

Middle Class and Pro-Poor Growth in Egypt: The Missing Connection

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Abstract

Assessing whether distributional changes are “pro-poor” has become increasingly widespread in academic and policy circles. Based on the methodology of Ravallion and Chen (2003), Kakwani and Pernia (2000) and Kakwani et al. (2003) using a grouped data, the paper generates the three indices to test whether distributional changes were indeed pro-poor during the period (1990-2008). Another issue is whether pro-poor judgments should be correlative with the size of middle class. The paper presents the evolution of middle class in Egypt using different threshold. Middle class in Egypt has followed the path of bulging in size under certain threshold even if growth was not pro-poor growth.

Key Words: Middle class; Pro-poor growth; Egypt

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Introduction

The change that swept the Arab region unleashed a new horizons of thinking, especially when the people who led the revolutions were not from the poor class, but came from the middle class, whose Birdsall(2011) called them “ the catalyst middle class”. Nevertheless, MENA region has the largest proportion of the population which can be considered a middle class among the six regions, it increased from 75.5 percent of the population in 1990, to 78.7 percent in 2005 by Ravallion (2010). The political uprising which was sparked by what conventionally is considered a middle class citizen (Bouazizi from Tunisia) urges a thinking of what lies under the surface of income lines especially in countries that has achieved a considerable rapid economic growth (Egypt & Tunisia).

On one hand , the appearance of a strong middle class in Egypt according to the absolute threshold which represents about 85% of population in 2008 using Ravallion's thresholds, contrasts with the volatility of the economic performance in the last two decades. Whilst the relative threshold may delineate another view of shrinking in middle class, it presents about 43% of population by following Easterly (2001) and Zero middle class according Birdsall (2010). Sizing the population position between the national poverty line and the median may shed a light on a class may called middle class by crossing the lower threshold but they are the most vulnerable to poverty traps "New Strugglers" as Birdsall(2013) described them .

One the other hand, economic growth is not the only driver of the increase of middle class (MC), also the initial levels of income inequality influence the extent to which the size of MC responds to economic growth. The interplay between the three elements of poverty, inequality and growth have a great influence on size of middle class, these three element constitute the essence of pro-poor growth policy Recently, Egypt has adopted an inclusive growth concept which means to achieve a pro-poor growth target in its absolute terms, by making poverty reduction as a priority and moving the poor to a new class. That would urge a further query regarding those who departure poverty zone are moving to where? A group of population is conventionally defined as neither poor nor rich “middle class” (Bridsall 2007).

The issue of the study raises the questions regarding evolution of middle class size in Egypt. Which thresholds could be more proper to capture the real size of MC in the income distribution ladder? Was growth pro-poor in Egypt?

The study contributes to the literature of measuring pro-poor growth (PPG) beyond the growth incidence curve. It generates the three main PPG indices; Ravallion and Chen index (2003), Kakwani, Khandker, and Son (2003) and Kakwani and Pernia pro-poor index (2000). The main results show that growth was pro-poor during the two sub-periods periods (1990-1995) & (2004-2008). This drastic increase of the size of MC, even when growth is not pro-poor contradicts with interplay factors of pro-poor growth; growth, poverty and inequality.

The rest of paper is structured as follows; Section two provides a review of the definitions of middle class, a regional comparison, the evolution size of MC size in Egypt and a proposed median threshold. Section three; presents the main indices of pro-poor growth finally the conclusion.

Section Two: Middle class between definition and measurement

By 2030, two billion new people may join the world middle class (**Wilson&Dragsanu 2008**). Some narratives argue that the next decades will witness major economic changes, as the shift in spending power towards middle-income economies and away from the rich countries. Especially with the rise of (BRICs), the high growth rates of China and India have played an important role in producing the middle-income bulge in the developing world as a whole, China alone accounts for half of the 1.2 billion new entrants to the middle-class over 1990-2005 by Ravallion (2009).

In 2011, **Branko Milanovic** estimated that in the mid-nineteenth century, about half of global inequality could be accounted for by unequal incomes within countries and the other half to inequalities in average incomes across countries. Today the split is 80 percent in favor of cross-country income differences, with only 20 percent of global inequality accounted for by income differences within countries, which means that global middle class reshaped dramatically and any shrinking of the size of the middle class means fighting against a rising tide of inequality.

