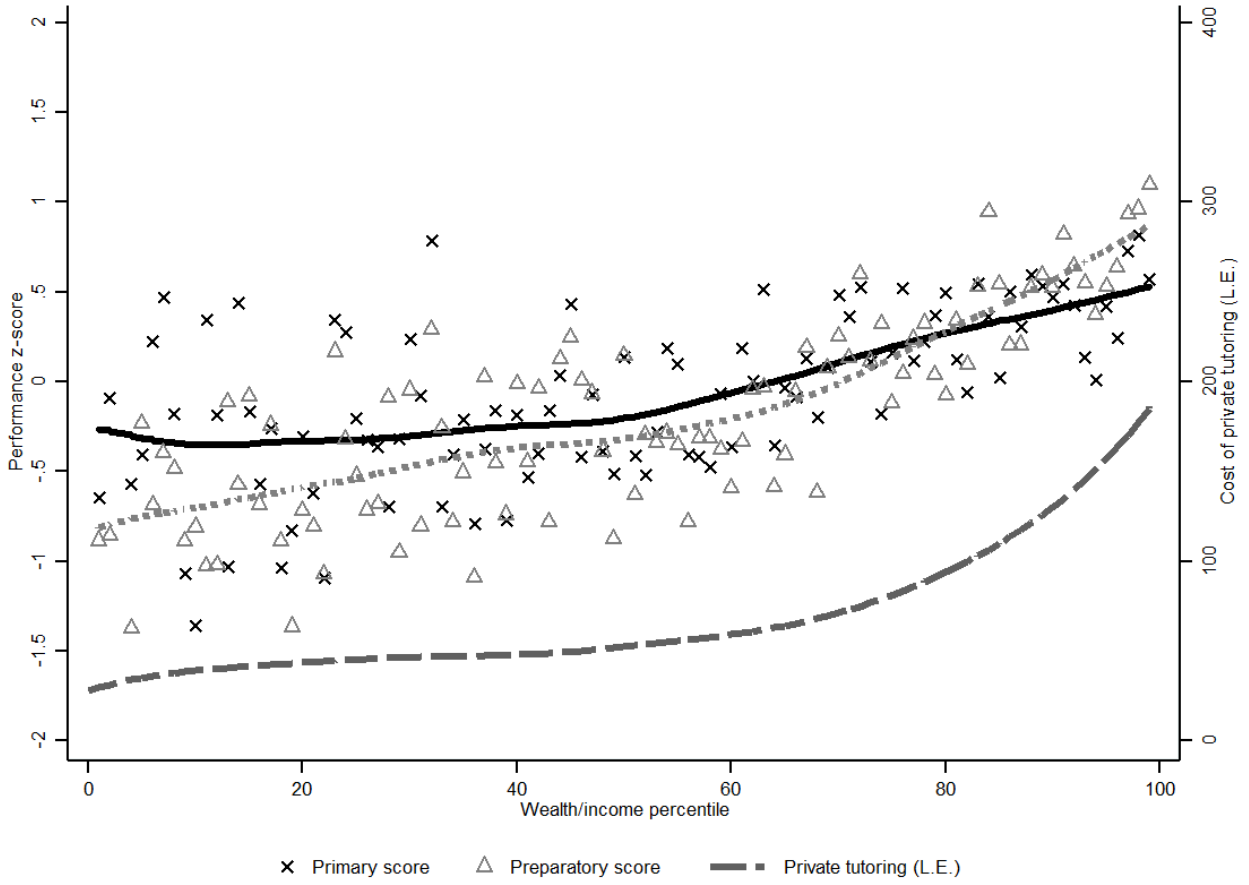

Figure 2: Mean scores of male students in each wealth/income percentile at primary and preparatory levels (y-axis 1), alongside mean amount spent on private tutoring per month (y-axis 2).

