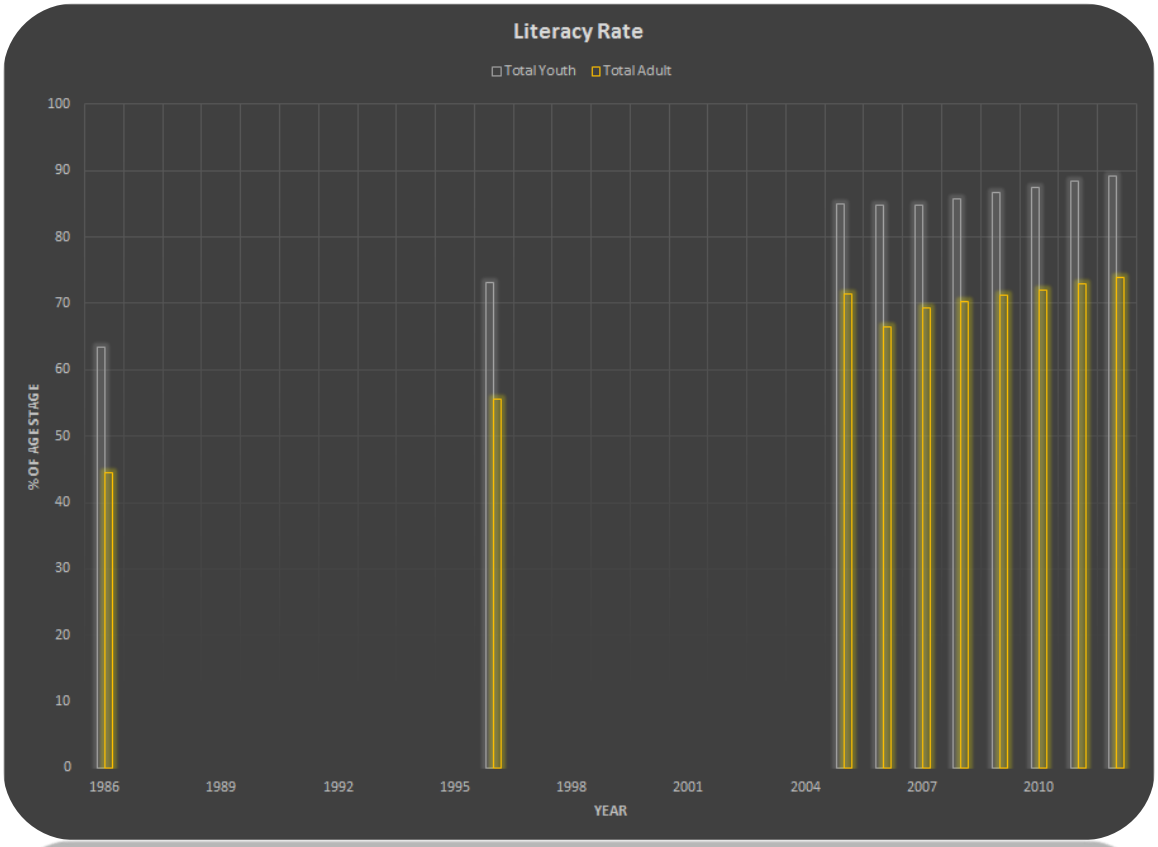

Education Quality in Egypt

PROBLEMS AND INSIGHTS

Ahmed Eweed

Introduction

Education quality is an essential indicator of a country's progress and standard of living.

It reflects how well the population is educated and how far can those well-educated citizens impact the economy and contribute to overall progress of their nation.

Also measures like literacy rate, public expenditure on education and labor force education level across years are of great value when we consider them as signs of a country's development and prosperity.

In this report, I will answer major questions about education quality in Egypt.

I will discuss some problems like unemployment rates, out of school rates, teachers' performance, and public and private education trends through the last 34 years period of time.

About the dataset

The dataset used in this report consists of 35 columns representing the years and 110 rows representing the various indicators about education in Egypt.

There are some indicators that is fully completed with data like Primary school starting age (years), Primary education duration (years), Secondary school starting age (years), Secondary education duration (years), Population ages 0-14 (% of total) and Population ages 15-64 (% of total).

Most indicators have a lot of missing data that I tried to auto fill based on the trend of existing data but I failed to fill the rest due to the huge shortage of the data points.

Other indicators don't have any data at all like Tertiary education teachers (% female), Expenditure per student primary (% of GDP per capita), Expenditure per student secondary (% of GDP per capita), Expenditure per student tertiary (% of GDP per capita), Trained teachers in primary education female (% of female teachers), Trained teachers in primary education male (% of male teachers) and Trained teachers in primary education (% of total teachers).