Recent studies **Homi**(2010), **Bridsall** (2010) and **Abd Gadir** (2010) have shed the light on middle class and its essential role in promoting the world consumption, especially after the world latest financial crisis and the downturn of the global economy, middle class ' role became a focus point to retrieve the world economy balance. Till the time of writing this research the definition of middle class is still hotly debatable; there is certainly no consensus on the definition among development economists of the income thresholds of the middle class in developing countries, where the main way for the middle class to expand is probably through poverty reduction. Middle class differs from place to place from one economy to another, no need to note that the standard of living of a person classified as 'middle class" depends on the average level of income of the country, so in a low income country the middle class may correspond to the poor in a high-income economy.

Problem starts with defining who are we talking about?

From **Adam Smith** definition of the classes on the basis of the objective position of the individuals who constitute them in economic life , In other words, the objective class is considered to be the consequence of his or her specific economic function, Smith presented the classical school where classes categorized into three ; the capitalists (owners of the means of production), who gain profit as income; the workers who gain wages as income; and the land-owners, who gain rent as income (from the renting of their fields to the capitalist-farmers). To **John Stuart Mill** who extended the principle of "friendly merger" examining how non-economic parameters like government, traditions or custom influence the class structure of society. Yet, middle class definition swing between economic and social approaches.

From sociological approach there are two main sociological theories. The first one is based on the theory derived from works of **Karl Marx**, and the other from **Max Weber**. The Marxian social class distinctions do not refer to types of occupation or

levels of income but on the form of physical and capital endowments that each social group possess . **Marx** called the existence of a small, independent group of businessmen and professionals who acquired skills, knowledge, and education to rely only on them to achieve a better economic position as the *petty bourgeoisie*.. **Weberian's** defines social classes through inequalities in income, educational attainment, power and occupational prestige. Class in his terms, is the way economic power is distributed when economic action is organized to the greatest degree of rational manner. So class was bound to the production of goods, while status of any group was stratified according to their consumption of goods "style of life " .

Other social view like **Thorpe, G. and Mcknight** (2006) adopt employment-based class position in depending on individual's economic security and economic stability. **Wright (2005)** conceives of classes as being structured mechanism of domination and exploitation in which economic positions accord some people power over the lives activities of others.

Yet, income is still a tempting criterion by choosing two income thresholds, it's easy to determine whose below the lower threshold "poor " , those above the higher one "rich" and in between them you have the middle class . Nevertheless, a purely economic point view to define and calculate of middle class fluctuates depending on the purpose of the calculations and its relation with other factors; growth, democracy, political issues ...etc. These differences are also due to the changing nature of the fundamental used tools of calculations (poverty line, median, and the mean income). Also it's noticeable that there are three main dominate approaches of measurements; absolute, relative and hybrid approach. The choice between these various approaches depends on the purpose at hand.

Income –based absolute approach, it assumes fixed income threshold (PPP adjusted) which raises a lot of arbitrary views in addition to the heterogeneous of countries' development level. Among absolute measures **Milanovic and Yitzhaki's study (2002)** about decomposing the world distribution for 114 countries into three groups and used households surveys, came out with a shocking result that only 11% of the world are middle class by using the definition of the middle class as those living between the mean incomes of Brazil and Italy, which translates into roughly \$12-\$50 a day per person at 2000 (PPP). Aligns with the same absolute stream **World bank (2007)** defines global middle Class, as the per capita income thresholds are approximately equal to \$4,000 and \$17,000, according to this definition many of the relatively rich in developing countries are in the global middle class, while the vast majority of the absolutely rich (per capita incomes above \$17,000) live in OECD countries. In the context of the debate about the role of china's consumption in the global economy, **Homi& Gerts (2010)** pushed for an absolute measure, sensed the distinctive roll of middle class especially the American's middle class decline after the world turmoil by mid 2008 , urging that China could be the potential middle class substitute, where middle class expanding exponentially , define middle class as those households with daily expenditure between \$10 and \$100 per person in PPP terms. The lower bound was chosen with the reference to the average poverty line in Portugal and Italy, while the upper line was chosen as twice the median income of Luxemburg. By applying this methodology for 145 countries , came up with the ascertain that the world in the throes of a major expansion in the middle class most

of it will come from Asia particularly from China, by 2020 China could be topping the global consumption to become the largest single middle class market by 2020 (13%), surpassing the United States. Noting the need to accelerate the China's transformation towards a domestic consumption-led growth pattern, eventually the global middle class would shift from west to east.

