

Inequality of Opportunity in Education and Youth Employment in MENA

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Abstract

This paper updates the earlier literature on youth transitions from school to work in MENA countries in light of new evidence on inequality of opportunity. It argues that the discussion of transitions based on the experience of the “average youth” miss significant variation in experiences of youth from different social and economic backgrounds, and that these differences should be taken into account in designing policies to facilitate youth transitions. The evidence reviewed in this paper shows great variation across the region in all types of inequality of opportunity. The evidence also shows that inequality of opportunity in several countries is very high. In these countries the quality of the family and community environment in which a child grows up matters greatly for the likelihood of ever entering school and reaching the secondary level, achievement in math and science, and for the quality of jobs in which they end up as adults. The paper discusses some of the reasons behind the high levels of inequality of opportunity, in particular the methods of national testing that reward a narrow range of skills, which leads to lower equality of opportunity.

1 Introduction

The literature on MENA youth that developed a decade ago, led by research at the Middle East Youth Initiative at the Brookings Institution, revealed striking similarities in transitions to adulthood for youth in MENA countries.¹ This literature identified the transition from school to work as the most critical youth issue to address, and pointed out its close relationship with the transition to marriage and family formation. These studies were presented from the perspective of the *average* MENA youth, largely ignoring differences in transitions by social class and income group. More recent research on inequality of opportunity (IOp) in MENA has brought out the important role of family background and community characteristics in child education and on transition from school to work. This research reveals high levels of inequality of opportunity in education and access to employment. In this paper, I update the previous literature on MENA youth transitions in light of this new evidence and argue that problems of youth transitions are compounded by inequality of opportunity.

A widespread belief about education in MENA countries is that the actual benefits of investments in education are increasingly below expectations. As emphasized in earlier studies, high rates of youth unemployment and long durations of waiting for the first job after leaving school erode the social trust in education as the path to social mobility that has been the hallmark of post-independence social and economic development in MENA countries (Salehi-Isfahani, 2012). High levels of inequality of opportunity in access to education and employment imply that the erosion of trust is occurring faster in the lower social and economic strata and is likely to undermine the social contract formed on the basis of social mobility through education.

The extent of opportunities a society makes available to its youth naturally affects transitions from school to work and to family formation. But these opportunities are not provided equally. As Assaad et al(2014b) and Salehi-Isfahani et al (2014) show, the characteristics of the families and communities in which children grow up determine to a large extent the level of schooling they attain and how much they learn at school. Assaad, Kraftt, and Salehi-Isfahani (2014) further show that, in Egypt and Jordan, youth from more advantaged backgrounds end up in better jobs and with higher pay irrespective of their education. Family background has a direct effect on how youth search for jobs because family and kinship connections (*wasta*) are important in job placements (Binzel 2011, Wickham 2002).

From a policy perspective, inequality should be an integral part of youth policy. All youth transitions are not the same and therefore do not respond to a given policy in the same way. It is therefore important to distinguish between the problems faced by youth from different backgrounds. With the same education, youth from better-off families may stay unemployed because they have a higher reservation wage and can afford to search longer, and may therefore respond to a wage subsidy differently than youth from poor backgrounds who have to take a lower paid first job if available. From an efficiency point of view, policy should equally encourage children of all backgrounds to seek education. An uneven playing field discourages able but disadvantaged children and therefore harms efficiency.

Evidence is still accumulating on IOp in MENA, but from what we already know, it appears to begin early in a child's life and intensifies in the later stages of human capital formation and later in employment. Recent research, discussed more fully below, shows that family background and the characteristics of the community in which a child grows up greatly influence early childhood development, child health, the probability of entering school, reaching secondary school, achievement, and transition to work. Evidence is even more scant on the underlying reasons for IOp

¹ See the papers in the volume *Generations in Waiting*, Dhillon and Yusef (2009).

in MENA, but a discussion of the stylized facts of the education systems in the region can shed light on the key factors that have resulted in to IOp in the region despite decades of populist and socialist rhetoric.

2 Inequality of opportunity and youth transitions

The most important feature of investment in education is its universality. Governments use compulsory education to extend education to all citizens. But beyond compulsory schooling, what keeps children in school is the prospect of a better future that comes with education. An uneven playing field discourages participation of able children from disadvantaged backgrounds. The extent to which the institutions of education and labor market provide children from different backgrounds with equal opportunities to jobs and incomes, determines how broad will be the participation of the masses in the education system.

The incentive to participate at every stage of transition through school and to employment depends on how youth perceive the opportunities open to them at later stages. Most MENA countries have achieved near universal enrollments at the primary level, but in later stages children from less advantaged backgrounds fall increasingly behind. The optimism about the future that in most MENA countries brings children of the poor to school at age 6 at nearly the same rate as better off children does not seem to last beyond the primary level (Assaad et al, 2014b). Even beyond schooling, employment outcomes differ based in family background. With equal education, youth from different backgrounds end up with different employment outcomes (Assaad et al, 2014b).