The dataset used in this report was acquired by ITI from UNESCO and United Nations websites.

Exploratory questions and analysis

Here I will start with some explanatory and exploratory questions to conquer the dataset and get acquainted with it

1- **How can these indicators be used to assess education quality in Egypt? Are there any other indicators that might be useful?**

By taking a quick look at the dataset, we can see that major indicators like literacy rate, ratio of female to male in education levels, school enrollment rates in education levels, labor force education levels, education level-based data, gender-based data about education and unemployment rates based on gender and education level are present and can be of great benefit for analysis and visually represent the state of education in Egypt and give a close look on students and teachers' performance in the educational process.

Of course, those are very good indicators. But, they lack some more detailed indicators like:

- Teachers' average salaries.

- Number of teachers who took technical trainings.

- Number of teachers who took psychological trainings.

- Number of teachers who hold private tuition classes.

- Number of teachers per school.

- Number of schools per governorate.

- Number of children per family.

- Average public income.

2- **Which indicators can be useful for determining out of school rate? Can you expect the indicators that cause this?**

I think the indicators useful to determine out of school rate will be:

- Children out of school, primary.

- School enrollment, primary (% net).

- Persistence to last grade of primary, total (% of cohort).

- Persistence to grade 5, total (% of cohort).

As shown below, the out of school rate of overall primary school age children is decreasing in the last 10 years. But, there is incorrect data values in the male indicator. And there are missing data in the female and male indicators after year 2004. So, I can't be sure if the data can be dependable.

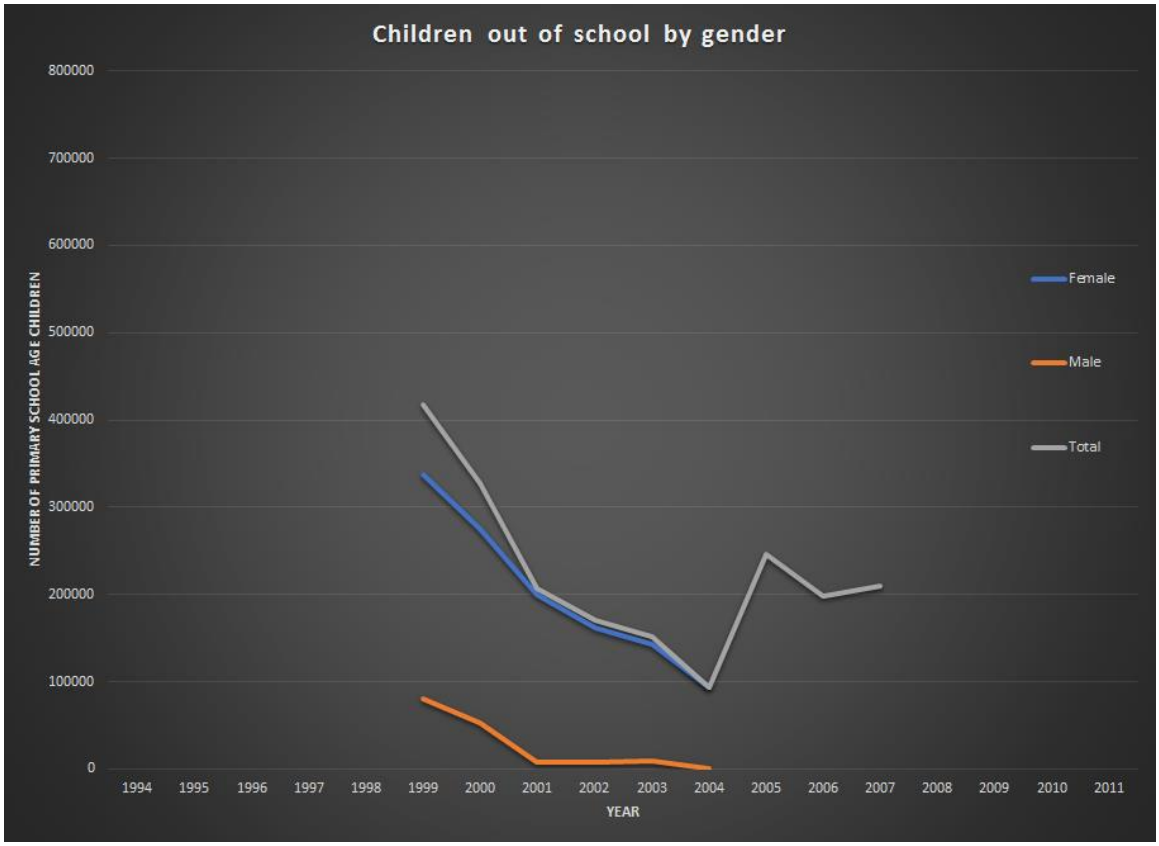

Figure 1. Out of school rates of total primary age children by gender

I expect the indicators that cause the problem of children out of school are like:

- Number of students per class.