From a pro-poor growth perspective, **Birdsall (2010)** took a more wide focus from the ground that middle class is a merely simple extension of caring about the poor, emphasis on more sound inclusive growth policies that enable the increase in the proportion of middle class, consequently the proportion of total income they command. Birdsall rejects the idea that anyone escapes from the poverty line on just \$2 a day is a member of middle class, which would never make any sense of reasonable level of economic security. Acting on the basis of this concept, the lower bound would be at \$10 a day (in 2005 purchasing power terms) as the minimum income for a person to have the economic security in today's global economy, while the upper one determines at or below 95th percentile of the income distribution in their home country. Yet, a \$10 per day is low compared to the national poverty lines of OECD countries where poverty lines are defined in relative terms. **Banerjee and Duflo (2007)** definition as those whose daily consumption per capita is between \$2 and \$4 or between \$6 and \$10, argue that middle class person is not an entrepreneur in waiting, but might run a business usually small not very profitable, having a steady well paid job is the key for better education and health caring that might lead to build their own carriers. In a recent study **López-Calva and Ortiz-Juarez (2011)** also proposed absolute thresholds and looked for an income value that corresponds to a minimum requirement for the functioning that defines the middle-class. The authors followed a regression-based approach which exploits panel data to estimate the amount of comparable income –\$10 dollars a day, associated with a low (0.10) probability of falling into poverty— which depicts the beginning of the middle class (lower threshold) while the upper threshold at \$50 dollars a day. **Move to the relative income-based definitions**, where most of these strands rely on the median –suffer from the problem of different median in each country which means different middle class from one country to another.

Birdsall et al. (2000) pushed to define the middle class as those with incomes between 75% and 125% of the median in each country. **Easterly (2001)** defines the “middle class” as those lying between the 20th and 80th percentile on the consumption distribution, finds evidence that a larger income share controlled by the middle three quintiles promotes economic growth, in fact the study has shown based on cross country and panel econometric regression, that a higher share of incomes for middle class are empirically associated with higher growth, more education and other favorable development outcomes. **Ravallion (2009)** adopts a hybrid approach; it could be absolute in applying it but might be relative in its essence. Introducing the developing world's middle class is as those who are not deemed “poor” by the standards of developing countries but are still poor by the standards of rich countries, Ravallion sets the lower bound by \$2 a day at 2005 PPP. (The median of 70 national poverty lines), while the upper bound determined by \$13 a day (USA poverty line). Ravallion showed that the developing world's middle class increased from 32.8 percent of the population in 1990 to 48.5 percent of the population in 2005. These figures suggest that more than 1.2 billion people joined

the middle class over 1990–2005, with China accounting for a startling half of this amount . **Blackburn and Bloom (1985)** identify the middle class as households with per capita income between 0.60 and 2.25 times the median income in the United States. **Davis and Huston (1992)** use a narrower range: between 0.50 and 1.50 times the median, also for the United States. **Graham, and Pettinato (2000)** use a range between 0.75 and 1.25 times the median for 30 countries, including high-income, transition, and Latin American economies.

Other studies rely on the group position in the income distribution as a determinant of the middle class size, which could be more likely to quantify the income share of the middle class. For example; **Alesina and Perotti (1996)** use the income share of the third and fourth quintiles of the distribution; Partridge **(1997)** uses the middle quintile; **Barro (2000)** uses the middle three quintiles; and **Solimano (2008)**, the third to ninth deciles.

Despite of persistence emphasis on the importance of having a large middle class for economic growth, for its consumption patterns or for its propensity to accumulate human and physical capital, as well as for democracy and the political stability. Yet, there no pure analytical income characterization is satisfactory. More digging is needed to capture the comprehensive picture of this group.

