

Testing the Role of Education in Improving Economic Opportunities in the Governorates of Egypt by using Human Opportunity Index (1986-2012)

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Abstract

This paper aims to test the issue of: Educational policies that succeed in achieving equal educational opportunities, can improve the economic opportunities. Applied to the Governorates of Egypt (1986-2012) by using Human Opportunity Index (HOI). HOI is used to track the progress toward the goal of providing equal access to educational and economic opportunities. The findings indicate that Education played a limited role in improving Economic Opportunities in Egypt (1986 - 2012). HOI results of Egypt can be served as a tool to help guide public policies aimed at equalizing opportunity and designing policies to break intergenerational cycles of inequality and improve future outcomes. The paper suggests initially converting the results of HOI to A map of Spatial Opportunities which distributes educational and economic opportunities on the geographical location, to identify disadvantaged groups, which will be the beginning point of regional policies in the future.

Key Words: Well- being, Human Capabilities, Functionings, Positive freedom, Human Opportunity Index, Inequality, A map of Spatial Opportunities

Introduction

Education can be one of the most effective tools in achieving the equality because it: increases individuals self-confidence, allows the best jobs, and affects health and mortality, so educating mothers ensures protecting their kids' lives (HDR, 2013). This paper aims to test the theoretical hypothesis of: Educational policies that succeed in achieving equal educational opportunities, can improve the economic opportunities, and therefore can improve the regional disparities. Applied to the governorates of Egypt (1986-2012) by using Human Opportunity Index (HOI). HOI can be considered as a tool to help guide public policies aimed at equalizing opportunity (HG Ferreira, Francisco, 2012). The Paper is divided into three sections: Section I includes the conceptual framework, Section-II shows literature review of studying the role of education in improving regional disparities, which includes illustrating of the role of education in the expansion of Human Capabilities, and studying the relationship between educational opportunities and economic opportunities. Section III includes the methodology, and the results of the study.

1. Conceptual Framework:

1.1. Regional disparities:

Inequality is used to describe spatial inequalities in development among regions, and according to Cowell the inequality clearly suggests going away from some idea of equality (Maza, Adolfo, 2009), and it is used to express both of computational inequalities of the distribution of outcomes (such as income, wealth, and labour earnings), and opportunities inequalities (De Barros, Ricardo, et al., 2009).

1.2. Principle of equal opportunities (Equality of opportunity):

The goal of equality of basic opportunities has two components: (1) ensuring that as many people as possible have access to basic opportunities, and (2) ensuring that, in situations of limited available opportunities resulting from resource constraints, existing opportunities are fairly distributed, without any correlation with circumstances. (De Barros, Ricardo, et al., 2009).

1.3. Opportunity:

A commodity or a service can be called an opportunity, when: it is important to human development such as the access to education services, it can affect outcomes (such as income, and labor earnings), it can be affordable under current technology or in the future by effective policies, it is exogenous to individuals (i.e. it is not determined by individuals), it can be modified by social choice, and public policy to achieve full coverage of opportunities, and it may be distributed unfairly under the circumstances (De Barros, Ricardo, et al., 2009).

2. Literature Review:

The problem is no longer just the achievement of equality, but also the achievement of justice (equity) (R. Molinas, et al., 2010), and education can improve the lives of individuals, families, and communities, as Nelson Mandela, said "education is the most powerful weapon which you can use to change the world" (International Journal of Humanities and Social Science, June 2011).

Education has positive results on the lives of individuals in two ways, on one hand it reduces the disparities of outcomes (income) according to Adam Smith (based on Mincer (1958), Schultz (1961), and Becker (1962)). On the other hand it helps in improving disparities in opportunities (inequality of opportunity) of both children and adults. For children education level of parents indirectly affects the opportunities available to their children, because it forms the family economic status and then access to basic opportunities, as numerous empirical studies conducted by medical researchers and social scientists support that family poverty adversely impacts children's cognitive development, health, behavior, and academic achievement (International Journal of Humanities and Social Science, July 2012). For adults education is one of the most important channels of access to upward social mobility, because good education is necessary to get to the best jobs in wage and prestige (Pose, Andres Rodriguez, et al., 2009).