Note: Primary score analysis, n = 774; preparatory score analysis, n = 865; private tutoring analysis, n = 1,196

Just as striking as the overall relationships between the test scores and the wealth/income percentiles is what we observe when we focus on the comparison between primary and preparatory scores. Recall that in Egypt's highly stratified education system, there is a high level of path dependence at the secondary level and above: placement in the general, or academic, track is a prerequisite for university entrance, in part because it otherwise becomes difficult to even sit for the *Thanawiya 'amma* examination, which is subsequently used to determine university placement. It is perhaps not surprising, therefore, that socioeconomic background is more strongly associated with test score performance at the more consequential tracking point. The overall correlation between the wealth/income percentile measure and mean performance in the preparatory test is 0.76 ($p < 0.001$). This drops to 0.57 ($p < 0.001$) for the correlation between wealth/income and mean primary test scores. As the non-parametric lines demonstrate, the relationship between mean scores and wealth/income percentiles differs across the socioeconomic background distribution, and it is in the top part of the distribution that the comparison across

the tests is of most interest. For this group of students, the slope describing the relationship between the preparatory test and wealth/income percentiles is markedly and significantly steeper than the slope for the primary scores: the β coefficient for the preparatory test (0.03, $p < 0.001$) is in fact a full three times larger than that for the primary test (0.01, $p < 0.001$). There is no significant difference between the slopes for students in the bottom part of the wealth/income distribution.

We earlier argued that one of the important means to securing high test scores in Egypt is via private tutoring and that high-quality tutoring is available only for parents with incomes above a relatively high threshold. Alongside the test scores in Figure 2, we have plotted the mean amounts spent on private tutoring by families within each of the wealth/income percentiles.[11] Private tutoring is common in Egypt even for children from poor families, but the cost (and therefore quality) of tutoring varies. We see in Figure 2 that the pattern of spending on private tutoring across the wealth/income distribution matches almost exactly the pattern of mean test scores, particularly the pattern of mean preparatory scores. From the bottom through to the middle of the wealth/income distribution, there is a relatively flat relationship between wealth/income and the amount spent on private tutoring, but this relationship becomes substantially stronger toward the top.

Taken together, these results suggest that, when the constitutional mandate established the preparatory score as the arbiter of academic track placement, it also established a strong incentive for parents to "buy merit" via tutoring. This figure provides, then, an important piece of evidence in support of the stylized account that we advanced, admittedly preliminarily, in interpreting the results of Figure 1.

Merit and Inequality

Nothing that we have seen so far can in fact provide direct evidence of inequality of opportunity. The institutional arrangements that were designed to satisfy the constitutional commitments to equality of opportunity are ones in which test scores are strictly linked to educational transitions. While maximally satisfying the commitment to equality of opportunity might require equal chances of success for all children at birth, the legal commitment is minimally and formally satisfied in this institutional context if socioeconomic background is irrelevant to educational outcomes, conditional on the school test scores.

We can quantitatively assess to what extent test score inequalities explain inequalities in educational outcomes using a decomposition analysis (Karlson, Holm, and Breen 2012 [KHB]). We ask how much of the odds ratio describing inequalities between groups can be accounted for by inequalities in test score performance and how much is independent of these test-score inequalities. These questions can be addressed by decomposing the overall odds ratio into indirect and direct effects, respectively (often labeled "primary" and "secondary" effects in the literature on educational inequality; see Boudon 1974).[12] In Figure 3, we show the contribution of test score inequalities to total inequalities in educational attainment for comparisons across wealth/income quintiles, with the bottom quintile as a reference category.

On the left-hand side, we show the contribution of inequalities in institutionalized test scores for each transition (preparatory scores for the upper-secondary