2.1 The size of middle class in Arab World –regional comparison

Not only are the poverty lines deceivable in Arab region but also the measurement of middle class. At any value lower than \$1.25, the Arab region displays very low poverty rates about 25% in (2000-2009). However, rates jump sharply at higher poverty line, at a poverty line of approximately \$3 a day, the rate of the Arab region is far closer to that of the average of all developing regions (65%) for the same period. Same token for the measurement of MC , as it is shown in table 1 , the middle class of Arab region¹ considerably high at absolute cutoffs , it even higher than other region by Ravallion 's thresholds to reach about 79% and 80% by the ADP² lines (\$20-\$2) . While using Homi's cutoffs it constitutes only 5 % of the population. But this aggregate picture hides more than it reveals, income measured by GDP per capita increased at an average of 2 percent annually in Arab countries during the 1990s and 2000s, while per capita growth of household final consumption expenditure was only 1.3 per cent, indicates that growth has not translated into higher incomes or household expenditures for the majority of people in those regions, especially the middle class that supported the poor to make a new coalition. Roughly speaking there is a new middle class market not only according the income –based threshold but the recent political drew the attention to this class, which would require the need to investigate the composition rather than the size of the MC.

¹ Arab Region ; Djibouti, Mauritania, Yemen, Morocco, Tunisia, Egypt, Jordan, Syrian Arab Republic, Iraq, Sudan, Palestine

² Asian Development Bank

Table (1) Middle Class growth in Developing Countries - Regional Comparison

Region	(0.75-1.25) median	(\$13-\$2)	(\$20-\$2)	(\$13- Ho _NPL)	(90th- Ho_NPL)	(\$100-\$10)
<i>Arab Countries</i>						
1990s	32.4	64	65.6	66.5	59.8	3.9
2000s	37.1	78.6	80.2	77.5	70	4.1
Change %	14.5	22.8	22.3	16.5	17.1	5.1
<i>East Asia & Pacific</i>						
1990s	36.4	33.7	33.9	39.7	78.1	0.6
2000s	31	55.7	74.2	83.9	72.9	2.6
Change %	-14.8	65.3	118.9	111.3	-6.7	333.3
<i>Eastern Europe</i>						
1990s	32.9	80.8	84.8	66.2	62.2	8.3
2000s	33.7	70.1	85.3	59.1	77.2	26.5
Change %	7.8	3.4	0.4	17.2	27.7	19.8
<i>Latin America & Caribbean</i>						
1990s	20.67	65.69	77.49	38.95	44.1	14.46
2000s	22.29	67.92	77.82	45.64	56.32	17.32
Change %	7.84	3.39	0.43	17.18	27.71	19.78
<i>South Asia</i>						
1990s	35.98	20.42	32.23	56.03	46.19	0.3
2000s	39.6	32.23	33.47	70.87	61.26	0.7
Change %	10.1	57.8	3.8	26.5	32.6	133.3
<i>Sub-Saharan Africa</i>						
1990s	29.9	22.3	22.4	45.4	35.7	0.8
2000s	31.5	34.3	34.7	58.3	49	1.1
Change %	5.4	53.8	54.9	28.4	37.3	37.5

Author's calculation based on UNESCWA "middle class in Arab region report 2014 "forthcoming .The calculations are based on data of 67 developing countries .