3 Review of evidence on inequality of opportunity

The concept of inequality of opportunity has a long history in the philosophy literature. It describes the extent to which circumstances beyond an individual's control determine his or her success in life, where success can be any outcomes (or 'advantage') of interest, such as health, education, or income. Estimates of IOp can take different forms. In education, production function estimates that include as inputs parental education and community characteristics are in essence estimates of IOp. This method is useful for situations in which the outcome is a binary or categorical variable, such as ever attending school or the level of schooling attained. The available evidence for IOp in attainment in MENA countries is of this type. When outcomes are represented by a continuous variable, such as performance on standardized tests or income, variance decomposition is the method of choice. Both types of outcomes are represented in the IOp literature in MENA.

3.1 Inequality of opportunity in attainment

Assaad et al (2014b) provide estimates of IOp in attainment for seven Arab countries for which survey data are available. They estimate the extent to which child circumstances affect two measures of attainment, a binary variable that indicates whether a child ever attended school, and another variable indicating whether, having attended, he or she reached secondary school (grade 9 or higher). Their sample includes children 12-17 years of age who live with their parents. According to both measures, there is a wide range of IOp in attainment in the region. Yemen and Iraq are the least opportunity equal countries while Jordan and Tunisia are the most opportunity equal. In Yemen the chance of a "most vulnerable" girl (defined by illiterate parents, living in a rural area and in the bottom quintile of wealth) ever attending school is only 6%, compared to 95% for Tunisia (for boys it is 40% in Yemen vs. 100% in Tunisia). Assaad et al (2014b) simulations show that in all countries children from the most advantaged backgrounds have near perfect chances of entering school and reaching the secondary level. Only Tunisia comes close to providing the same opportunities for children from the least advantaged backgrounds. In every other country the

probabilities of ever attending and reaching secondary are vastly different for children from the two types of family backgrounds (see Table 1).

The unequal access to schooling in Yemen, which is one of the poorest Arab countries, is not surprising. At its level of underdevelopment and scarcity of public resources, access to schools, especially secondary level, can be limited to larger cities and richer families. In this regard, the similarity of Iraq to Yemen is surprising. Iraq is an oil rich nation with a GDP per capita that is 50% higher than Yemen, a sizable middle class and a mostly urban population (in 2007, when the sample was collected, nearly two-thirds of the population was classified as urban). The high level of IOp in attainment observed in Iraq testifies in part to the effects of years of sanctions and war, which have limited the role of the central government in providing schooling in Iraq on a wide basis.

Vélez et al (2012) provides estimates on inequality of opportunity in attainment in Egypt, but they report their results in terms of the Human Opportunity Index (HOI), which is not comparable to the results in Assaad et al (2014b) because HOI combines a measure of equity of access to an opportunity with its average access (de Barros et al 2009). The HOI for completing primary and secondary education on time have remained stagnant during 2000-2009, which is consistent with deterioration in IOp because the HOI is the multiple of average access (which has increased) and inequality of access (which must have declined).

Table 1. Simulated probabilities of attainment: ever attending school and reaching secondary level, by family background

	Ever attending school				Reaching secondary school			
	Most vulnerable		Most advantaged		Most vulnerable		Most advantaged	
	Boy	Girl	Boy	Girl	Boy	Girl	Boy	Girl
Egypt	0.83	0.75	1.00	1.00	0.54	0.43	1.00	0.99
Iraq	0.38	0.24	1.00	1.00	0.08	0.03	0.94	0.96
Jordan	0.99	0.89	1.00	1.00	0.52	0.46	0.91	1.00
Palestine	0.81	0.66	1.00	0.99	0.25	0.31	0.92	0.93
Syria	0.91	0.79	1.00	1.00	0.17	0.10	0.93	0.96
Tunisia	1.00	0.95	1.00	1.00	0.41	0.30	1.00	0.99
Yemen	0.40	0.06	1.00	0.99	0.27	0.04	0.99	0.99

Note: Predicted probabilities of ever entering school and reaching secondary by synthetic backgrounds of rural, illiterate parents, and lowest wealth quintile (most vulnerable) and urban, parents with above secondary education and top wealth quintile (most advantaged).

Source: Assaad et al (2014b).

3.2 *Inequality of opportunity in achievement*

Measures of achievement from standardized international tests, such as TIMSS (Trends in International Study of Mathematics and Science), PISA (Program for International Student Assessment), and PIRLS (Progress in International Reading Literacy Study) offer exceptional opportunities to measure IOp in achievement across a large number of countries and over time. Because these measures are continuous, they lend themselves to a method of estimation of IOp derived from the pioneering work of Roemer (1998). This method decomposes the inequality of an outcome into two parts, one due to circumstances and another all the rest (ability, effort and luck). To do this all observations are grouped into “types” based on a set of circumstances (parental education, location and the like). Since all individuals of a given type have the same circumstances, the variance within each type is due to other factors, such as effort and luck. The inequality between types is due to inequality of opportunity. The General Entropy (GE) measure of inequality

is the most suitable index for decomposition of total inequality into “between” and “within” parts (Ferreira and Gignoux, 2014). The “between inequality” measures the share of total inequality that is explained by the individuals’ types, so a ready estimate of IOp is the ratio of between inequality to total inequality. Most of this literature employs a parametric method for the decomposition, in which the outcome variable is regressed on an array of circumstances such as parental education and income or assets, the quality of the home environments (basic infrastructure, computer and internet), and community characteristics (size, average quality of schools). The contribution of circumstances to the inequality of the outcome can be obtained by the R-squared of this regression (Ferreira and Gignoux, 2011). A particularly useful feature of the parametric method is that it allows a further decomposition between the elements of the circumstance set; for example, between family and community level variables. Knowledge of which type of circumstance is more important for IOp is very useful for policy. Community level variables, such as the quality of schools, sometimes lend themselves better to policy interventions than family background variables, such as parental education.