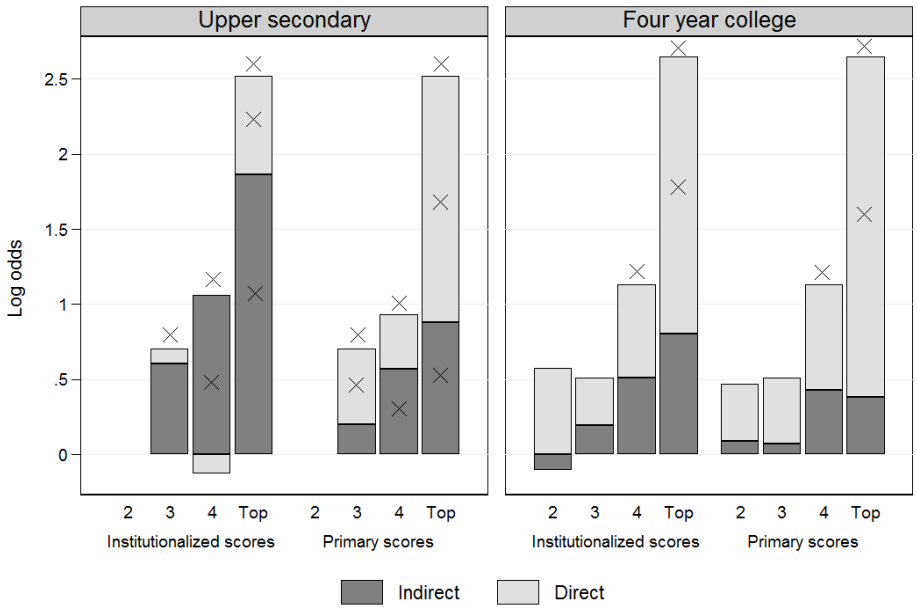

Figure 3: Decomposition of inequalities in transition to upper-secondary academic education and four-year college, log odds ratios, male students.

Note: Upper-secondary analysis, n = 844; four-year college analysis, n = 396. In the upper-secondary analysis, the KHB estimated coefficient for the second quintile is approximately zero. In two comparisons we see negative indirect or direct effects, but in neither case are these effects significantly different from 0.

transition, *Thanawiya 'amma* scores for the university transition), and on the right-hand side, we show the contribution of inequalities in primary test scores.[13] The indirect effects (i.e., dark gray bars) refer to the predicted size of the log odds ratio if only inequalities in test scores were responsible for producing inequalities, whereas the direct effects (i.e., light gray bars) refer to the predicted size of the log odds ratio if only factors other than test scores were responsible for inequalities. Crosses within the bars indicate a significant indirect or direct effect, whereas crosses above the bars indicate a significant total inequality.

There are three main results coming out of Figure 3: (a) Egypt is largely delivering on its constitutionally mandated commitment to inequality based on test-score performance for the key transition to upper-secondary school; (b) the indirect (i.e., test-driven) effects are much less important for the transition to four-year colleges; and (c) the commitment to test-based allocation is only realized with respect to the institutionalized scores, which reflect the effects of intensive private tutoring, and not with respect to primary scores, which are an earlier reading on student capacities and hence less sensitive to the intensive investments of wealthy parents. We review each of these three results in turn.

A Meritocratic Regime for Upper-Secondary Track Placement. As the left-hand side of Figure 3 shows, total inequality in academic track placement is significant for the comparisons between the bottom quintile and the 3rd, 4th, and 5th quintiles. But in decomposing these inequalities, we see that inequalities in preparatory test

score performance are largely responsible for the inequalities in track placement. For example, around 74 percent of the inequality in track placement between the top and bottom quintiles can be attributed to the indirect effects of inequalities in preparatory test scores between those groups, with the other 26 percent attributed to the direct effects of socioeconomic background. After taking account of preparatory test score inequalities between groups, there are no significant inequalities between the bottom quintile and the 3rd and 4th quintiles. In other words, the test scores that are institutionally linked to the transition to academic upper-secondary education are wholly responsible for the socioeconomic inequalities that are found for most of the wealth/income distribution.

From a cross-national perspective, these results demonstrate that institutionalized test scores play a special role in generating educational inequality at the transition to upper-secondary education in Egypt relative to other countries. The contribution of inequalities in test scores to total inequalities is substantially larger in Egypt than in all other countries for which results are available (Jackson and Jonsson 2013; see online supplement: figure A6).