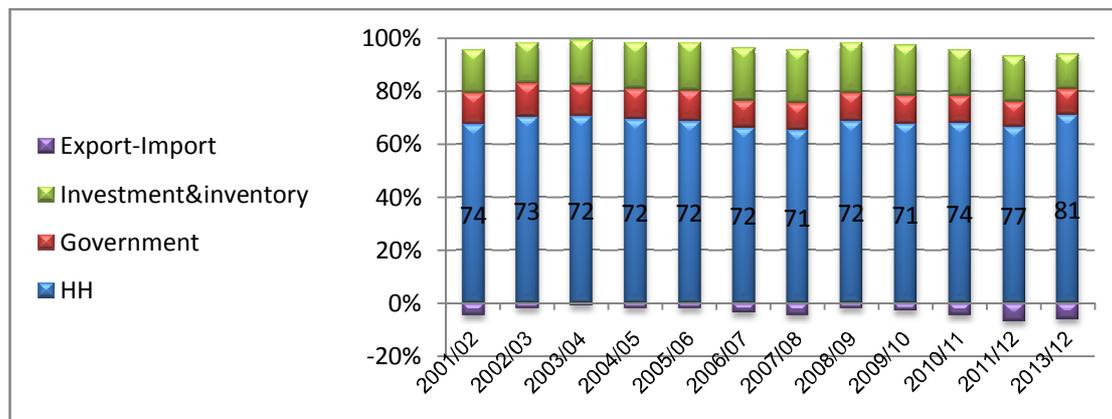
2.2 Middle Class in Egypt

Why the revolution was initiated by secular middle class youth, who suppose to be the beneficiaries of the modernizing republics. Why this deep feeling of dissatisfaction was easily to spread among the whole class. Next section will try to find some answers due three folds; first: to take a quick glance on the Egyptian economic performance at both poverty and inequality aspects, then The size of MC at different cutoffs , measuring the wealth index during the last two decades ,finally the median approach as a simple and understandable threshold of middle class in Egypt .

The importance of Household sector in the Egyptian Economy

Before presenting the inequality and poverty trends, it's important to investigate the Household share of GDP during the last decade , which reveals that it constitutes about two-third of total GDP comparing to the other three sectors .

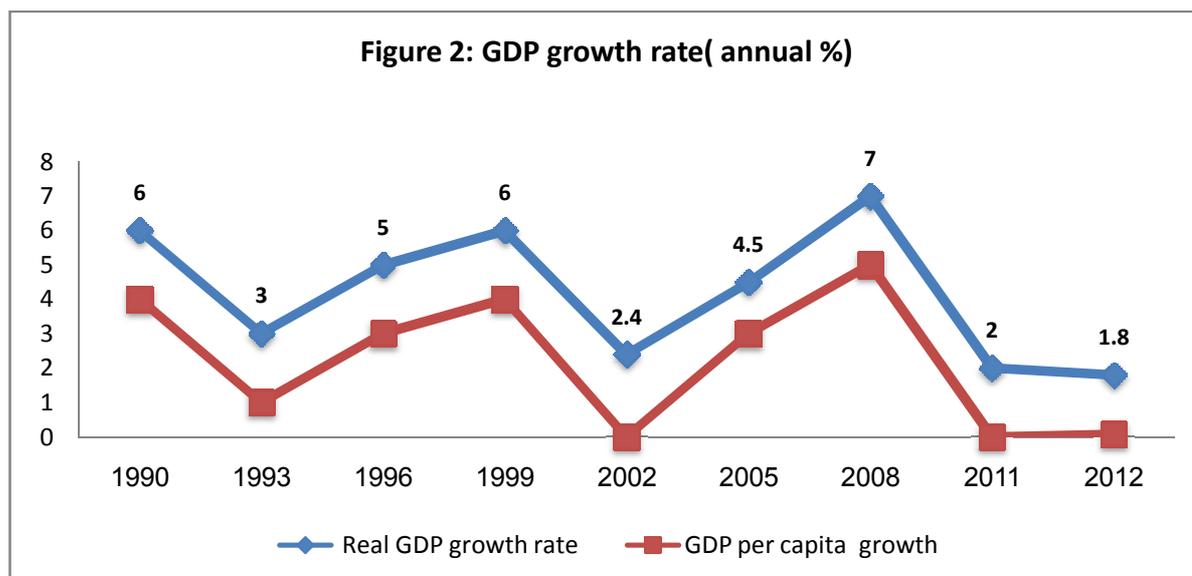
Figure (1) the composition of GDP expenditure (%)



Source: Uses and Resources Tables –National Accounts data.

2.2.1 Quick glance on the poverty, inequality and growth trends in Egypt **Growth Performance**

Egypt's growth performance has witnessed a high volatility trend , figure 2 depicts the real GDP growth fluctuations from the declining phase in the latter half of 1980s to the acceleration by 1990, followed by another decline during the period 1999-2003, to hit the highest of economic growth between (2005- 2008) to reach 7% just before the financial crisis . However, the global financial crisis curbed the Egyptian growth to maintain its rate at 5%. In the meantime, inflation accelerated to 18.3% annually in August 2008 due to increased commodity prices, a high level even for a high inflation country as Egypt. Unemployment rose from 9.2% by the beginning of 2000s to 11.2% in 2006 to decline during the growth upward till the financial crisis (9.4%).By the 25th January revolution Egypt's growth witnessed a sharp declined reached 1.8% by 2011/12 , recently GDP reached to 2.2% in 2012/2103 , unemployment rate soared to 13.3 % in FY2012/2013. Yet, the economic growth rate is lower than the rate of population growth that would entail facing real challenges concerning the poverty and inequality rates after the revolution. **Similar fluctuations** in GDP per capita, which reveals that Egypt's economic growth has never been sustain, the economy was always hits by both internal and external shocks. GDP per capita declined sharply twice in the last 23 years to reach zero in 2002 and 2011. Nevertheless, the GDP per capita was soared TO 5% during (2005-2008) , to get decline due to the financial crisis by mid-2008. GDP per capita continues its decline throw the three years of political transition to be 0.07% in 2012. Volatility is not only bad for growth; it is particularly bad for pro-poor growth. The poor and middle class gain less during booms as those who already have real and financial assets gain most and are the first to lose jobs during busts.