- Number of schools per governorate.

- Pupil-teacher ratio, primary.

- Expenditure per student, primary (% of GDP per capita).

- Public spending on education, total (% of government expenditure).

- Public income average.

- Number of children per family.

3- If this data set is to be used to evaluate teachers' profiles and performance, what other indicators can be used?

I think those indicators will be useful to evaluate teachers' profiles and performance:

- Number of teachers who took technical trainings.
- Number of teachers who took psychological trainings.
- Number of teachers who hold private tuition classes.
- Teachers' salaries.
- Number of teachers per school.
- Number of schools in each governorate.

4- If this data set is to be used for assessing the public and private education, what indicators can be considered?

I think these indicators will be very useful to assess public and private education:

- School enrollment, primary (% net).

- School enrollment, primary, private (% of total primary).

- School enrollment, secondary (% net).

- School enrollment, secondary, private (% of total secondary).

5- Can you expect the over-age education rates?

Simply I can subtract each education level's gross and net intake rate and then I will get the over age rates. Unfortunately, I don't have enough net data to do the job properly. I tried with the primary education data and the results are as below, we can see increasing trend in the over age portion of the primary students from 8.4% in 1994 to 18.2 in 2012.

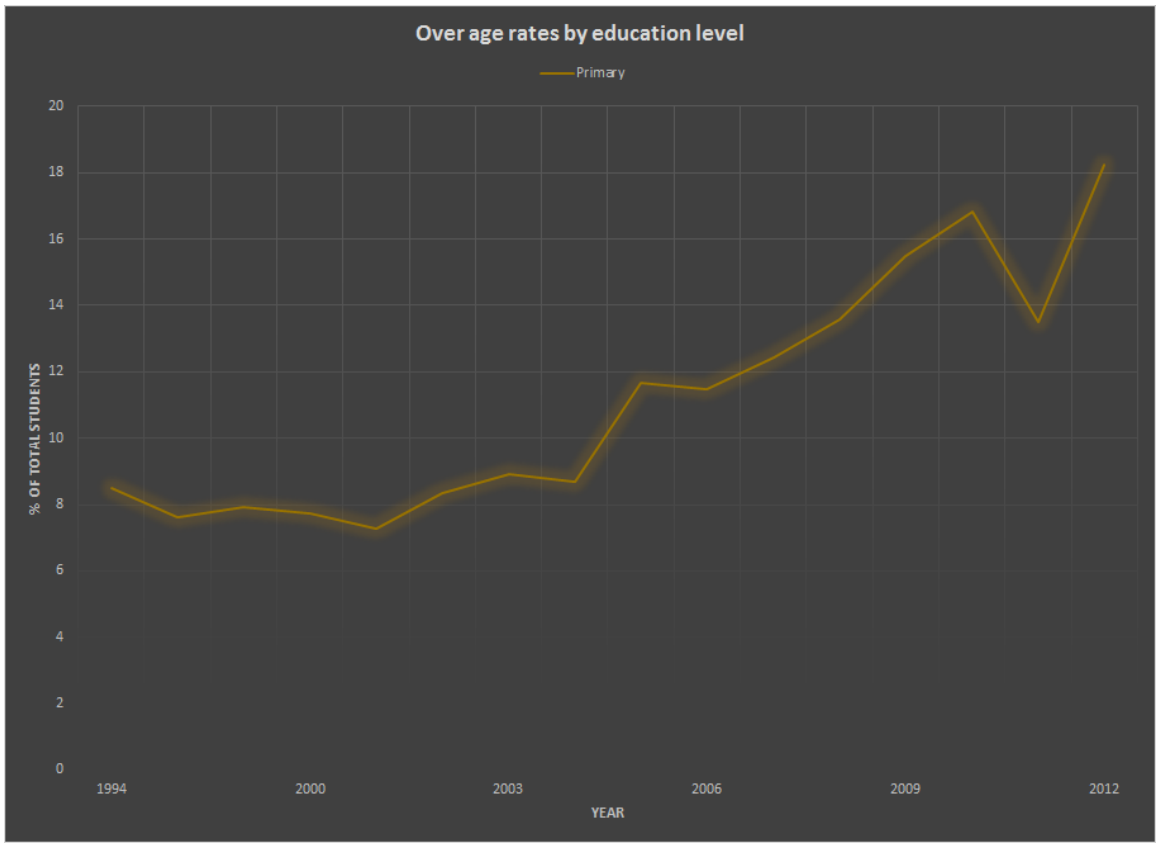

Figure 2. Over age rate in primary education

6- Use the given indicators to analyze education data based on gender and/or education level.