In addition to that, education has positive effects on human development and then economic growth, because it complements the roles of other inputs in the production process, as it is responsible for increasing efficiency and productivity of the human input (International Journal of Humanities and Social Science, November 2014). According to Theodore Schultz, the founder of Human Capital Theory, the investment in education is an investment in human capital (human capital is the skills and useful knowledge acquired by individuals), which affects future development, and also reduces disparities in the distribution of income. According to Romer model, growth will be always the fastest in countries which have the largest capital, and educated trained labor force, as well as an economic environment that encourages the accumulation of human knowledge (Mona Mostafa ElBaradei, September 2001).

Education also affects human well-being according to Amartya Sen (Nobel Prize for Economic Science in 1998), who concluded his capability approach to measure human well-being, and he explained the role of education in increasing well-being of individuals, and he differentiated between two concepts: First is *a functioning* which is in itself an achievement, and functionings are directly linked to living conditions. Second is *a capability* which refers to the ability to achieve and capabilities refer to alternative combinations of functionings from which the person can choose. *The Capability* is linked to the concept of freedom, as it is considered as one of freedom. Under the capability approach the person *Well-Being* is measured by functionings which person accomplished.

This ability to achieve reflects real opportunities, and freedom of choice among real life possible patterns (freedom is the range of options and it is positive freedom which means freedom to, instead of freedom from, so it is good in itself, and is considered as one of the dimensions of well-being). Sen confirmed that education can play an important role in increasing freedom of individuals, and in improving the opportunities and thereby reducing disparities, as education can expand human capabilities, and can enhance the exercise of these capabilities (Sito, Madoka, 2003).

2.1. The role of education in the expansion of capabilities:

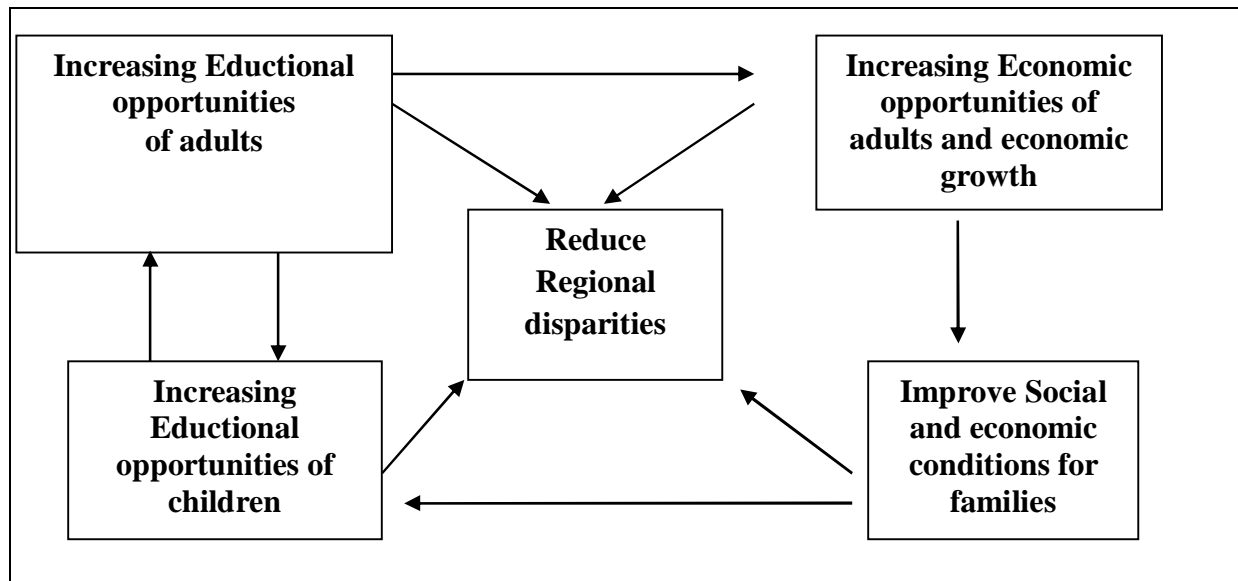
Education expands human capabilities (capabilities are directly connected to well-being and freedom of the people, they have indirect role through social change, and they affect economic production). Expansion of capabilities which resulting from education happens in two related aspects of capabilities: The first is the expansion of the capacity of the child or the ability, for example teaching the child how to swim allows him to get on a capability to swim. The second is the expansion of opportunities of the child, as education makes the child autonomous, because it creates new capability set to the child, then the child is able to make decisions in his life in the future. For example, learning maths to a child provides him wider opportunities to be a physicist or a banker, and so on, and these opportunities and capabilities resulting from learning mathematics, may be those that are not known to that child, or in his capability set before learning maths.