Source: WDI 2013

Poverty and inequality trends

Poverty remains a significant challenge in Egypt. Egypt's rate of absolute poverty which is defined as the percentage of the population living on less than PPP \$1.25 per day, was 2 percent in 2000 and kept its steady rate till 2008, considered a better off situation than the 4 percent in 1990 as it is shown in table 2. Although the incidence of extreme poverty is fairly low, much of Egypt's population is still poor; 15 % of Egyptians lived on less than \$2 PPP per day in 2008, the headcount poverty ratio under \$2 was amounted to 22% in 1990 to get a sharp decline by the beginning of the 2000s. In 1999/2000, the poverty rate by national poverty line in Egypt reached the lowest rate by 16.7%, to increase during the next sub-periods, despite of the strong economic growth during the period 2005-2008. The implication of political changes made the situation of poverty get worse, as it soared to 26.3% under the national poverty line for FY 2012/2013 (Egyptian Ministry of planning data). Looking beyond the average in table 3- the period (1990-1995) has experienced an increase in the poverty severity measure from 0.14 to 0.44 while the poverty headcount declined indicating that those closest to the poverty line gained benefits from growth while the poorest did not. The FY2000 has experienced a big reductions across all three measures indicating that the poorest did relatively well from growth, unlike FY 2004 where the three measure were worse off. However in FY2008 the headcount declined while P2 increased indicating that the poor have done proportionately better than the poorest in general.

Table 2- Trends of poverty and inequality

Indicator	1991	1995	2000	2005	2008
Poverty headcount ratio at \$1.25 a day (PPP) (% of population)	4	2	2	2	2
Poverty headcount ratio at \$2 a day (PPP) (% of population)	28	26	19	18	15
Poverty headcount ratio at \$2.5 a day (PPP) (% of population)	44	46	37	36	32
Poverty headcount ratio at national poverty line	24.18	19.4	16.7	19.6	22
GINI index	32	30.1	32.8	32.1	30.8
Palma Index	1.2601	1.1563	1.3231	1.2787	1.19417

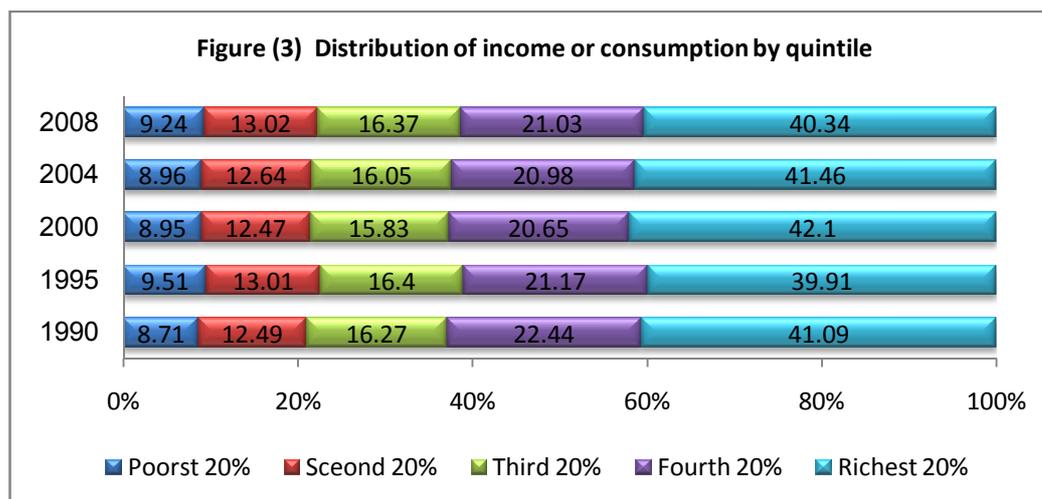
Source: WDI 2013

Table 3 -Poverty class measures at \$ 1.25

	Head count poverty	Poverty Gap	Poverty Gap square
2008	1.69	0.38	0.39
2004	1.99	0.39	0.16
2000	1.18	0.32	0.11
1995	2.46	0.34	0.44
1990	4.46	0.60	0.14