A Quasi-Meritocratic Regime for College Placement. The transition to college is less consequential for overall levels of educational inequality because most of the poorer students have already been selected out in the transition to the upper-secondary track. Because the upper-secondary transition is where most of the inequality-generating work occurs, it is immensely important that test scores are determinative in this transition (as laid out above). It is nonetheless also important to ask what happens to those students who advance to the upper-secondary track. At this point, further selection is largely oriented toward assigning students to colleges and majors, but students can be blocked from attending public college if they do not have the requisite scores on the *Thanawiya 'amma*. If this happens, many of the well-off students will then opt for private colleges, which accept lower test scores and are much less prestigious (Buckner 2013). For the comparison between the top and bottom quintiles, we see that only around 30 percent of the total inequality is contributed by the institutionalized test scores, a result that is driven in part by the tendency for well-off children to go to private colleges if they test poorly on the *Thanawiya 'amma*. When we exclude students who attend private colleges from our analysis, the contribution of institutionalized test scores to inequality between the top and bottom quintiles increases to around 45 percent. Is this result inconsistent with a meritocratic commitment? Although the initial low indirect (i.e., test-based) effect would seem to be inconsistent, it also has to be borne in mind that the largely private schools attended by low-scoring rich children are relatively low in prestige. To be sure, the same private option is simply not available to low-scoring poor children and in that sense we are seeing a non-meritocratic outcome, but it is also clear that many of the low-scoring rich children are but securing a "consolation prize" (i.e., a low-prestige private school), hence their poor performance yields a comparatively poor outcome. This result thus seems fairly labelled as "quasi-meritocratic."

Class-Enriched Capacities Matter Most. These results accordingly suggest that, overall, test scores matter considerably in generating inequality, just as a meritocratic commitment would have it. But we have also shown that merit can be partially

"purchased" through private tutoring. It is important, then, to ask whether merit, as established before well-off parents engage in such enrichment, is driving inequality. To see how different our assessment would be under this pre-enrichment definition of equality of opportunity, we carry out the same decomposition using primary test scores as an (imperfect) measure of scholastic ability, a measure of ability taken several years before the full rigors of track-oriented investments get underway. The results for such primary scores differ dramatically from the post-enrichment results. As shown in the right-hand side of each figure, there are now very large gaps in the chances of academic track placement and college attendance among students who, as younger children, had similar academic potential. If academic potential as measured in primary tests was the benchmark for assessing the extent to which the constitutional commitments were satisfied, Egypt would do very poorly indeed. The meritocratic system that Egypt has built is therefore a very special type of meritocratic system in which, because the rules for getting ahead are so transparent, well-off parents can straightforwardly purchase the requisite signals of merit.

Discussion

The possibility of securing a positive legal pathway toward equality of opportunity is increasingly held up by legal scholars and policymakers as a key mechanism through which persistent social background inequalities can be addressed. In this article, we have focused on a country, Egypt, in which constitutional protections for equality of opportunity are deeply encoded in the educational system, arguably to a greater extent than anywhere else. We have asked how far socioeconomic inequalities in educational outcomes are patterned in ways that would be consistent with such deeply encoded legal commitments. In addressing this question, we have identified how Egypt's educational system differs from those of other countries that, unlike Egypt, have not reformed their systems in accord with an equal-opportunity constitutional mandate.

It is especially important to undertake this evaluation as constitutional reform movements gain support within the scholarly and policy-making communities. We can hardly pretend that the Egyptian case affords a perfect causal test, but the very practical cost of waiting for the perfect test, if ever it were to appear, is to oblige us to make judgements about the viability of legal reform on the far weaker basis of analytic deduction, scholarly tastes, or flavor-of-the-day fashion. Indeed, very consequential judgements are already being made about the viability of positive legal reform, and it is therefore high time to mine the available empirical evidence to assess whether the rise of the positive legal reform movement is defensible when judged against the evidence. It is especially important to mine the evidence for insights into the circumstances under which legal reform might pay off, a task with which we will conclude this section and article.

Although we have shown that the evidence from Egypt is discomfiting, we do not believe the constitutional protections to be wholly cynical or without consequence. In fact, our reading of the evidence is that the legal encoding of an ideology of meritocratic selection had important and largely unintended consequences for the structure of educational inequality in Egypt. In reaching this conclusion, we