Governments are less effective in supplying education quality than its quantity, or years of schooling, leaving room for parents to influence their children’s learning. This may explain why the state-dominated education systems of the Arab world, which have supported a rapidly rising average years of schooling, produce the low and stagnant international standardized test scores seen in Table 2.

It may also explain the fact shown in the same table that in some of the richest school districts in the world the oil-rich Gulf States – average students’ scores are particularly low. In contrast to governments, parents are more effective in the delivery of education quality than quantity. More educated parents can use their own resources of time and money to invest more in the human capital of their children. If in delivery of education quality states are less effective than parents, we should expect that inequality of achievement to be even greater than the inequality in attainment.

Table 2 Inequality of Opportunity in achievement in MENA countries, 1999-2007

	Math			Science		
	1999	2003	2007	1999	2003	2007
Algeria			4.600 (0.001)			4.400 (0.001)
Morocco	0.100 (0.000)	0.064 (0.010)	0.127 (0.003)	0.119 (0.002)	0.085 (0.002)	0.094 (0.002)
Syria		0.130 (0.002)	0.161 (0.002)		0.099 (0.001)	0.156 (0.002)
Kuwait			0.164 (0.006)			0.210 (0.003)
Palestine		0.159 (0.010)	0.183 (0.008)		0.154 (0.010)	0.184 (0.003)
Bahrain		0.206 (0.026)	0.192 (0.003)		0.168 (0.011)	0.248 (0.003)
Jordan	0.188 (0.003)	0.231 (0.003)	0.202 (0.010)	0.188 (0.003)	0.220 (0.003)	0.240 (0.003)
Tunisia	0.153 (0.002)	0.177 (0.002)	0.208 (0.003)	0.127 (0.002)	0.129 (0.002)	0.159 (0.003)
Oman			0.209 (0.003)			0.230 (0.003)
S. Arabia		0.107 (0.002)	0.210 (0.003)		0.117 (0.003)	0.233 (0.003)
Qatar			0.239 (0.003)			0.387 (0.003)
Dubai			0.251 (0.006)			0.181 (0.006)
Egypt		0.321 (0.014)	0.282 (0.003)		0.272 (0.002)	0.260 (0.003)
Iran	0.172 (0.004)	0.217 (0.013)	0.297 (0.013)	0.176 (0.002)	0.158 (0.035)	0.309 (0.003)
Lebanon		0.257 (0.005)	0.295 (0.018)		0.238 (0.017)	0.351 (0.002)
Turkey	0.128 (0.003)		0.340 (0.003)	0.115 (0.002)		0.311 (0.003)

Note: Share of inequality of scores explained by circumstances using the parametric method and imputation for missing values. Bootstrapped standard errors are in parenthesis.

Source: Salehi-Isfahani et al (2014).

For these reasons, we should expect IOp in achievement to be at least as high as in attainment. Unfortunately, because their different metrics and method of estimation, there is no easy way to compare the IOp in attainment and achievement. However, international comparisons indicate that the IOp in achievement in some Arab countries are quite high.

Table 2, reproduced from Salehi-Isfahani et al (2014), shows the share of total inequality for 1999, 2003 and 2007. In terms of magnitudes of the estimates of IOp, it should be noted that Salehi-Isfahani et al (2014) use a method of imputation for missing values that produces lower estimates of

IOP than the standard method in which missing values are assigned to a separate category. The estimates are generally one-third higher using the latter method.

As with attainment, there is a large degree of heterogeneity in IOP in achievement. The estimates of the shares range from a low of 4% for math in Algeria to over 39% for science in Lebanon in Table 2 (7% and 47% without imputation). To get a sense of the size of these estimates, consider similar one for the OECD and Latin American countries using PISA math scores, which are very similar in structure to TIMSS (see Figure 3, reproduced from de Barros et al, 2009). (Keep in mind that the studies reported in this graph use the standard method of dealing with missing values.) In Finland, only 5% of the inequality is explained by circumstances, and IOP in Brazil, which has one of the highest income inequalities in the world, is only 20%.

The much lower estimate of IOP for Algeria raises an interesting question. Few who have studied the education systems of MENA would consider Algeria as a model for others to follow. Salehi-Isfahani et al (2014) note that this might in part be due to lack of private schools and private tutoring in Algeria. The lesson from Algeria may be that IOP can be reduced the “wrong way”, by leveling the playing field from the high end, that is, by suppressing the ability of the better-off families to invest in the quality of their children’s education, as opposed to enabling the children from poor backgrounds to do as well as the rest.

In Table 3, I extend the analysis of IOP in Salehi-Isfahani et al (2013) to the latest round of TIMSS in 2011 in which 11 Arab countries participated. In doing so, I use the simpler, standard method of dealing with missing values, and therefore reproduce the corresponding estimates for 2007 from the working paper version of their paper (Salehi-Isfahani et al, 2012). As noted earlier, the IOPs estimates for 2007 in this table are about one-third higher than the corresponding values in Table 2.