Source: World Bank Povcal's data

Inequality as measured by GINI coefficient- as a measure of inequality indicates an overall improvement in distribution of per capita expenditure in Egypt between 2000 and 2008 (down from 32.8 to 30.8), which more than offset a slight deterioration between 1996 and 2000 (up from 30.1 to 32.8), roughly speaking GINI for the last 25 years has shown a moderate trend, it moves up or down of 2 percentage points only. Also, Inequality can be traced by Palma index which consider a recent deciles ratio that tackling the tails of distribution. Palma is the ratio of income share of the top 10% to the poorest 40% of population, it measures the how much the rich earn relative to the poor, and the high value of Palma indicates that poor much increase their income share or reducing the share of the rich within the followed government's policies. Palma index was about 1.2601 in 1990 to get a sluggish improvement by 2008 declined to 1.19417. As shown in **figure (3)** the distribution of consumption expenditure by quintile that changes over the five dates (1990, 1995, 2000, 2005 and 2008) have been marginal across all deciles over time. However, over (2000-2008) the share of the bottom 20 percent remained almost unchanged, the richest deciles' share increased by (1.04 percentage points), while the shares of all other deciles increased only marginally. Worth nothing that income distribution during the 5 waves from (1990-2008) didn't fluctuate dramatically to cope with the volatility of the economic growth as it was presented in graph (2).



Source: Poverty & Equity databank, world bank

2.2.2 The size of middle class in Egypt

A recent study by Loayza (2012) points out that when the size of the middle class increases, social policy on health and education becomes more active, and the quality of governance regarding democratic participation and official corruption improves. Following same vein, **Easterly (2001)** emphasizes on the strong association between solid middle class and higher income, more education, better health outcomes and faster upward mobility. However, that wasn't the case of the Egyptian middle class as it will reveal in the next points.

Table (4) presents the main results for the five waves for some relative and absolute definitions of MC that were presented earlier in the first section of the study. The first remarkable result is that these definitions imply widely varying size of MC.

On one hand, absolute results except Homi's (\$100-\$10), appear to display a stable strong middle class, to amount to a almost 85% whether using Ravallion's or ADB thresholds, maybe little size shrinking following Ghadir (2009) methodology (NPL-\$13) . Notably, these results hide the large bulk of poverty rate under the upper thresholds \$10, \$13, \$20 and \$100. On the other hand, measures based on relative approach display a glaring heterogeneity, following Brisall (2007) by excluding the richest decile as the upper line while a \$10 is lower threshold, there is **NO** middle class in Egypt .Worth noting, that Bridesall (2007) considers \$ 10 is a minimum secure line of MC. Whilst Easterly (2001) methodology reveals a reasonable average size of MC about 40% of the population .

Table (4) the Size of Middle Class in Egypt

survey year	(\$13-\$2)	(\$20-\$2)	(\$10- \$2)	(\$13- NPL)	(\$100-\$10)	(1.25 m-0.75m)	(90th -\$10)
1990	72.09	72.89	70.98	77.25	2.3	38.9	0
1995	73.81	74.43	72.93	79.62	1.9	42.88	0
2000	80.24	81.11	79.01	82.26	2.6	41.19	0
2004	81.1	81.96	79.88	80.06	2.6	41.45	0
2008	84.17	84.96	83.01	76.78	2.4	43.57	0

Author's calculation – Povcal data bank.