rely on four features of the evidence, each of which support this conclusion. First, relative to what prevails in other countries, access to the academic track in Egypt is quite unequal, a result that does not accord well with the legal commitment to equal opportunity. Second, the unusually skewed distribution of educational opportunities across the wealth/income hierarchy suggests that qualifying test scores are mainly accessible, via the purchase of private tutoring, to those in the upper reaches of the income or wealth distribution. Third, the resulting test scores are the main basis of class advantage in accessing the all-important upper-secondary academic track (far more so than in other countries). Fourth, and by contrast, one cannot successfully explain such class privilege in terms of primary test scores, which are those that have yet to be "enriched" by upper-class investments. Although any one of these results might not be persuasive in itself, the constellation of such results makes it clear that the experiment with legal reform has, to some great degree, not yielded the equality that was intended. We have suggested, admittedly more speculatively, that it has gone awry in large part because the particular version of encoding that played out in Egypt had the effect of quite transparently telegraphing how privilege might be transferred.

We begin, then, with the first result that post-reform Egypt is not marked by unusually high levels of educational equality. To the contrary, substantial inequalities with respect to socioeconomic background are present, and those originating at the bottom of the wealth/income distribution are very unlikely to achieve a college education relative to their socioeconomically advantaged counterparts. Although total inequality at the two transitions is not extraordinarily high relative to other countries, Egypt is among the more unequal countries with respect to the first transition, which is the very consequential transition to upper-secondary academic education. The starting point, then, for our analysis is that there is surely room for some pessimism about the power of the law to ameliorate inequality.

The second finding, which pertains to the extremely skewed form that this socioeconomic advantage takes, is discrepant relative to research findings from other countries on the structure of educational opportunity. The curvilinearity of this relationship is highly unusual: we see little evidence of a payoff to family wealth/income until a threshold level is reached, after which the payoff increases precipitously. In the bottom two thirds of the distribution, an increase in income generates only relatively small improvements in the probabilities of being placed in the academic track or attending college and small improvements in test scores. It is only in the top quintile, particularly in the top five or ten percent, that a move upward in the income distribution generates a substantial improvement in academic outcomes. Among the lower quintiles, therefore, there is a relatively high degree of equality of educational attainment: greater socioeconomic resources are not translated to any large extent into better educational outcomes. Although the counterfactual is impossible to assess, this greater equality would appear to be gained through a leveling down of attainment, not a leveling up. On the basis of previous studies, we would expect even modest increases in resources to improve attainment (e.g., Breen et al. 2009), but in our distribution of socioeconomic resources, the middle's attainment is dragged downward in similarity with the bottom, whereas the top pulls away. This result suggests that, for parents below the "income threshold,"

any marginal increases in income or wealth are simply not enough to purchase the necessary test scores.

The third notable characteristic of educational inequality in Egypt is the extent to which test score performance accounts for class-based inequalities in academic track placement. The educational privilege of the upper-class, which we have shown to be substantial, is largely explained by its superior test scores, a result that is indeed "meritocratic" in the sense that parents who do not buy the requisite test scores for their children cannot expect a good outcome. This is a direct result of the constitutional mandate: the preparatory and *Thanawiya 'amma* test scores have been institutionally linked to educational transitions, and the evidence accordingly shows that inequalities in these test scores do rather well in explaining inequalities in transition-taking among the wealth/income groups. At the most important transition point—the transition to upper-secondary academic education—preparatory test scores account for most of the inequalities among quintiles in track placement. From a cross-national perspective, the influence of test score performance is exceedingly high at the transition to the academic track, although only moderate at the transition to college.

The fourth and final notable characteristic is that it would be wrong to interpret the Egyptian rendition of meritocracy as one that rewards raw talent established at birth. It instead rewards what might be termed "class-enriched" talent. When pre-enrichment primary test scores are used in our analyses, only about 30 percent of the inequality in academic track placement between top and bottom quintiles is generated by test-score differences, and this drops to as low as 14 percent when we consider the inequality in four-year college attendance. This result suggests that when the constitutional mandate institutionalized the preparatory score as the basis of academic track placement, it also established a strong incentive for parents to wield their economic advantage by buying merit via private means. The primary score, by contrast, has no placement implications (i.e., it is not "institutionalized"), which means that parents have no obvious incentive to purchase tutoring at this point in the process. The Egyptian form of meritocracy thus runs on class-enriched test scores rather than on scores achieved earlier in childhood.

