

# Inequality of Opportunity in Education

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# Education in the MENA Context

- In MENA, education is one of the most influential factors towards economic and social mobility.
- individuals - If provided with such opportunity - could raise their social statuses and improve their outcomes.

# Equal Education Opportunities

- The question here is whether educational systems in MENA offer equal education opportunities to all, regardless of the circumstances they were born into.

# Arab Uprisings and IOp

- Wise choices, personal responsibility and efforts should be rewarded eventually regardless of the person's circumstances (Ersado 2012; Salehi-Isfahani 2017).
- People tend to reject differentiation and unequal treatment if it was based on features they do not control.
- Once differentiation based on uncontrolled characteristics- like gender, race, ethnicity, and family or community background- people become less tolerant and see it as **unfairness** and **injustice**.

# Arab Uprisings and IOp

- **Unfairness** of the public systems was a main contributor to the Arab Spring (Ianchovichina et al., 2015; Miller et al., 2012; Salehi-Isfahani, 2017; Ersado, 2012).

# IOp Literature in MENA

- Assaad et al. 2017 show that inequality of opportunity in **income** in Tunisia, Egypt and Jordan is moderate compared to other countries namely eastern european ones.
- Circumstances explain a major part of inequalities in **child health** inequalities (Assaad et al., 2012; El-Kogali & Krafft, 2015; Ersado & Aran, 2014; Velez, Al-Shawarby, & El-Laithy, 2012).

# IOp Literature in MENA

- Assaad (2013) shows that the likelihood of **reaching higher education** in Egypt is far from equal and that free public education results in a regressive and unequal system.
- Assaad, Hendy and Salehi-Isfahani (2019) use HIECS data and find high degree of IOp in **educational attainment**, especially when it comes to reaching the secondary level.
- Assaad, Hendy and Salehi-Isfahani (2019) also find that Jordan, Palestine and Tunisia are found to be the most opportunity equal while Iran, Iraq, Syria, and Yemen are the least equal.

# IOp Literature in MENA

- Ersado and Gignoux (2014) use TIMSS data for Egypt and find that more than 20% of inequality in **examination outcomes** is attributable to circumstances such as parental education and household wealth.
- Salehi-Isfahani, Hassine, and Assaad (2014) argue that MENA countries have **higher IOp in education** than European states.
- Hashemi and Intini (2015) survey TIMSS and PISA from eleven MENA countries. They confirm the results reached by Salehi-Isfahani, Hassine, and Assaad (2014) that IOp in most Arab states is considerably high.



# IOp Literature in MENA

- Krafft and Alawode (2018) find that IOp is relatively high on determining **higher education attainment** in both Egypt and Tunisia; and quite moderate in Jordan.

# This study

- We focus on different attainment aspects
  - (1) likelihood of enrolling at any schooling level
  - (2) chances of completing primary
  - (3) chances of reaching secondary education.
- We examine how the circumstances the individual is born into shape their educational attainment.
- This paper comes to update and add to the results reached by Assaad, Hendy and Salehi-Isfahani (2019) using more recent and richer dataset.

# Data

- **Demographic and Health Survey (DHS):** Comoros 2012, Egypt 2000 and 2014, Jordan 2002 and 2012, Morocco 2003-04, and Yemen 2013.
- **Multiple Indicator Cluster Survey (MICS):** Algeria 2012, Iraq 2011, Mauritania 2007, Palestine 2014, Sudan 2000 2014, and Tunisia 2011.
- **Pan Arab Project for Family Health (PAPFAM) :** PAPFAM surveys: Algeria 2002 Libya 2014, and Palestine 2006.

# Data

- For Algeria, Egypt, Jordan and Palestine, we are able to track changes in trends before and after 2011.
- Sample selection: all children aged 6 to 18 who live in their parental household.

# Methodology: Model 1

- we use logistic models to estimate the effect of various circumstantial variables on a categorical outcome.
- First, we estimate a **simple probit model** to capture the effect of the various explanatory variables (age, parental education, household wealth quintile, and urban/rural residence) on the likelihood of ever attending school.
- the dependent variable is a dummy variable taking a value of “0” if the individual has never been to school and “1” if he or she has ever been enrolled in school.