Table 3 Inequality of Opportunity in achievement TIMSS scores in 2007 and 2011

	Math		Science	
	2007	2011	2007	2011
Algeria	0.07	--	0.07	--
Bahrain	0.25	0.40	0.30	0.41
Egypt	0.33	--	0.31	--
Iran	0.33	0.38	0.35	0.35
Kuwait	0.23	--	0.27	--
Jordan	0.25	0.28	0.30	0.36
Lebanon	0.37	0.35	0.43	0.35
Morocco	0.21	0.28	0.17	0.24
Oman	0.27	0.35	0.30	0.40
Palestine	0.25	0.23	0.25	0.24
Qatar	0.32	0.34	0.47	0.38
Saudi Arabia	0.28	0.23	0.30	0.27
Tunisia	0.26	0.27	0.21	0.23
Turkey	0.39	0.30	0.37	0.32
UAE	--	0.24	--	0.26
UAE-Dubai	0.39	0.33	0.28	0.47

Note: Share of inequality of test scores explained by circumstances using parametric method without imputation for missing values.

Source: Data for 2007 are from Salehi-Isfahani et al (2012), and for 2011 are the author’s calculations using TIMSS 2011 data files.

INEQUALITY OF OPPORTUNITY IN EDUCATION AND YOUTH EMPLOYMENT IN MENA

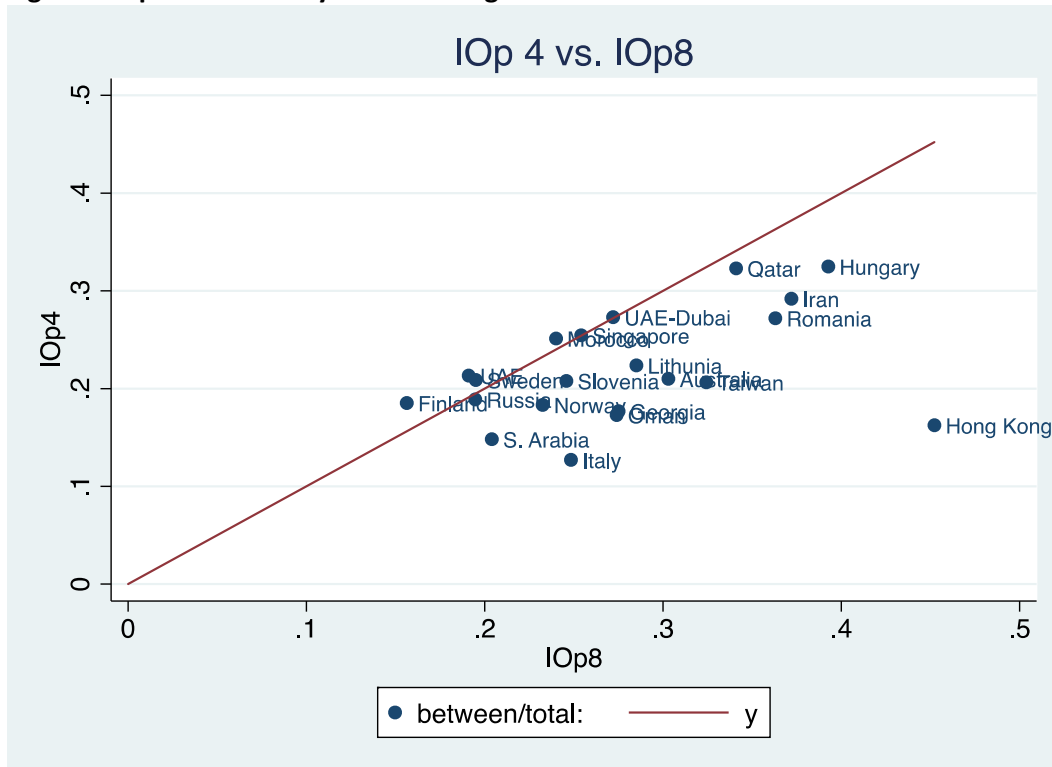
TIMSS tests are available for 4th and 8th grade students, so we can compare the contribution of circumstances to achievement (IOp) at the early stage when parental influence is relatively small with its level four years later, at grade 8, when parental influence has had more time to change the level of inequality. It seems plausible to expect IOp to rise with school grade because with each passing year the influence of parents and community characteristics on achievement increases and the achievement gap between the children of poor and rich families expands. This conclusion would hold even if innate ability were in part heritable.

The sample of countries for which both 4th and 8th grade TIMSS scores are available is limited, and furthermore in certain years TIMSS does not report parental education of 4th grade students. For the 21 countries for which we have the same set of circumstances available for both 4th and 8th grade students, I calculate the IOp as the share of “between inequality” to total inequality.

Figure 1 show that in most cases IOp measured by 8th grade scores is higher than measured by 4th grade scores. It is reasonable to assume that the inequality of scores at grade 4 is closer to the inequality of natural abilities, and that by grade 8 the influence of unequal circumstances on scores increases. Hong Kong has the largest progression of IOp from grade 4 to 8, indicating that parental influence continues to widen the gap between poor and rich children as they go through school. It has one of the lowest levels of IOp in grade 4 (less than 20%) which rises to the highest in the sample (45%) in grade 8. Three of the four MENA countries in this sample -- Iran, Qatar, and Saudi Arabia -- also experience a rise in IOp with grade but UAE has the same level of IOp in both grades (30%).