2.2. The role of education in teaching values in exercising capabilities:

Sen believes that capabilities are always good, and bad capability in itself does not exist, then capability is considered bad only in use. Sen saw that education has a role in supplementing the enhancement of capability, through development of the rule of the person to be able to value in any way be suitable for the use of capabilities, so education can influence exercising capabilities, because it includes instrumental and intrinsic values. The child is under the care of others to choose what to learn? and children are not mature enough to make decisions on their own, so education learns them the educational guidelines, by reading, communicating, arguing, and the ability to choose in a more informed way, for example a child may wish to be a mathematician or an artist, but not a murderer. Therefore the best type of education, according to the capability approach is the kind that makes individuals autonomous, and at the same time develops people's judgement on exercising capabilities.

As a result of those two roles of education (according to Sen Approach), there is a correlation between educational opportunities and economic opportunities. Educational opportunities which are available for children today will affect their educational opportunities in tertiary education, and then educational opportunities for adults directly affect economic opportunities. Most of the theoretical analysis tend to ensure the existence of positive correlation between educational inequality and income inequality, and experimental studies showed that higher level of educational attainment of labour force has an equalizing effect on income distribution, so the greater the inequality in educational attainment, the greater the income inequality. Generally income inequality affected by educational attainment, in a process called "skills deepening", due to the role of educational attainment in: Increasing the chance of earning opportunity for the lowest classes which leads to a reduction in earning inequality, occurrence of upward social mobility and therefore achievement of income equality, allowing of more informed participation in market economy which reduces the pressure of the rich, and increasing social opportunities and work for the poor which reduce inequality (Pose, Andres Rodríguez, et al., 2009).

Effects of educational attainment on the disparity of income depend on labour market balance; in the beginning at least an increase in tertiary education will increase income inequality, but over time that will reduce income inequality. Improving educational attainment requires improving access to education (increase coverage), and development of quality of education (good education makes individuals in the future having the freedom to choose from different lifestyles), and increasing investment in education (Pose, Andres Rodríguez, et al., 2009). The positive results of education can be illustrated as following:



3. Testing the Role of Education in Improving Economic Opportunities in the Governorates of Egypt by using Human Opportunity Index (HOI) (1986-2012):

3.1. Research Methodology:

In this section the study tests the relationship between educational opportunities (produced by educational policies) and economic opportunities, by using Human Opportunity Index. HOI is a new synthetic measure of inequality of opportunity in basic services for children, based on the social welfare function proposed by Sen (1976), and first published in 2008, and applied to Latin America and the Caribbean (LAC) (HG Ferreira, Francisco, 2012). HOI is used to calculate the Percentage of opportunities which is equitably distributed in the governorates of Egypt during the period (1986-2012). According to the following methodology:

1 - Assumptions:

- A governorate is considered, as a circumstance group in itself, and then it has different social and economic characteristics from other governorates. This difference in circumstances among governorates is responsible for the difference in the various opportunities across governorates, and thus disparities in opportunities that are measured across different governorates are considered as inequality of opportunity.
- Geographical location is considered as the key factor for disparities in opportunities among the governorates of Egypt.