# Methodology: Model 2

- We estimate an **ordered probit model**.
- Conditional on ever-enrollment in school, we estimate an ordered probit model to capture the influence of the same circumstances on the probability of attaining a certain educational level.
- Five categories of attainment: "No education", "Incomplete Primary", "Complete Primary", "Incomplete Secondary", "Complete Secondary or Higher".

■ Explanatory variables:

1. gender,
2. parental level of education,
3. household wealth,
4. living in an urban versus a rural area of residence

# Methodology

- we construct **educational attainment** using the information available on the individual's highest educational level attended and highest grade completed at that level.
- since we do not have information on the highest grade completed for Libya 2007, Morocco 2011, Tunisia 2001 and Yemen 2003, we are not able to construct the educational outcome of interest and hence, we do not carry our analysis for these sets.



# Methodology: Simulations

- Simulations predicted using the estimates of both the probit and the ordered probit models.
- We predict the probabilities of ever-attending school as well as reaching secondary for (1) two extreme profiles of children; (2) Urban vs. rural; (3) by wealth quintiles.

Probability of  
**ever**  
**attending**  
 school

Arab countries  
 have made  
 serious progress  
 in reducing  
 inequality of  
 opportunity in  
 entering school.

Algeria, 2002 and 2012



Egypt, 2000 and 2014



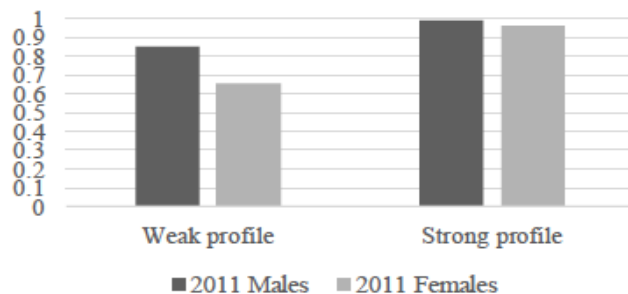
Jordan, 2002 and 2012



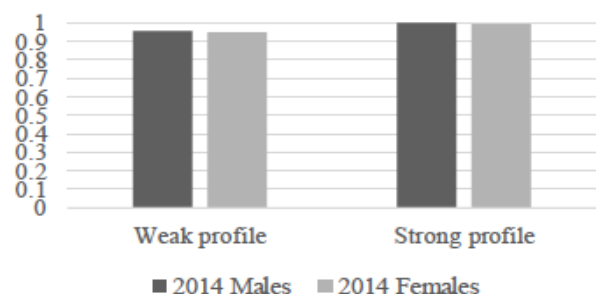
Palestine, 2006 and 2014



Iraq, 2011

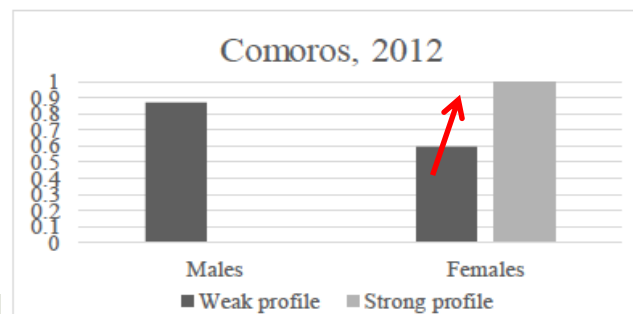
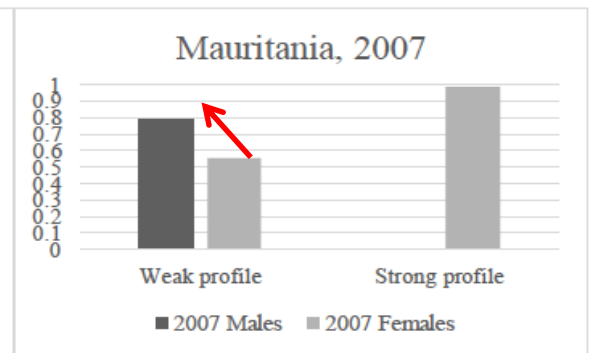
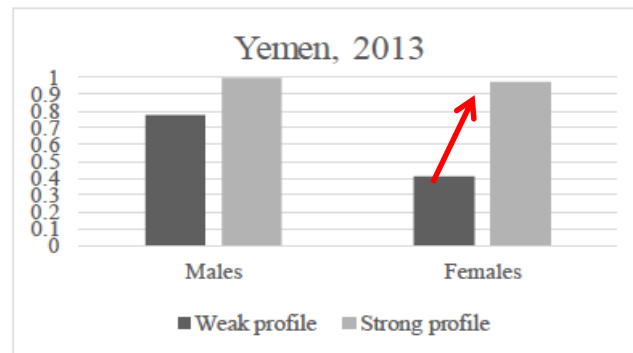
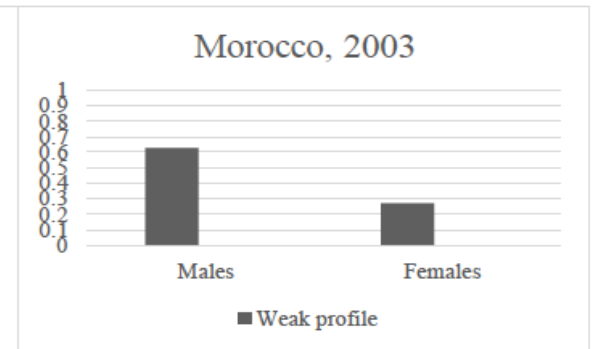
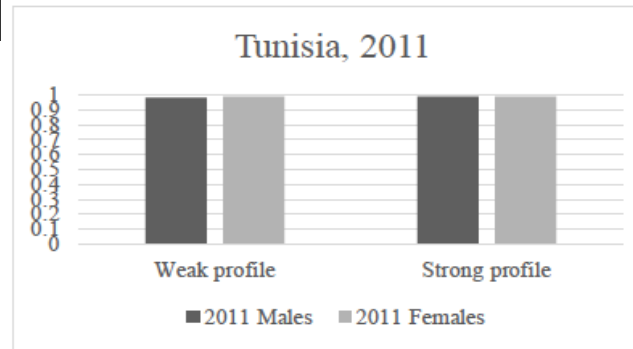
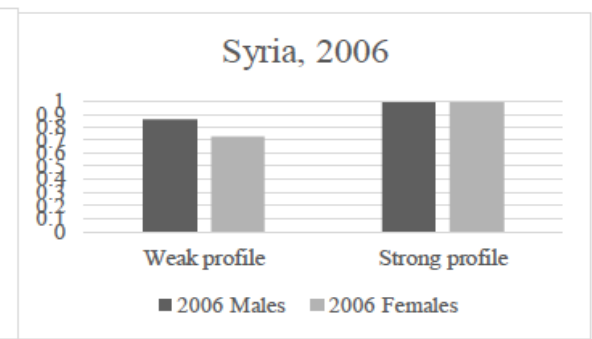
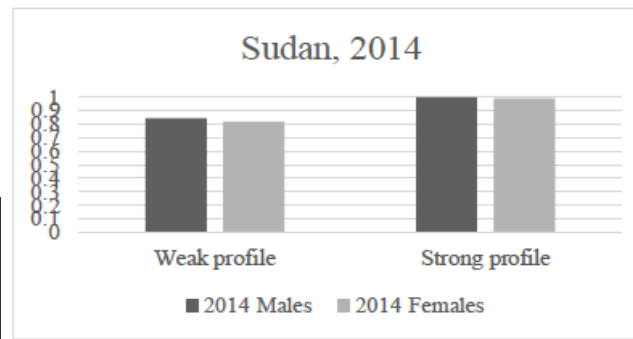