We have estimates of IOp in achievement from a recent study by Salehi-Isfahani et al (2013). They use TIMSS data from 1999, 2003, and 2007 to estimate the share of circumstances in inequality of test scores.

Figure 1 IOps measured by 4th and 8th grade TIMSS scores.



Looking for the trends in IOp during 1999-2011 for those countries that did participate in TIMSS more than once, we see no evidence that the share of inequality of opportunity in achievement has

declined over time. In fact, for several Arab countries, notably Saudi Arabia, Lebanon, Syria and Bahrain, it has increased. Morocco, Oman, and Dubai have higher IOP's in 2011 compared to 2007. Though it is no consolation, the non-Arab countries of Iran and Turkey have also had large increases in IOP. The estimates for Saudi Arabia and Lebanon, which had a rising trend in the previous years, are lower in 2011. It is difficult to conclude from these numbers if the trend has actually been reversed for these countries or that the estimates simply vary from year to year for other reasons.

3.3 *Inequality of opportunity in transition to employment:*

As we have seen, transitions through school in MENA countries are not opportunity equal but they are by and large meritocratic. Grade promotion and student rankings of learning are based on student performance, which is often tested by objective criteria, such as computerized multiple-choice exams. Meritocracy is one step more opportunity equal compared to a system of grade promotion based on family and class background. However, the position preferred by Roemer and other egalitarian philosophers such as Rawls is for society to go much further on the equality of opportunity path and to compensate those with less favorable circumstances to level the playing field, so to speak.

A more serious problem with inequality of opportunity for youth in MENA countries is that it does not end with graduation; success in transition to employment appears to favor the advantaged youth as it does in education. The reason for this part of the IOP has to do with the institutions of the labor market. Employers, if not bound by strict labor regulations, face a high cost of laying off a low-productivity worker or one that turns out to be a bad match for what the employer needs. So they look for reliable signals of the type of skills they need before they hire someone. Graduates have acquired reliable signals of certain skills – type of school they have attended and grades obtained – but these comprise a narrow range, limited to memorized material from the curriculum that are reliably and objectively tested. They have no signals of a host of other skills, such as writing ability (which is not part of the national tests), general attitude toward work, teamwork, and other “soft skills.”

Intuition suggests that when signals of productivity of young workers are weak equality of opportunity suffers. Even if the education system itself is opportunity equal, when it is unable to assure an employer that a young person from a disadvantaged background is as reliable (if not more) than someone with finer pedigree, it has failed to provide a level playing field. For the disadvantaged youth, a level playing field must extend to transition from school to work.

A recent study of employment trajectories for youth with university education in Egypt and Jordan has revealed some interesting evidence related to this point. Assaad et al (2014a), and Assaad and Kraftt (2014) follow about 2000 graduates of two specific fields – business and information technology – in these countries to find out what factors mattered most in their labor market performance. They consider five outcomes (time to first job, time to first formal job, wage at first job, wage growth during the first five years of employment and wage after five years of work). They control for a host of variables including family background, quality of schools attended, and grade in the national tests. The only variables that matter for these five outcomes are those related to family background. Assuming that the empirical strategy in the paper is valid, the fact that signals of individual productivity (as captured by grade in the national test and the quality of university attended) do not seem important for employers raises interesting questions. Are these signals not correlated with productivity? Higher grades may land students who do better in academic tests in higher ranked universities, but these universities do not raise individual productivity by much, so employers find no reason to hire these individuals over others or reward them with greater pay. The results in Assaad et al (2014a) support the mismatch hypothesis. They also lend credence to the hypothesis that inequality of opportunity exists at a critical stage of the human capital accumulation

process, where the skills learned need to be signaled to employers. The fact that family background matters more than skills in determining employment outcomes, after controlling for all the things that families do to improve their children's education, is consistent with what we know about MENA countries, that connections trump productivity. As policy makers attempt to decrease inequality of opportunity in education, they must pay special attention to the transition from school to work. If the last stage of the human capital process is not opportunity equal, the entire process suffers.