Here we see the ratio of females in each education level, we can see that they out number males in primary and secondary levels. Also, in tertiary level females were at first a minority and year after year they gained place side by side with males may be that's because the community's culture is becoming more open from the 80's till nowadays with females' education.

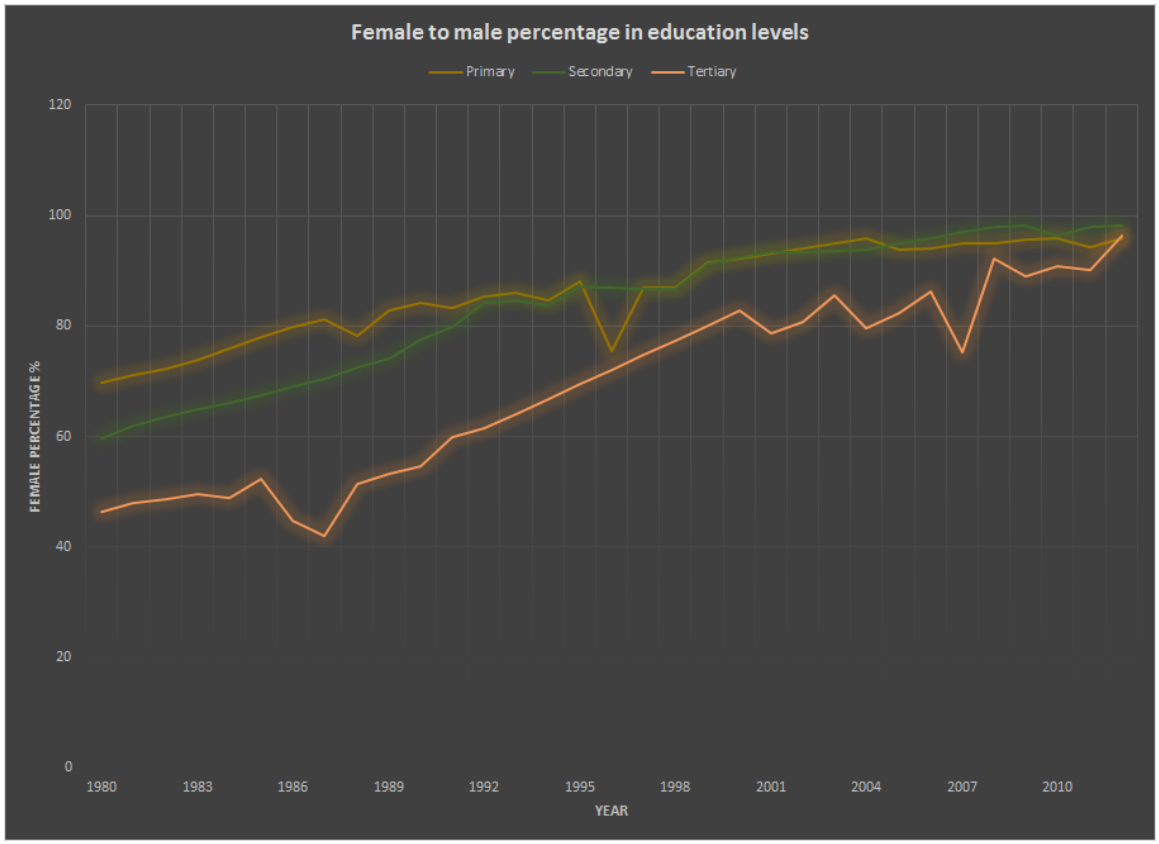

Figure 3. Female percentage in education levels

7- Use the given data set to analyze labor force education level and unemployment rates.

As for labor force education level, I found that most of the labor force (nearly 37%) have Secondary education level and their numbers are almost stable year after year. After them come the Tertiary education holders or university graduates who occupy nearly 19% of the labor force as in 2011 and their numbers are increasing across the years. And in the rear come the Primary education holders who represent nearly 10% of the total labor force and their numbers are also increasing across the years.

I used the data on a short period of time (2008-2011) because other years have no data points unfortunately.