Libya, 2014



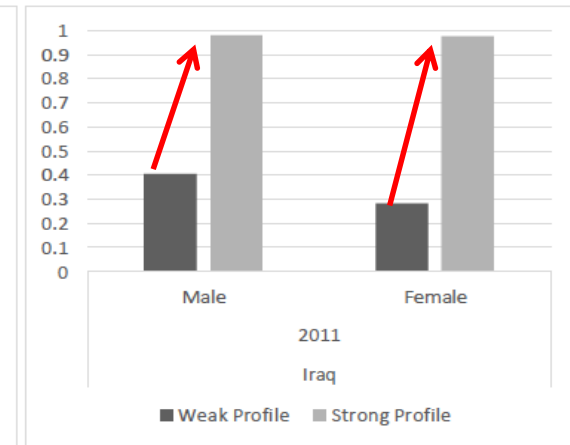
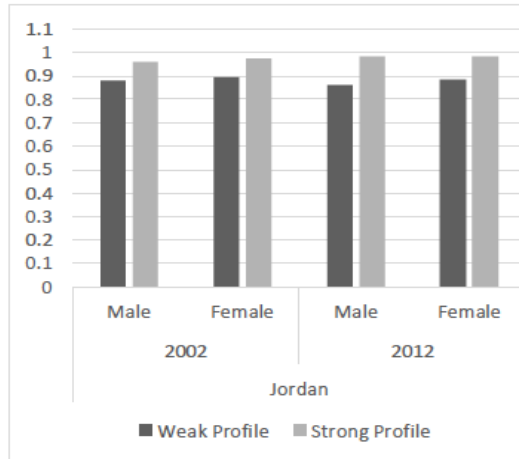
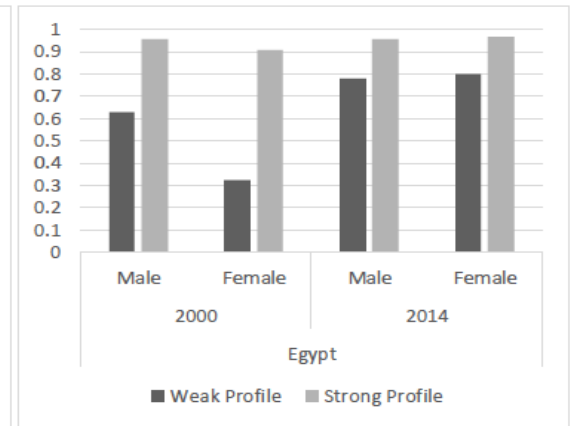
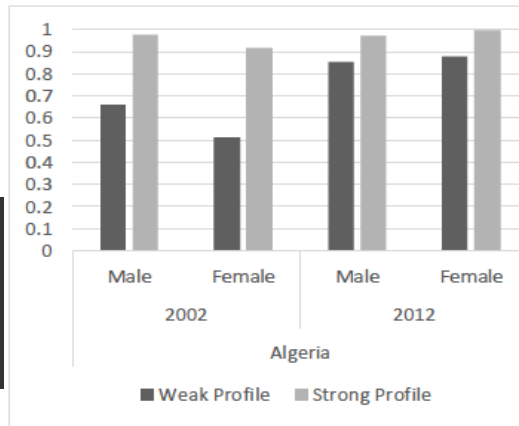
# Probability of ever attending school

Arab countries have made serious progress in reducing inequality of opportunity in entering school.