2 - The model of calculating opportunities:

$$HOI_i = C_i (1 - D_i)$$

Where $1 \geq C_i \geq 0$, $1 \geq D_i \geq 0$, and $i = 1, \dots, N$

HOI: Human Opportunity Index, its value extends from zero to 100 (%), and 100% means achieving the universal coverage for all basic services.

C_i : Coverage of basic opportunities in the governorate i

D_i : The measure of inequality of opportunity, Dissimilarity index of group i , The D-index ranges from 0 to 100, in percentage terms, and in a situation of perfect equality of opportunity, D will be zero. The D-index has an interesting interpretation as the fraction of all available opportunities that need to be reallocated from children of better-off groups to children of worse-off groups to restore equal opportunity.

$$D_i = [1/2] \sum |C_i - \mu|$$

C_i : Group-specific access rates

μ : the overall average access rate

$(1 - D_i)$: Equality of Opportunity, Percentage of opportunities which is equitably distributed (De Barros, Ricardo, et al., 2009).

4 - Calculation of HOI of educational opportunities for children and adults, and economic opportunities for adults:

HOI is calculated for each educational or economic variable separately, and then HOI of educational opportunities for children, or HOI of educational opportunities for adults, or HOI of economic opportunities for adults is calculated as an average of HOI values. Data sources are (Egypt Human Development Report, 1995, 1998, 2008, 2010), and (General Census of Population for Egypt, 1986, 1996, 2006). Table (1) includes the research variables.

3.2. Results of studying of the relationship between educational opportunities and economic opportunities in the governorates of Egypt (1986 - 2012):

1 - High values of HOI of educational opportunities for children with upward trend (1992 - 2007):

Although universal coverage of educational opportunities for children was not achieved in Egypt (as HOI is less than 100%), table (2) shows that HOI of educational opportunities for children had high values during the period (1992-2007) in the governorates of Egypt, and had upward trend for Egypt as a whole (increased from 62.08% In 1992 to 79.52% In 2007), and at governorates level (except Cairo governorate, had downward trend). Governorates Suez, Port-Said, and Damietta were in the top three positions in 1992, while governorates Luxor, Sharkia, and Red Sea in 2007. Governorates South Sinai, Beni-Suef, and Suhag had the highest rates of improvement respectively (33.18% - 33.09% - 30.52%), while governorates Matrouh, South Sinai, and North Sinai were in the last three positions in 2007.

2 – Low values of HOI of educational opportunities for adults with upward trend (1986 - 2006):

In addition to not achieving the universal coverage of educational opportunities for adults in Egypt, table (3) shows that HOI of educational opportunities for adults had low values during the period (1986-2006) in the governorates of Egypt, but it had upward trend for Egypt as a whole (increased from 21.31 % In 1986 to 33.59 % In 2006), and for all governorates. Cairo, Port-Said, and Alexandria governorates respectively were in the top three positions during the period (1986-2006). Quena, South Sinai, and Suhag governorates achieved the highest rates of improvement (88.71 % - 78.74 % - 77.32 %) respectively, while Matrouh, Menia, and Beni-Suef governorates were in the last three positions in the 2006.

3 – Low values of HOI of economic opportunities for adults with upward trend (1986 - 2007):

In addition to not achieving the universal coverage of the economic opportunities for adults in Egypt, Table (4) shows that HOI of economic opportunities for adults had low values during the period (1986-2007) in the governorates of Egypt, but it had upward trend for Egypt as a whole (increased from 37.77% In 1992 to 44.1% In 2007), and for some governorates. In the 1992 governorates Damietta, Alexandria, and Kafr El-Sheikh were in the top three positions, while in 2007 governorates Beni-Suef (its order was 20 in 1992), Port-Said (its order was 12 in 1992), and Menoufia (its order was 22 in 1992). Governorates Menoufia, Beni-Suef, and Menia achieved the highest rates of improvement (17.09% - 17.08% - 14.59%) for respectively. Quena, Aswan, and Red Sea governorates were in the last three positions in the 2007.