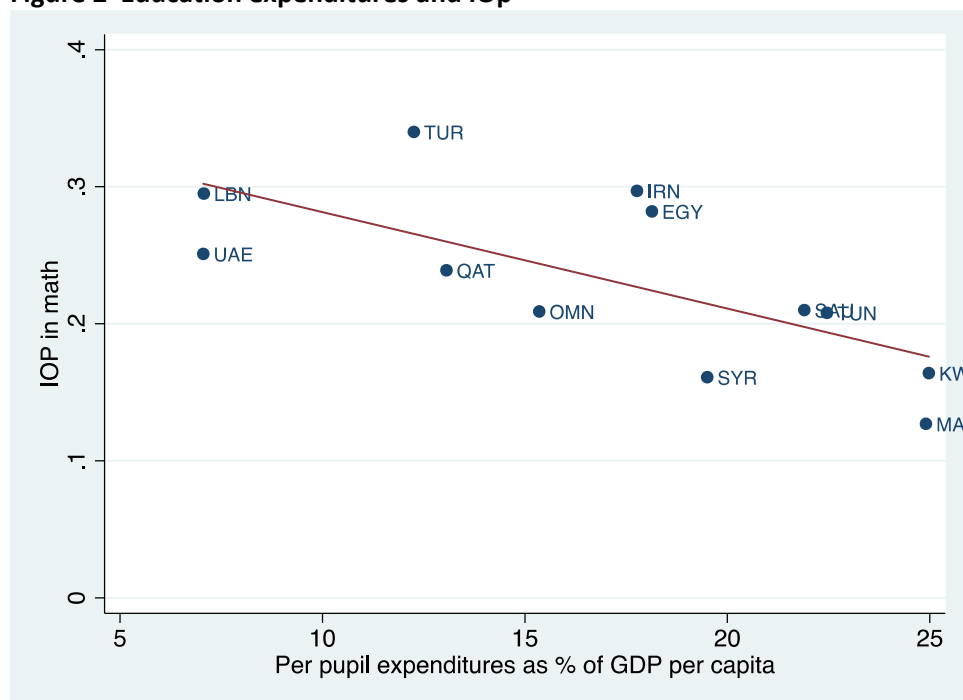
4 Human capital policy and inequality of opportunity

The institutions of the markets for education and labor define the rules of the game in human capital accumulation and set the structure of rewards for various types of skills. Human capital policy is about setting these rules so as to foster the accumulation of productive skills and ensure equality of opportunity. In this section I discuss four characteristics of the education systems in MENA that bear directly on inequality of opportunity: funding for public education, the rise of private schools and private tutoring, tracking, and testing regimes.

4.1 Public education funding

Public education in MENA has in the past served an important egalitarian objective by providing free public education, but, as reflected in high levels of IOp in educational attainment and achievement, it has failed to provide it equitably. Part of the blame may lie with public funding for education in MENA countries. Public funding for education can adversely affect IOp if it is too low and if its distribution between different education levels is skewed toward tertiary education. The relationship between overall public funding and IOp is negative. Countries that spend more per pupil as percent of their GDP per capita tend to have lower levels of IOp in achievement (see Figure 2). This seems to be true also for MENA countries.

Figure 2 Education expenditures and IOp



Source: Salehi-Isfahani et al (2013)

How this public funding is allocated to different levels of education also matters for IOp. As Table 4 shows, MENA countries spend more on tertiary than on secondary or primary. Expenditures in more

developed world regions are more balanced between education levels than in MENA. For example, on average, during 2001-2011 the Moroccan government spent 80.9% of its GDP per capita per tertiary student, compared to 38.9% per secondary student and 16.8% per primary student. In contrast, OECD governments spent per student in these levels 27.6%, 24.4% and 20.1%, respectively.

It is generally understood that public funding should focus on early in life, at primary level if not on early childhood education (Heckman 2003). The reverse is the case in several MENA countries that offer free university education irrespective of income. On the face of it free university education allows youth from disadvantaged backgrounds to attend university, but in practice, as Assaad (2010) has shown in the case of Egypt, it has the opposite effect. He finds that the probability of a youth from a most advantaged background to attend university is 97% compared to only 9% for youth from a most vulnerable background.

Table 4 Public education expenditures per student by level of education, as percent of GDP per capita (2001-2011 averages)

	Primary	Secondary	Tertiary
Algeria	11.49	18.25	
Iran	13.57	16.25	26.09
Jordan	14.74	17.41	
Kuwait	13.65	16.76	118.21
Lebanon	7.75	5.98	80.89
Morocco	16.76	38.89	80.89
Oman	13.29	15.40	26.23
Qatar	9.69	10.29	
Saudi Arabia	18.17	18.11	
Syria	16.13	17.53	63.71
Tunisia	17.02	22.61	53.78
Yemen	17.14	11.17	
OECD members	19.99	24.42	27.58
East Asia & Pacific	14.95	14.75	25.35
Europe & Central Asia	20.85	25.91	26.53
Latin America & Caribbean	12.32	14.00	24.37

Source: World Bank, WDI databank, accessed September 9, 2014.

4.2 *Private schooling and private tutoring*

Private spending on education often increases in response to decline in public education quality or rising competition for limited spaces in high quality universities (Dang and Rogers 2008). While evidence for the link between this trend and high level of IOp in achievement is weak, it makes intuitive sense that where parental resources can enter, inequality of opportunity decreases. Schuetz et al (2008) provide evidence from standardized tests showing that the family-background effect is larger in countries with a larger share of private funding. Salehi-Isfahani et al (2013) also attribute rising IOp in achievement in several MENA countries to rising private spending on education in MENA but they do not provide any evidence to this effect. They note that the country with the lowest IOp in their sample, Algeria, has virtually no private education, though they caution that achieving a low IOp in this way -- by preventing the more wealthy parents from investing in their children's human capital-- is not the right way to promote equity.

It is widely claimed that spending on private tutoring in the MENA region has been on the rise (Akkari 2010, Ali 2013, ElBadawi et al 2010, Sobhi 2012, Tansel 2005), though firm evidence on the proportion of households who use private tutors and how much they spend on tutoring is scarce. We know more about the increase in enrollment in private schools at primary and secondary levels (see Table 5). With the notable exception of the GCC, private enrollment rates in most MENA countries are still quite low, but they have been on the increase in the last two decades. Private primary schools enrollments have doubled in Iran and Morocco. Even in Jordan, Lebanon and the GCC, where private school enrollments were already quite high, the trend has been upward.