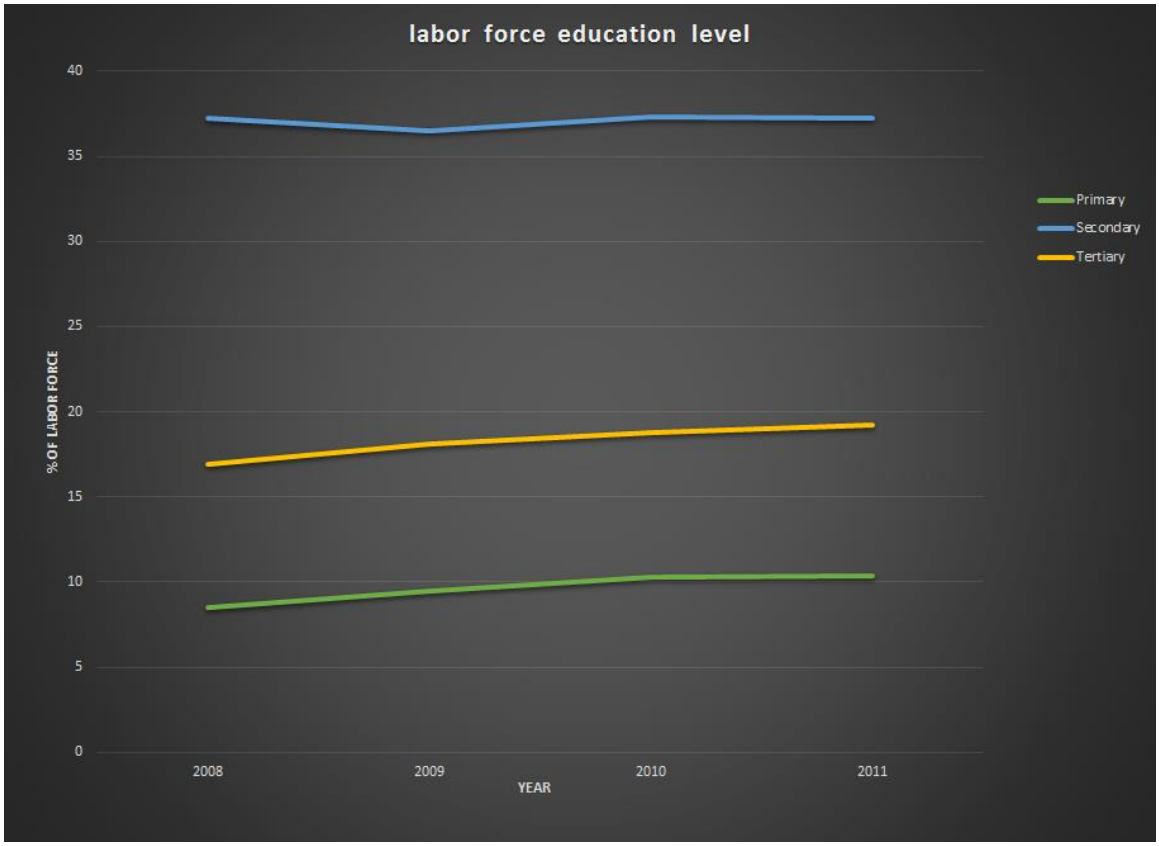

Figure 4. Labor force education level across years

As for unemployment rates, females have the biggest share of unemployment across the years and their rate is coming up and down between 19.5-27.5% with a rising trend. As for males, they have their share of unemployment but at lower levels than females and also their rate is coming up and down between 4.8-7% with a rising trend too.