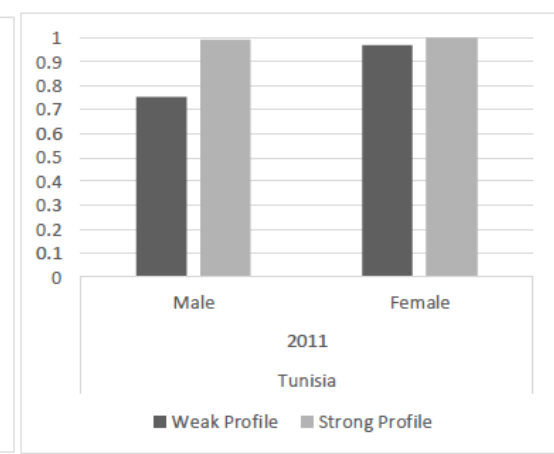
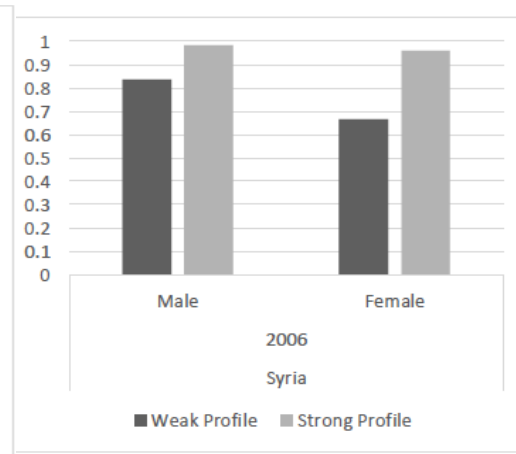
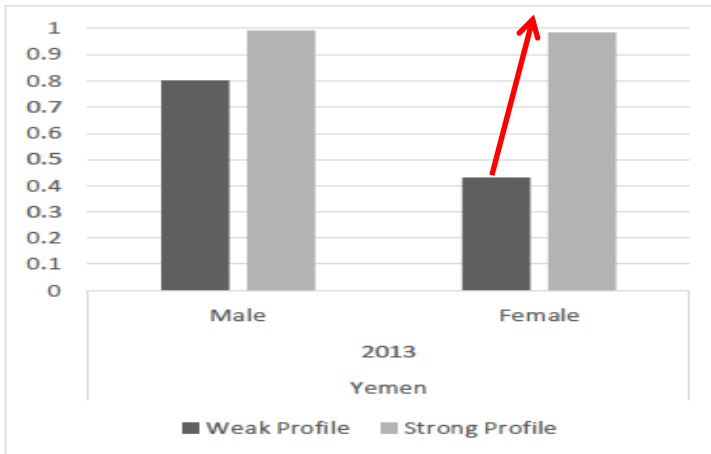
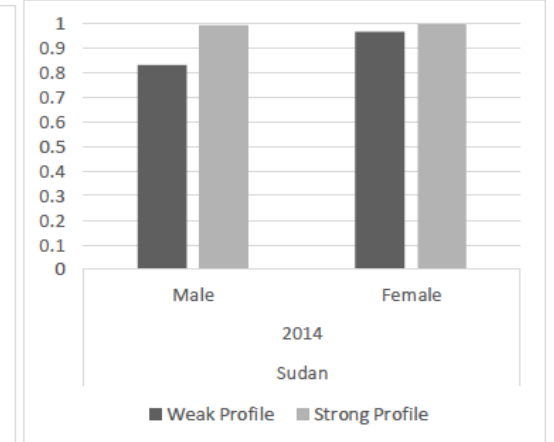
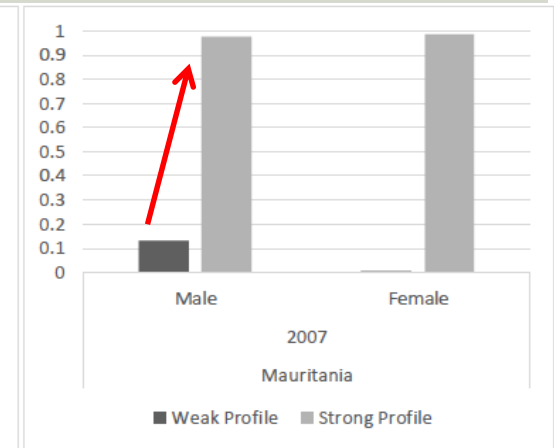
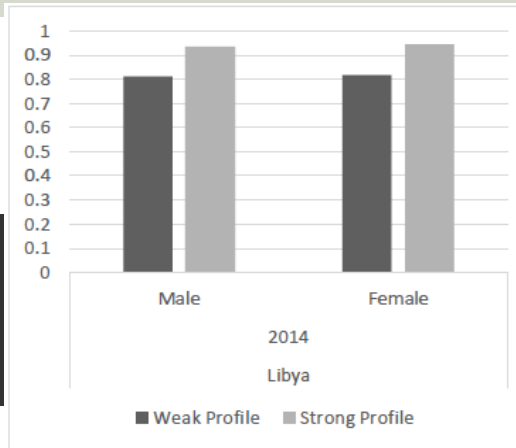
# Probability of Completing Primary