3.3. Research Findings:

1 –It is important to develop educational policies to improve HOI of educational and economic opportunities through: expansion of coverage levels C, and reducing D especially by ending the urban bias (because high values of HOI of educational opportunities in urban governorates such as Cairo, Port-Said, Alexandria, and Suez).

2 – High values of HOI of children educational opportunities resulted in high values of HOI of adults educational opportunities in a few urban governorates (Port-Said), and low values of HOI of children educational opportunities resulted in low values of HOI of adults educational opportunities (Matrouh). So there is not an accumulation of educational opportunities across generations.

3 - High values of HOI of adults educational opportunities resulted in high values of HOI of adults economic opportunities in a few urban governorates (Alexandria, and Port-Said). So it is important to achieve labor market equilibrium in order to translate educational opportunities into economic opportunities, and to improve inequalities, under an educational system based on the concept of lifelong learning where education can do four roles: learning to know, learning to work (by acquisition of efficiency for professional qualification and collective work), learning to live with others, and learning to increase independence.

4 - Previous results of educational and economic opportunities can be useful, by converting them to a map of Spatial Opportunities which will help to identify the most advantaged governorates and disadvantaged governorates, and then help in the future plans to break Intergenerational Cycles of Inequality and improve outcomes in the future.

Conclusion:

Theoretically Education has positive roles in improving well-being of individuals, while HOI results of Egypt illustrated that education played a limited role in improving economic opportunities in the governorates of Egypt (1986 - 2012) , and those results serve as help guide to the policy maker in Egypt to achieve (1) Expanding educational opportunities through developing quantity and quality of education ,(2) Increasing the link between education system and the labor market .

Table (1) Research variables

Variables of educational opportunities for children	Variables of educational opportunities for adults	Variables of economic opportunities for adults
1 - Primary education enrollment ratio in the governorates of Egypt (%). 2 - Transition to preparatory education (as % of primary completers) in the governorates of Egypt (%). 3 - Preparatory education enrollment ratio in the governorates of Egypt (%). 4 - Transition to secondary education (as % of preparatory completers) in the governorates of Egypt (%). 5- Secondary education enrollment ratio in the governorates of Egypt (%). 6- Secondary technical education enrollment ratio (as% of total secondary) in the governorates of Egypt (%). 7- Percentage of females to males in primary education in the governorates of Egypt (%). 8- Percentage of females to males in preparatory education in the governorates of Egypt (%). 9- Percentage of females to males in secondary education in the governorates of Egypt (%).	1- Percentage of educated females to educated males in the governorates of Egypt (1986-2006) (%). 2- Literacy rate (as a percentage of the population 10+) (total) in the governorates of Egypt (1986-2006) (%). 3- Tertiary education rate (of the total educated) in the governorates of Egypt (1986-2006) (%). 4-Post-graduate education rate (of the total educated) in the governorates of Egypt (1986-2006) (%).	1- Employment rate (1- unemployment rate) (total) in the governorates of Egypt (1986-2006) (%). 2- Percentage of GDP per capita in the governorates of Egypt to GDP per capita of Egypt (1992-2007) (%). 3- Labor force participation rate (female-male ratio) in the governorates of Egypt (1992-2007) (%). 4- Percentage of manufacturing activity of total economic activity (total) in the governorates of Egypt (1986-2006) (%). 5 -Percentage of workers (such as factories and machinery run Operators, production components assembling workers, Agriculture and fishing workers) of total professionals in the governorates of Egypt (total) (1986-2006) (%).