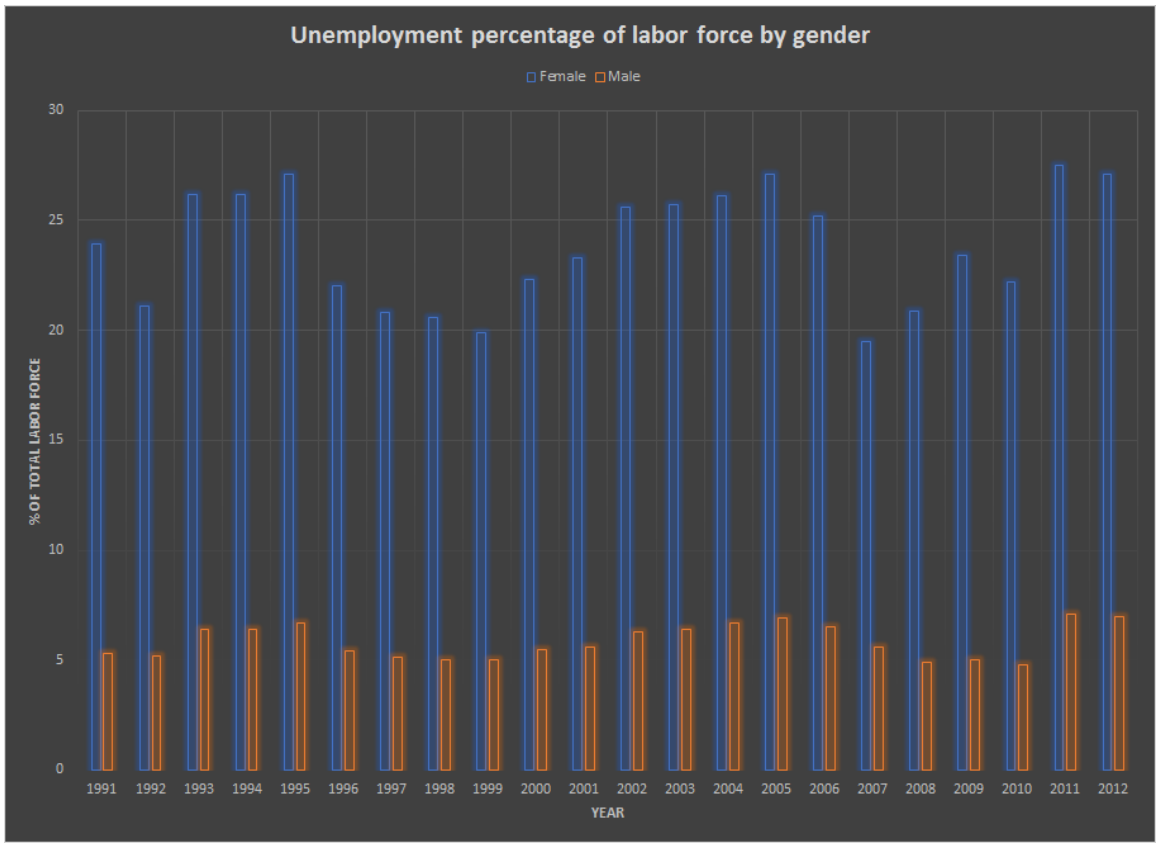

Figure 5. Percentage of each gender's share of unemployment

8- What is the public spend ratio on education from government expenditure and from GDP?

To answer this question, I needed to look up public spend data across years both from government expenditure and gross domestic product (GDP). And that was hard because very few data were present in the dataset about the budget of education. But, overall analysis shows that public spending on education both from government expenditure and from GDP is decreasing over the years to reach under 10% of government expenditure and under 4% of total GDP.