Slight  
improvement  
over time



# Probability of Completing Primary

Slight improvement over  
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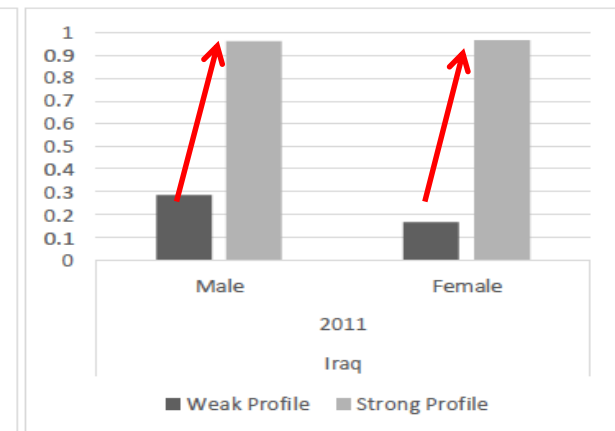
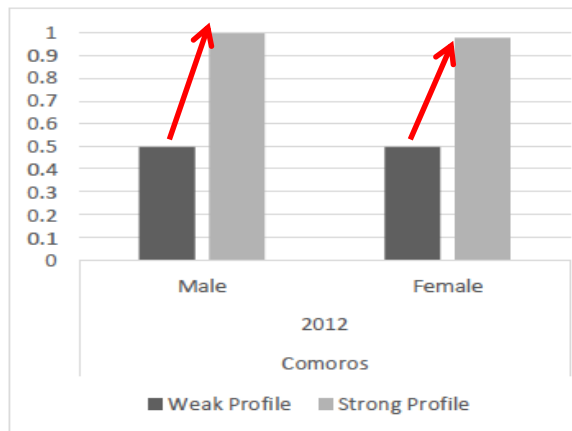
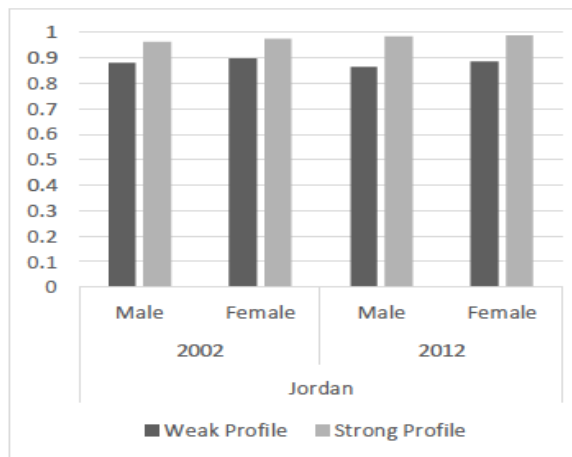
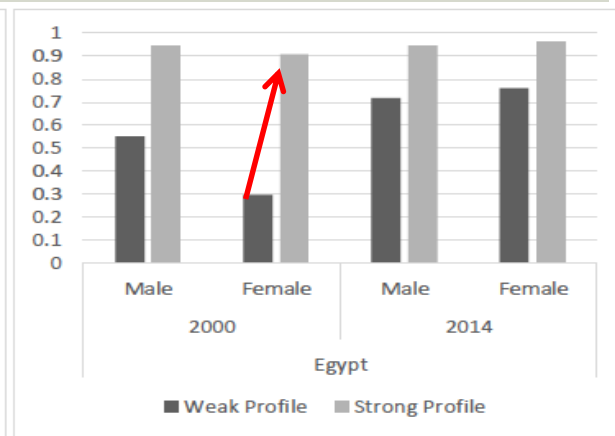
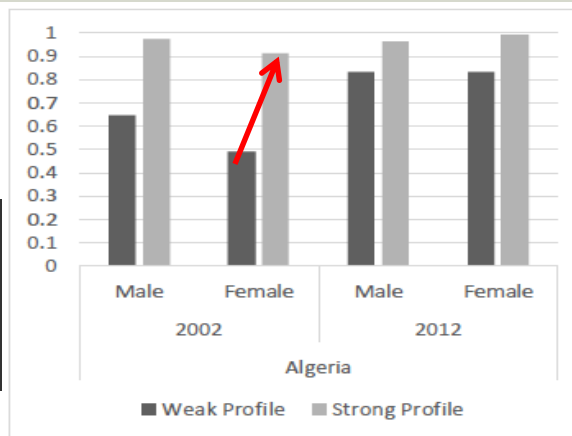