How do we interpret this special structure of educational inequality in light of the constitutional protections guaranteed in Egyptian law? The constitutional guarantees of equality of opportunity are carefully encoded within educational institutions, but this encoding and subsequent exposure of the pathways to success has led to actions on the part of privileged students and families that effectively subvert the underlying aim of substantive equality. We would hope that, as the legal reform movement continues to diffuse, the potential for subversion of this sort is at least seriously considered.

But should we conclude that all renditions of legal mandates would lead inevitably to subversion? Absolutely not. The Egyptian case may, in this regard, be understood as a cautionary tale that, for all its failings, also provides key insights into how legal reform might successfully bring about a full and substantive form of equality. The main problem that we have laid out is that, insofar as merit-based positive legal reform is implemented, there will almost invariably be a clear telegraphing of how to get ahead. This telegraphing may then be exploited by the

well-off in ways that are simply not possible in systems with more ambiguous rules. As we have repeatedly stressed, the best friend of the poor is some noise in the rules, as is it just such noise that hampers the well-off in securing full investment value for their money.

It might be imagined that one could attempt to instruct the well-off that it is wrong to exploit their knowledge about the rules on behalf of their children. Could, for example, one imagine such a thorough-going commitment to equal opportunity that special investments in one's own children become delegitimated? In philosophical work on equality of opportunity, an important strand of research considers to what extent familial relationships should be seen as legitimate if those relationships in turn generate inequality of opportunity (see especially Fishkin 1983; Brighouse and Swift 2014), and explicit in this work is the principle that familial bonds lead to inequality of opportunity because parents make investments in their own children—pecuniary and non-pecuniary—that they do not (and would not) make in others. Although a case could be made that legal reform, if successful, must also undermine such familial bonds, this seems to be a less than practical injunction.

If cultural injunctions of this sort are not viable, there are nonetheless various supplementary institutional reforms that might be undertaken to limit the means of parents to subvert constitutional mandates for equal opportunity. The extent to which subversion is possible will depend upon the type of institutional encoding that is selected. The institutionalization of test scores is arguably a natural operationalization of equality of opportunity, but the concept may be operationalized in other ways (see particularly Coleman 1968; 1975; Hallinan 1988). Indeed, Jencks argued that one of the distinguishing features of the concept of equality of opportunity is that "...it is an ideal consistent with almost every vision of a good society...For politicians of all persuasions equal opportunity is...a universal solvent, compatible with the dreams of almost every voter in a conflict-ridden constituency" (1988:533). In Finland, for example, a constitutional provision grants students "equal opportunity to receive educational services in accordance with their ability and special needs as well as the opportunity to develop themselves without being prevented by economic hardship" (quoted in United Nations 2011). This has been operationalized within an educational system without dead ends in which higher education is accessible from any track and in which private education is rare and limited to specialist or religious schools (Kilpi 2010). The encoding of equal opportunity in Finland therefore offers no easy opportunity for parents to subvert the aims of the law. Egypt has effectively made it possible to purchase test scores via private tutoring, hence it has actively enabled a very pristine form of subversion, whereas, by contrast, Finland has acted directly to disable such forms. It is notable that the level of educational inequality in Finland is by no means exceptional relative to other countries and that here we do not observe large indirect effects when students are sorted into educational tracks (Kilpi 2010: table D8, 300). This provides further support for the argument that the institutional encoding of Egypt's constitutional provisions, in emphasizing the link between test score performance and educational inequality, has generated a very special pattern of educational inequality.

Before concluding, we must at least briefly consider Egypt's current situation, particularly given that the recent revolution has been attributed, in part, to both inequality of condition and inequality of opportunity. The protestors in Tahrir Square were, after all, shouting for "bread, freedom, and social justice," and while it would be foolhardy to link our findings on inequality of educational opportunity too closely to that collective action, it is difficult to imagine that the substantial inequalities that we observe in educational attainment and the capacity of the rich to bypass the institutionalized meritocratic processes have gone altogether unnoticed. The widely shared spirit of meritocracy that is captured in the constitutional provisions is violated by the reality of educational inequality, a situation that is unlikely to be stable in the long term. Education is but one part of a society, and the subversion of educational institutions by the socioeconomically advantaged is almost certainly but one example of subversion. It is of interest that, as a result of the revolution, institutional and constitutional changes were made that substantially altered the balance of powers in Egypt, but the provisions relating to equality of opportunity were only strengthened. Although our results suggest that this commitment has been largely subverted to date, it remains to be seen whether the new constitution can deliver on this now-strengthened commitment.