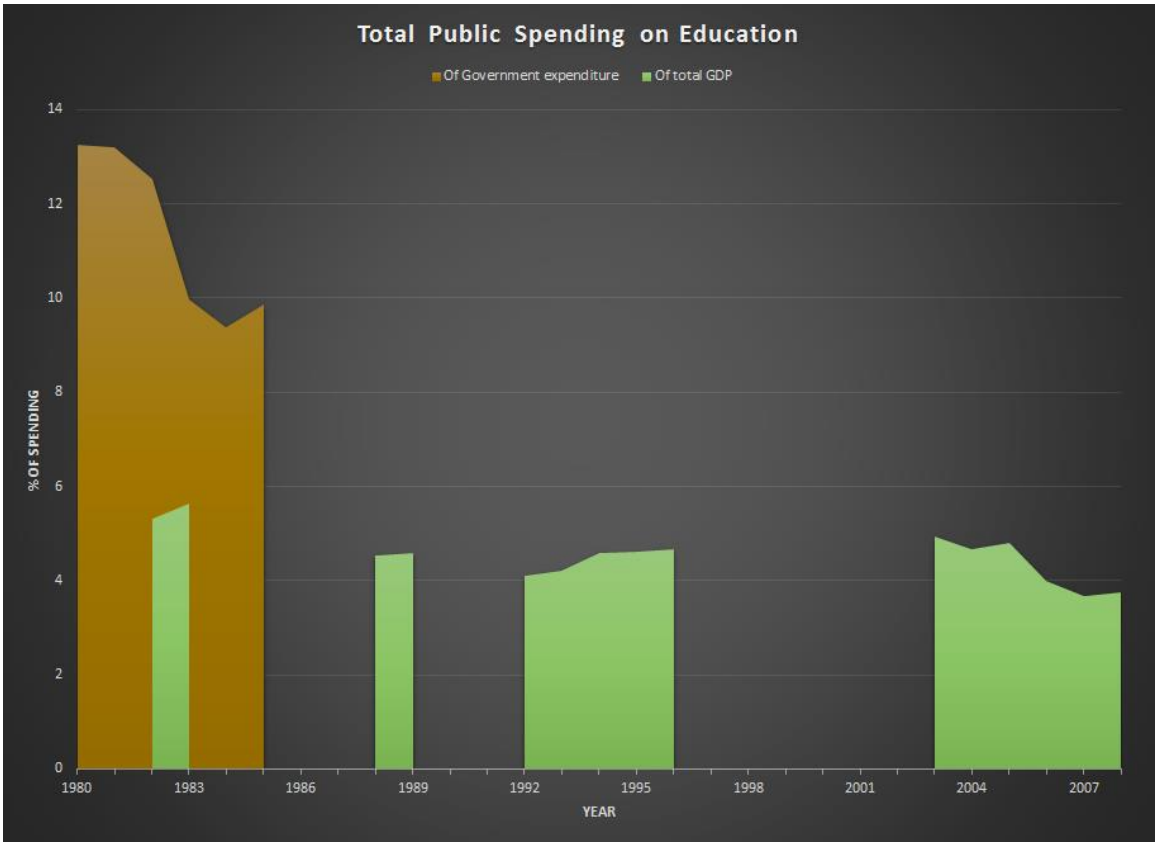

Figure 6. Total spending on education as percentage of total spending

9- What is the literacy rate based on age level?

The literacy rate is going high on all age levels for the last 15 years and reaches nearly 90% of total youth and nearly 74% of total adults that can read and write and do fruitful conversations in Arabic and that's a good sign on education development in Egypt.

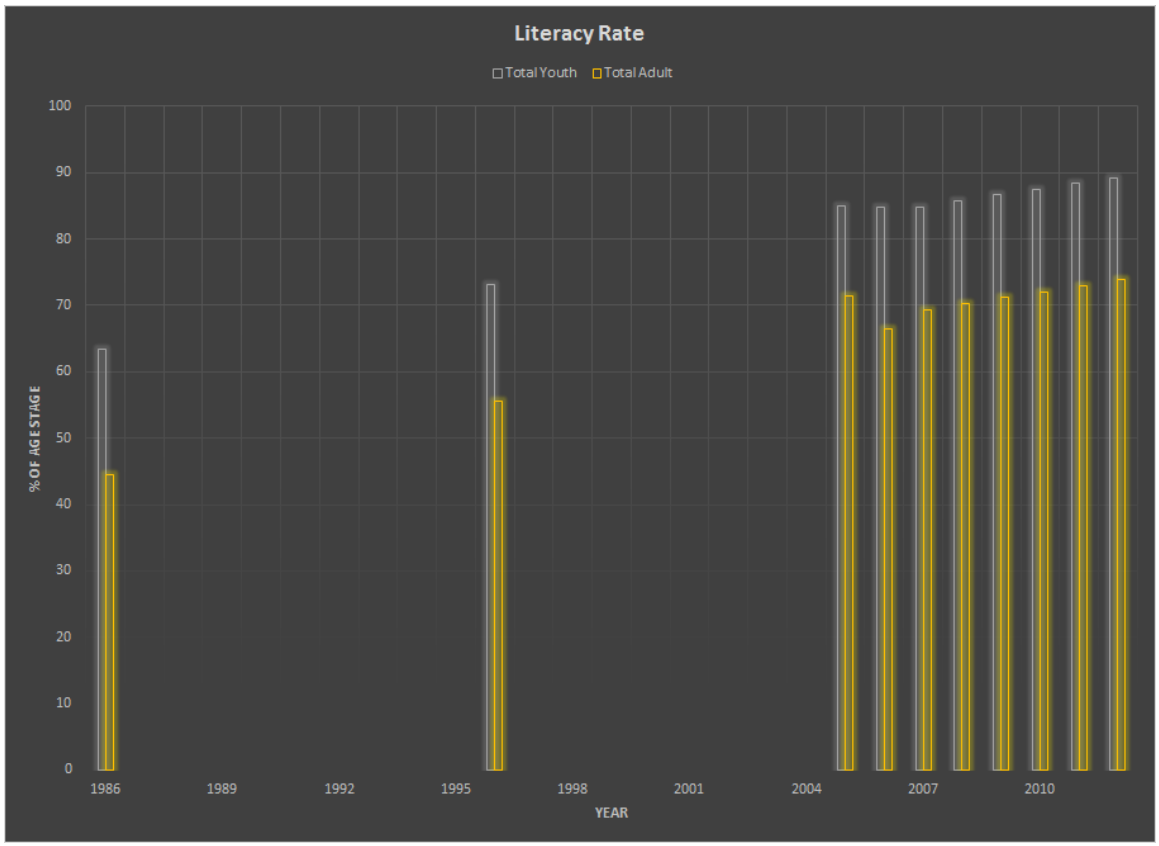

Figure 7. Literacy rate based on age stage

10- What is the literacy rate based on gender?