Probability of reaching secondary

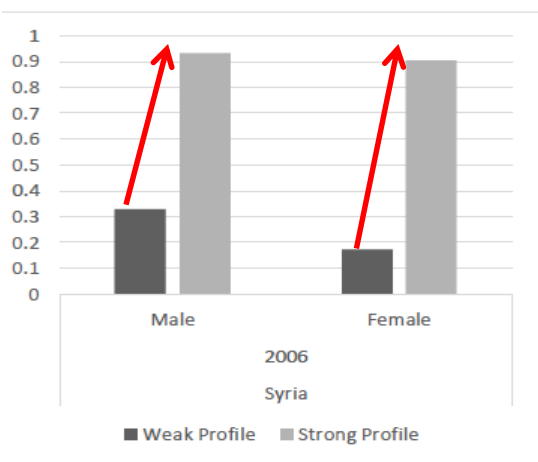
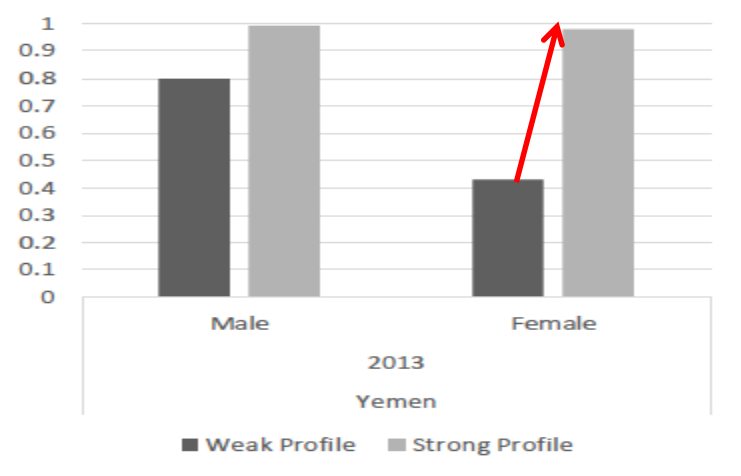
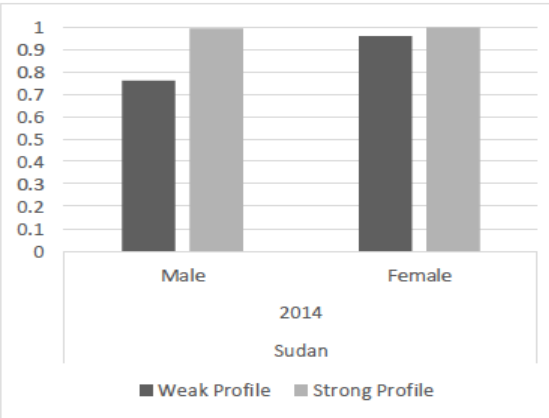
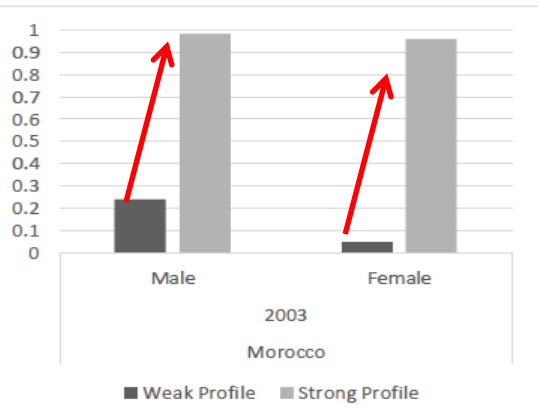
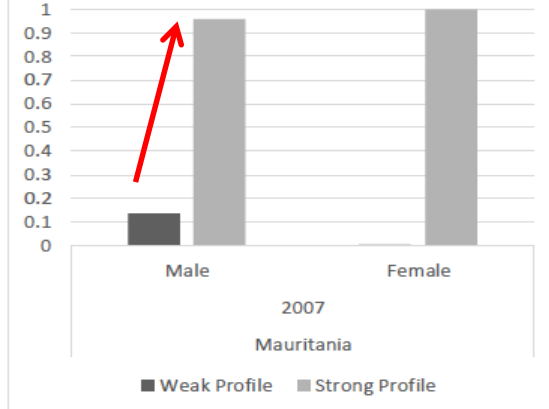
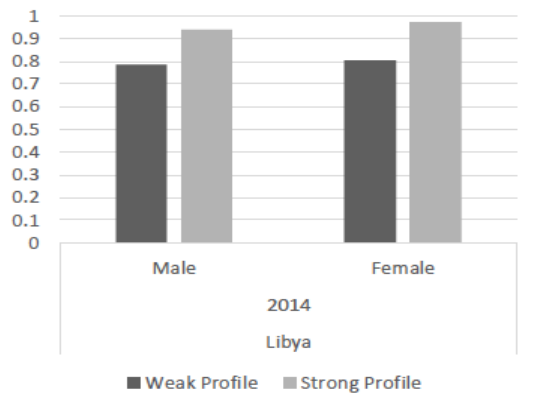
Girls have higher chances than boys.