Notes

1 In the United States, the best-known example of the former type of law is the decision in Brown versus Board of Education, in which racial segregation in U.S. public schools was deemed to be unconstitutional. Interestingly for our purposes, Brown was decided on the basis of the equal protection clause of the Constitution (Fourteenth Amendment); although the clause provides no explicit commitment to equality of opportunity in education or elsewhere, it has been the foundation of subsequent legislation in which equality of opportunity is a central aim. The Brown decision prepared the ground for further legislation to promote equality of opportunity in education, in particular the Equal Educational Opportunities Act (1974).

2 Sociologists have argued that, over time, the SAT has become more and more important in determining entry to elite colleges in the United States (Alon and Tienda 2007). The ambiguity that we refer to in the text is ambiguity in the minds of parents and students, which makes the optimizing strategy unclear, particularly if parents wish to secure a place for their children at a top elite university. And even in the U.S. context, we see in Alon (2009) that a reasonable degree of inequality in college enrollment remains to be explained even after controlling for SAT scores.

3 There is no standard transliteration of the Arabic name for this examination; another common translation of the name is Thanaweya Amma.

4 The mean age at first marriage is 22.7 for Egyptian women.

5 An objection to including women in our analyses of educational inequality might be that although gender has been included in the "protected categories" within Egyptian constitutions since 1956, up until the 2014 constitution there was some tension within the constitution between a woman's public protections and her private familial "obligations" (McLarney 2013).

6 We refer to our socioeconomic background measure as a "wealth/income" rank. The composite measure of assets and resources provided in the SYPE is not a pure measure

of wealth, nor is it a pure measure of income. We are therefore forced to bundle these two concepts together in describing our analyses.

7 This figure differs from the Gross Enrolment Ratio for Egypt because of the sample restrictions that we have imposed.

8 We thank Raj Chetty and Jeremy Majerovitz for providing these data. We were unable to find equivalent analyses for any other country.

9 Sociological analyses based on odds ratios can also speak to the non-linear relationship that we observe between wealth/income and the transitions, and previous research would lead us to expect a rather linear relationship between socioeconomic background and transition-taking (see Breen et al. 2009: figure 6).

10 We restrict these analyses to men aged 18 and over so that we can compare results across the different analyses. We use test scores in the decomposition analysis, so we impute preparatory scores for those students with primary scores (we also impute Thanawiya 'amma scores for students with primary scores for the decomposition analysis). The imputations are relatively conservative, increasing the decomposition analysis samples by 91 cases for the secondary analysis and by 15 cases for the four-year college analysis. Figures A4&A5 in the online supplement show the relationship between wealth/income percentiles and actual scores against the relationship between wealth/income percentiles and imputed scores.

11 A question in the SYPE asks whether the respondent has taken any private lessons over the past year. Clearly, this question is not relevant for our sample of older respondents, so for our private tutoring analysis we select male respondents who are under 16 years old. In this sample, 73 percent of students have taken private lessons over the past year.

12 Note that Morgan 2012 (see also Morgan, Spiller, and Todd 2013) has criticized the language of "effects" in this research field and has reasonably questioned the extent to which indirect and direct effects can be given a causal interpretation (in particular the extent to which direct effects can be taken to represent "choice" effects). Our argument here does not rely upon a causal interpretation of the indirect and direct effects.

13 A curious feature of the KHB decomposition is that the total effect differs depending which variables are included in the decomposition analysis. To avoid confusion, we fix the total effects at their value in the sample (i.e., the raw log odds ratio), then generate the graphs based on the KHB estimated percentage contributions of the indirect and direct effects.

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Michelle Jackson: Department of Sociology, Stanford University.
E-mail: mvjsoc@stanford.edu.

Elizabeth Buckner: Teachers College, Columbia University.
E-mail: esb2174@tc.columbia.edu.