Table 5 The share of students enrolled in private schools

	Primary		Secondary	
	1995-2004	2005-2012	1999-2005	2006-2012
Bahrain	19.3	29.3	14.9	20.1
Djibouti	9.8	12.1	16.2	12.8
Egypt	7.6	7.6		
Iran	3.0	7.2	7.7	9.0
Jordan	30.4	32.8	16.4	18.1
Kuwait	31.7	38.2	27.3	30.7
Lebanon	67.9	71.5	54.4	58.6
Libya	2.4	4.7	2.8	2.2
Morocco	4.5	10.0		
Oman	4.0	18.1	0.9	7.9
Qatar	38.4	52.9	30.3	37.6
Saudi Arabia		8.9	8.4	12.0
Syria	4.1	4.2	4.5	3.9
Tunisia	0.7	1.9	6.1	4.6
United Arab Emirates	46.5	69.0	36.2	53.8
West Bank and Gaza	9.8	11.2	4.4	5.2
Yemen	1.5	3.7	1.6	3.8
United States	11.3	9.3	9.2	8.5
United Kingdom	5.1	5.5	27.0	28.8

Source: World Bank, WDI databank.

4.3 Tracking and vocational education

Tracking is about separating high ability children from low ability ones at some stage in their schooling based on their grades or other indicators of ability or achievement. The most prevalent kind of tracking in MENA occurs at grade 9 or age 15, when students deemed unfit for further academic pursuits are tracked into technical and vocational schools. Since social background affects achievement, tracking often selects poorer children for vocational training. Tracking has the potential benefit of easing the transition from school to work. However, international evidence is mixed both on the contribution of tracking to smoother transition and its impact on inequality of opportunity.

Bol et al (2013) present country level evidence that tracking improves labor market transitions but increases inequality of opportunity.² Schuetz et al (2008) show that early tracking reinforces the

² Bol et al (2013) provide regression results on the PISA mathematics scores of advantaged versus disadvantaged students. Their regression analysis demonstrates that as a system becomes more tracked, the difference in performance between advantaged and disadvantaged students increases.

effect of parental background on achievement and may thus exacerbate inequality of opportunity. Brunello and Checchi (2007) question this negative impact of early tracking on inequality of opportunity. They argue that while early tracking increases the influence of family background on educational attainment and access to better jobs, it can reduce inequality of opportunity by producing specialized skills that employers need. Evidence derived from the Basic Skills Test of the Finnish Army shows that the removal of tracking from the school system in Finland, “significantly improved the scores of the students whose parents had less than a high school education” (Kerr, Pekkarinen and Uusitalo 2013). Finally, Hanushek, and Wößmann (2006) argue that performance varies more when a country employs early tracking. They use the reading performance section of the 2003 PISA test for 15 year-olds compared to the 2011 PIRLS test for 4th graders. They demonstrated that IOp increases in every country with tracking (except the Slovak Republic), and decreases in every country without tracking (except Sweden and Latvia).

Most MENA countries practice some sort of tracking into technical and vocational education. Evidence on returns to vocational education suggests low returns. Salehi-Isfahani et al (2009) estimate low returns for vocational education relative to regular secondary schools in Egypt and Iran, both of which have enforced tracking, but not Turkey, which does not have compulsory tracking. These findings are consistent with lower average ability in the TVE track due to selection and thus should not be taken to imply that tracking reduces returns to education. More rigorous research that controls for selection is needed to estimate the returns to TVE. The evidence on the impact of tracking on inequality of opportunity is even more scant. In a study of the impact of family background on child education in Egypt and Jordan, Salehi-Isfahani, Hashemi, and Assaad (2013) find greater intergenerational mobility in education in Jordan, where students can choose the vocational track, compared to Egypt, where it is based on performance. But, again, this study does not tell us what part, if any of the difference in generational mobility between these countries is due to tracking. So we do not know whether mobility in Egypt would improve if students there were allowed to stay in the academic track even if their grades are too low.

4.4 *The role of testing in inequality of opportunity*

MENA education systems are often criticized for their emphasis on rote learning and lack of incentive for creativity, problem solving, and soft skills such as teamwork and general attitude toward work (UNDP 2003, World Bank 2008). Part of the skills mismatch problem is precisely because employers value such skills in their employees but schools fail to supply them. This in turn related to the problem of weak signals of rewards that private markets send to students and their families regarding the type and range of skills private employers reward. The signals that youth and their families have been receiving for decades has been of rewards for diplomas and credentials that public sector employers have valued in the past.