Algeria & Egypt: remarkable decrease in lop

Jordan & Pal: Increase of lop over time



# Probability of reaching secondary



# To sum up- Pr(Attendance)

- ▣ **Entering school:** Arab countries have made serious progress in reducing inequality of opportunity in entering school.
- ▣ Children with unfavorable circumstances- such as low educated parents or low household wealth or living in a rural area- have as equal chances to enter school as children who have the most favorable circumstances.
- ▣ This result can be explained by the compulsory and subsidized education that is offered by the governments in these countries.
- ▣ Yet, the gender gap is still persistent for some countries.



# To sum up- Pr(Primary Completion)

- **Completing primary education:** we find a slight improvement/increase in the probability for the strong profiles for the four countries we are able to track over time.
- Only in Algeria and Egypt this probability increases significantly for children with the least favorable circumstances; hence reducing inequality of opportunity.
- Despite compulsory and subsidized education, many less fortunate children end up dropping out of primary schools after being enrolled.

# To sum up- Pr(Reaching Sec)

- **Reaching secondary:** For most countries, girls seem to have higher chances of reaching secondary school than boys .
- Algeria & Egypt: increase in this probability over time for both girls and boys, and a remarkable decrease in inequality of opportunity .
- Jordan & Palestine: Boys with hardest circumstances have less chances to reach secondary over time.
- One explanation could be the arrival of refugees in Jordan.

# Policy recommendations of this study

- Increase the share of transfers (both in cash and in kind) to the poorest families who have children in school age in order to guarantee not only their access to education but also their progress into the highest levels of education these children aim to achieve.
- In 2015, Egypt started the Takaful and Karama cash transfers program that exactly does this. Worth evaluating this program if data allows....

Thank you for your attention