Table (2) Children Educational Opportunities in the Governorates of Egypt (1992-2007)

Governorate	HOI 1992	HOI 1998	HOI 2005	HOI 2007	% Change (1992-2007)
Cairo	84.28	83.24	81.45	83.2	-1.28
Giza	75.39	79.34	82.55	88.05	16.79
Kalyoubia	83.07	82.49	84.32	90.52	8.97
Alexandria	83.55	82.15	83.48	88.24	5.61
Behera	77.86	80.65	85.24	92.09	18.28
Matrouh	60.75	67.45	69.56	68.8	13.25
Damietta	86.05	86.14	87.46	92.43	7.41
Dakahlia	85.94	86.21	87.15	92.11	7.18
Kafr El-Sheikh	82.25	84.16	86.98	92.88	12.92
Gharbia	85.11	85.23	84.81	91.71	7.75
Menoufia	84.73	84.9	85.09	91.88	8.44
Beni-Suef	64.47	68.49	81.58	85.8	33.09
Fayoum	67.29	69.75	84.6	87.25	29.66
Menia	65.86	68.5	82.88	86.51	31.35
Port-Said	86.68	86.49	85.46	86.95	0.31
Suez	87.62	87.58	87.98	92.76	5.87
Sharkia	81.33	84.18	88.7	93.83	15.37
Ismailia	85.89	85.65	86.45	90.89	5.82
North Sinai	78.54	78.69	83.93	83.05	5.74
South Sinai	60.16	73.24	81.94	80.12	33.18
Suhag	68.03	71.41	85.92	88.79	30.52
Quena	73.63	79.08	84.91	87.78	19.22
Aswan	82.72	84.63	85.75	90.55	9.47
Luxor	91.12	94.96	...
Red Sea	85.6	88.14	91.77	93.81	9.59
Assyout	70.27	72.25	82.94	86.69	23.37
New Valley	86	86.89	85.29	90.46	5.19
EGYPT μ	62.08	65.85	76.36	79.52	28.09

Calculated by the author depending on HOI model, ... means unavailable data.

Table (3) Adults Educational Opportunities in the Ggovernorates of Egypt (1986-2006)

Governrate	HOI 1986	HOI 1996	HOI 2006	% Change (1986-2006)
Cairo	34.69	40.15	45.23	30.38
Giza	29.86	35.99	42.15	41.16
Kalyoubia	27.59	34.02	40.07	45.23
Alexandria	33.64	39	44.07	31.00
Behera	22.79	28.39	34.91	53.18
Matrouh	19.68	26.28	30.99	57.47
Damietta	31.27	37.02	42.7	36.55
Dakahlia	28.2	34.83	40.9	45.04
Kafr El-Sheikh	22.66	30.44	37.54	65.67
Gharbia	28.03	35.09	41.04	46.41
Menoufia	26.83	33.44	39.59	47.56
Beni-Suef	18.85	23.6	31.7	68.17
Fayoum	18.93	23.26	32.25	70.36
Menia	18.59	23.11	31.22	67.94
Port-Said	34.13	39.58	44.65	30.82
Suez	31.78	37.46	42.99	35.27
Sharkia	25.49	32.33	38.8	52.22
Ismailia	30.07	36.11	41.48	37.94
North Sinai	26.78	33.41	38.9	45.26
South Sinai	17.97	27.75	32.12	78.74
Suhag	18.61	24.12	33	77.32
Quena	18.77	25.59	35.42	88.71
Aswan	27.78	34.76	40.5	45.79
Luxor	...	30.87	39.59	...
Red Sea	29.34	33.83	35.74	21.81
Assyout	20.35	25.93	33.77	65.95
New Valley	30.61	36.86	42.25	38.03
EGYPT μ	21.31	27.21	33.59	57.63

Calculated by the author depending on HOI model, ... means unavailable data.