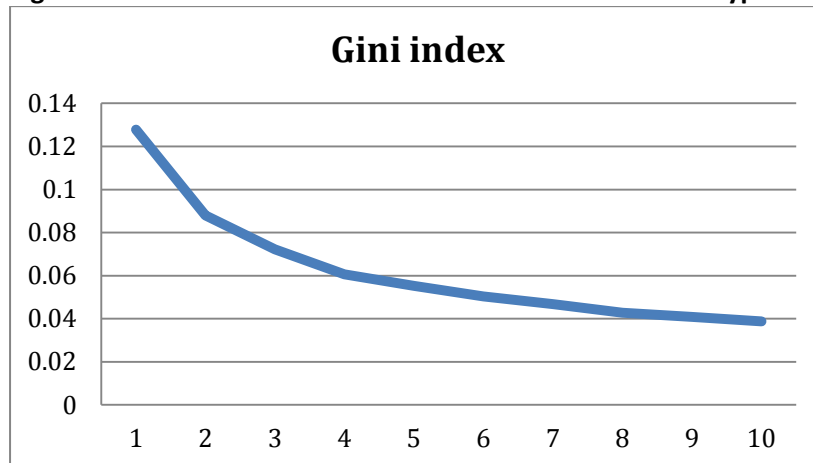
The education systems in MENA are very similar to what Banerjee and Duflo (2011a and b) have criticized as being winner-take-all in which all attention of parents and teachers – is focused on the top students. The weaker students are not considered worth investing in because they are expected to fail at some point in their schooling career, if not at grade 9 when they are tracked into vocational schools, then surely by the end of high school when they fail to score high enough on the national tests to get into a decent university. This system, which emphasizes testing of a narrow set of skills and abilities, naturally discourages a large section of students early on, many of whom come from poorer backgrounds.

There is yet another problem with streamlined, computerized testing regimes. By the nature of their testing mechanism, they provide sharp incentives for certain skills, such as math, sciences, social and literary studies, which are easy to test, but fail to provide any incentives to learn for other skills, such

as writing and soft skills that do not lend themselves to low cost and objective testing. The focus on a narrow set of abilities limits the equality of opportunity because to the extent that endowments of abilities are not correlated, the more abilities that are valued and invested in to become skills, the greater the equality of outcomes. This is easy to demonstrate by a simple simulation in which outcomes are linearly related to abilities and abilities are normally distributed at birth. Figure 3 shows the result of such a simple simulation in which individuals are endowed with 10 abilities that are not correlated. Each ability has a normal distribution with mean zero and standard deviation of 1. All abilities, if rewarded, become skills proportional to the level of the related abilities. So the distribution of the resulting skills – those rewarded – will be also normal.

If only one skill is rewarded, the Gini index is about 0.13, with two skills the Gini drops to less than 0.09, and if all 10 abilities turn into skills the Gini index of outcomes drops to less than one-third (0.04). This simple exercise shows that when the ability to memorize is rewarded, those who have this particular ability can pass the requisite tests and acquire various diplomas and jobs that go with those diplomas. Other children who have, say, creative skills would lose in such a single measure competition whether they choose to compete or simply drop out. Many others with skills that are untested and therefore less rewarded, such as writing or the ability to lead others in a group effort, will similarly fall behind. As long as some skills remain untested, they are not developed, and employers will not reward them. The distribution of the outcomes that will result will be less equally distributed than when multiple skills are rewarded.

Figure 3 Simulation of outcomes based on the number of types of abilities and skills rewarded



Notes: Assumes ten abilities at birth, normally and independently distributed, which are developed by investment. All parental resources are equal, so investment in skills are such that skills accumulated are proportional to ability.

5 Policy actions

Governments' first responsibility is to level the playing field by providing schools of equal quality in all neighborhoods, poor and rich, large or small. Their second responsibility, which usually requires deeper interventions, such as affirmative actions, to assist children with less advantaged family backgrounds to have the same chances to attend to school and learning as children growing up in advantaged families.

- **Budget reform**

Rebalance public education expenditures in favor of primary and even pre-school. As the World Bank's (2007) flagship report on education has noted, a disproportionate share of public education expenditures in MENA countries goes to secondary and tertiary education. Reversing this pattern will benefit the poor who are less likely to reach higher levels of education.

- **Curriculum reform**

Schools can and should compensate for differences in family background. Banerjee and Duflo (2011a, 97) describe a remarkable experiment from Israel in which children of Ethiopian Jews whose parents had 1-2 years of schooling had reached twelfth grade without grade repetition at a rate close to that of Russian emigrants whose parents had 11.5 years of schooling. They emphasize that the key to this success is to turn schools from competitive places that amplify differences in starting points to places that aim to close the starting gaps. To reach this outcome, they recommend focus on basic education, better education at the primary level and better incentives for the children of poor backgrounds to stay in school and work harder. High stakes, winner-take-all national tests that predominate in MENA countries take away such incentives. The poor fourth graders who are falling behind at the starting gate have little incentive to try to catch up unless the system is designed for that purpose, to help the weaker students rather than cater to the winners.

- **Making transitions more opportunity equal**

Increase the attractiveness of technical and vocational education. Two decades ago, TVE was heralded as the solution to the twin problems of employment and equality of opportunity. The Second World Congress of Education International, in 1998, resolved that, "Vocational education and training play a key role in the struggle for equality of opportunity." But evidence from MENA countries to the effect that TVE has served either goal is nonexistent. MENA students, even from poorer backgrounds, try their best to avoid TVE. When forced into this track, it is not clear that their chances of labor market success improve. TVE is in part hampered by its reputation as the track for the failures of secondary school education. Choosing students into this track based on interest, not grade, and offering better incentives for high achieving students with interest in practical skills to enroll in TVE will help reduce statistical discrimination against TVE graduates.

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