We can see that youth is toppling adults in literacy rates, we can also see that males topple females in literacy rates. Overall analysis shows that literacy rate is high between all genders as a whole and for the record there is shortage in data about education in Egypt as a whole.

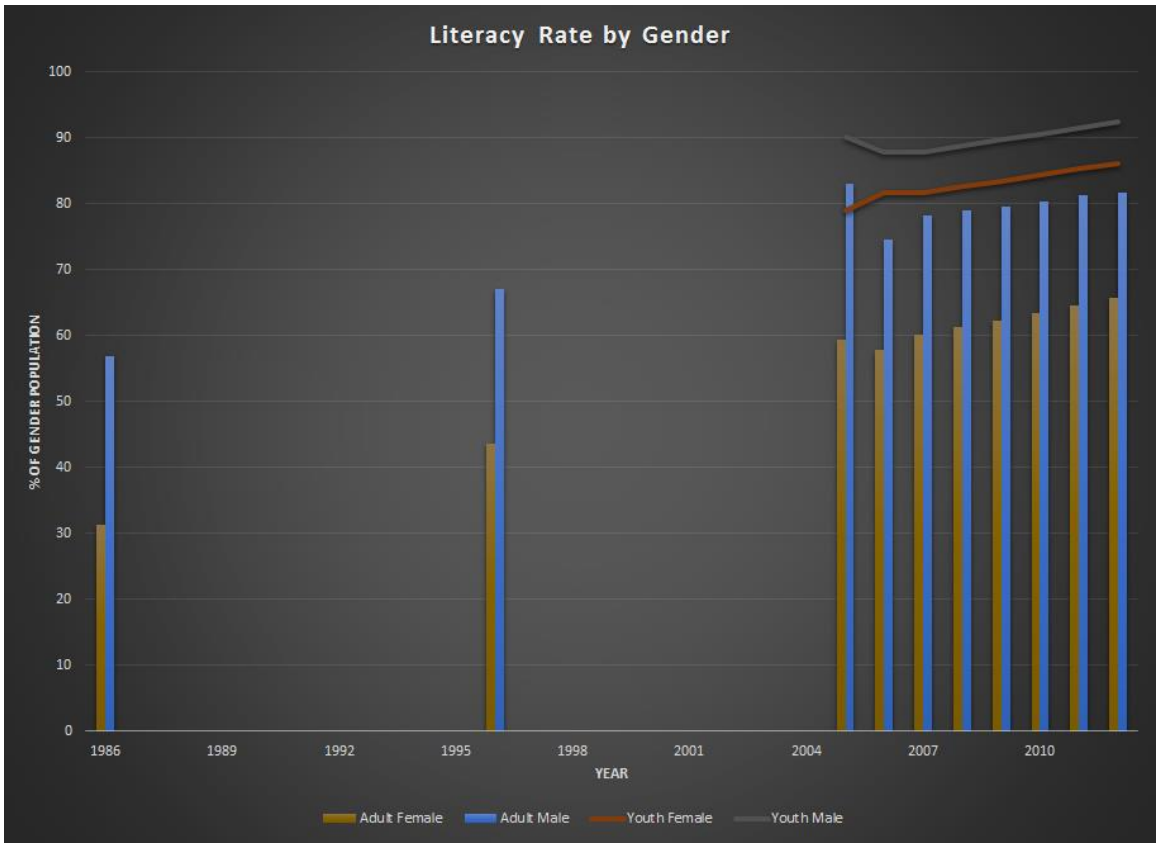

Figure 8. Literacy rate based on gender

Conclusion

Egypt has done a good job in developing and maintaining a good quality education system across 34 years period of time. Literacy rates are getting higher and out of school rates are going down. most of the labor force are university graduates or secondary education holders and that means the labor force is getting more education than before.

But, still needs more care and good evaluation systems to cope with the changing world around.

Unemployment rates are still high at average of 9.8% of total labor force and literacy rate is still not perfect and that means more workers can't read or write not to mention working with technology and computer.

Over age students in primary education is multiplying due to poor education techniques and untrained teachers.

Most indicators have no data or have scattered data here and there across the years and that's a problem that need to be solved.

I think more data should be collected about education in Egypt to be able to make the right decision about it and more indicators should be considered to have a look at the bigger picture.