Table (4) Adults Economic opportunities in the Ggovernorates of Egypt (1992-2007)

Governrate	HOI 1992	HOI 1998	HOI 2005	HOI 2007	% Change (1992-2007)
Cairo	51.13	51.02	49.58	47.21	-7.67
Giza	50.62	50.97	47.64	49.02	-3.16
Kalyoubia	44.41	49.97	49.85	49.31	11.03
Alexandria	52.49	53.95	49.55	51.28	-2.31
Behera	45.76	44.81	50.16	50.05	9.38
Matrouh	49.53	49.52	47.69	50.01	0.97
Damietta	54.94	53.15	53.24	51.45	-6.35
Dakahlia	51.28	42.42	49.12	50.44	-1.64
Kafr El-Sheikh	52.4	46.36	47.77	49.68	-5.19
Gharbia	51.4	48.41	50.52	50.89	-0.99
Menoufia	44.23	44.5	49.76	51.79	17.09
Beni-Suef	45.42	41.51	50.76	53.18	17.08
Fayoum	44.13	40.92	46.09	49.19	11.47
Menia	44.21	42.55	49.08	50.66	14.59
Port-Said	47.83	46	49.05	52.79	10.37
Suez	50.13	51.38	48.9	50.32	0.38
Sharkia	48.92	42.57	48.12	49.41	1.00
Ismailia	48.29	49.48	48.54	49.96	3.46
North Sinai	47.45	50.2	45.88	49.16	3.60
South Sinai	45.75	45.41	44.36	48.36	5.70
Suhag	46.06	37.62	43.84	45.41	-1.41
Quena	46.61	40.28	43.04	41.01	-12.01
Aswan	41.69	42	43.51	41.77	0.19
Luxor	...	24.51	40.86	45.53	...
Red Sea	46.33	44.96	43.6	42.56	-8.14
Assyout	44.11	38.13	44.19	47.77	8.30
New Valley	45.71	46.89	46.35	50.63	10.76
EGYPT μ	37.77	34.61	43.37	44.1	16.76

Calculated by the author depending on HOI model, ... means unavailable data.

References:

- De Barros,Ricardo,et al.,(2009) ,*Measuring Inequality of Opportunities in Latin America and the Caribbean*, The World Bank ,ch 1, pp27-40.
- General Census of Population and Housing, Egypt, 1986, 1996, and 2006.
- H. G. Ferreira, Francisco, *Inequality in Focus: Inequality of Opportunity Around the World: What Do We Know So Far?* , Volume 1, Number 1: April 2012, pp8-10.
- International Journal of Humanities and Social Science, (June2011), *Positive Change through Educational Solutions*, Centre for Promoting Ideas, USA, Vol. 1, No. 7.
- International Journal of Humanities and Social Science, (July 2012), *Urban Education's Core Challenges: How Racial and Socioeconomic Segregation and Poverty Help Create a Culture of Low Expectations and Achievement in Urban Schools*, Centre for Promoting Ideas, USA, Vol. 2 No. 13.
- International Journal of Humanities and Social Science,(November2014), *A Theoretical Model for Inclusive Economic Growth in Indian Context*, Centre for Promoting Ideas, USA, Vol. 4, No. 13.
- Maza, Adolfo, and, Villaverde, José,(2009), United Nations University - Comparative Regional Integration Studies, *Measurement of Regional Economics Disparities* , W-12, p11.
- Mona El Baradei,et al.,(September 2001),*Dimension of the Human and Economic Growth: Theory and Practice* , a series of research papers, No. 17, Faculty of Economics and Political Science, Cairo University, pp9-50 .
- Pose, Andres Rodríguez, et al., Vassilis, (2009), *Education and Income Inequality in the Regions of the European Union*, Journal of Regional Science, VOL. 49, NO. 3, pp413 -415.
- R. Molinas, et al., (2010), *Do Our Children Have A Chance?*, The 2010 Human opportunity Report for Latin America and the Caribbean , The World Bank, p 10 .
- Saito, Madoka ,(2003), *Amartya Sen's Capability Approach to Education: A Critical Exploration*, Journal of Philosophy of Education, Vol. 37, No. 1, pp18-29.
- UNDP, (1995), *Egypt Human Development Report*.
- UNDP, (1998), *Egypt Human Development Report*.
- UNDP,(2008), *Egypt Human Development Report*.
- UNDP,(2010), *Egypt Human Development Report*.
- UNDP,(2013), *Human Development Report* , pp91-95.