2.2.3 The wealth index of middle class in Egypt

Following Abd-gadir's empirical steps

$$Y_p = Z (1 - (P_z / H_z)) \quad (1)$$

Where, Y_p is the average expenditure for the poor under (Z) as a poverty line, P_z is the poverty gap for the given poverty line while H_z is the head count ratio for any the given poverty line. By equation (1) we can produce the average expenditure for the poor for both the lower poverty line $Y_p(Z_p)$ and the highest line $Y_p(z_m)$

The rich average expenditure Y_r can be calculated by the following identity as the average expenditure for the country is already well known.

$$Y = H_{z_m} * Y_p(m) + (1-H(z_m)) Y_r \quad (2)$$

Where; Y the average income for the society, Y_r the average expenditure of the rich, H_{z_m} : head count ratio at upper line and $Y_p(m)$: the average income of the poor at upper line

By following the above steps, the country expenditure divided into three classes can be calculated as next;

$$Y = H(Z_p)Y_p + M(z_p, z_m)Y_m + [1-H(z_p) - M(z_p, z_m)] Y_r \quad (3)$$

The wealth index $\gamma = Y_m / Y$

It seems that middle class in Egypt didn't obtain the proper gains, according to the wealth index in table (5) it was much better off in 1990 then it started to backward since that time even if it looks in a steady position. The average expenditure of the middle class is so close to the average expenditure for the whole country. That would add another puzzle regarding not only the economic position but also the social and political one

Table (5) Middle class wealth index (\$13-NPL)					
Year	Y	Y_r	Y_m	Y_p	γ
1990	101	258	111.74	42.59	1.11
1995	98	652	100.34	43.45	1.02
2000	112	843.4	111.30	46.47	0.99
2004	113	836.6	112.15	46.23	0.99
2008	114	932.7	112.00	47.00	0.98

Author's calculation

2.2.4 A new proposed measure of middle class in Egypt

The author proposes a new thresholds that might reflects the actual picture of MC. Consider the median as the lower cutoff while the upper one will exclude the richest 10% following Birdsall (2007) upper cutoff as it represents almost 30% of income share of distribution in Egypt . But first; why is the median? First; with the decline of absolute and extreme poverty, the median would be a reasonable line, as it reflects the fact that overall growth is shared with the households. Secondly; the growth of the median is so close to the growth of the poorest 40% (Birdsall 2013). Finally as table 6 presents, the population size between the NPL and the median is considered a large segment, which contractes the convention wisdom that the person who crosses the poverty line can be a middle class, so subtracting the bulk of population under the median line can capture the actual story of middle class. Even Ravallion's upper threshold a \$13 is very high line in the Egyptian case; almost 99% of population under this line is poor which consider an unrealistic line to the author, even if it's the western poverty line. Unlike what absolute measure came out with of how stable and strong size of middle class Egypt has for the five waves , the middle class according to the new thresholds have shrunk during the period of high economic growth rate and inequality decreased. In addition too, it shrinks from almost 40% to 35% in a period which is highly pro-poor growth as it will illustrate in the next section. That might be a string to explain the dissatisfaction in the years of booming growth.

Table (6) the size of middle class using the median approach

survey year	(m-NPL)	(\$13-m)	(90th-m)
1990	28.72	48.53	39.72
1995	30.72	48.9	39.88
2000	34.07	48.19	39.53
2004	31.84	48.22	39.56
2008	33	43.78	35

Author's calculation

Section Three: Pro-Poor Growth in Egypt

Was growth pro-poor in Egypt? In the previous section it was glaring the volatility of the economic performance; the contradiction of the size of middle class under different thresholds may be adding a complexity to the vague picture. However, in recent years, a central topic in the economic development literature has been the measurement of the distributive impact of growth. Although there is a growing consensus in the literature on the conclusion that sustained and rapid economic growth translates into poverty reduction, there is a wide disparity in the extent of poverty reduction a growth process can achieve. The supposed fact that achieving pro-poor growth would lead to poverty decrease, then a larger middle class size. But, was that the actual path of the Egyptian's case? The next section will demonstrate the different approaches of defining Pro-poor growth, then the indices of pro-poor growth from the grouped data.

3.1 Definitions of pro-poor growth

Defining pro poor growth is a debated subject; generally speaking pro-poor growth is the economic growth that is favorable to the poor. But, the term favorable differ from one view to another. While one view focuses on the poverty reductions in absolute term, other alternative concentrates on the distributional changes. Another alternative proposes a non-income dimension of pro-poor growth that had to be considered beside the income gains of growth of non-income view. The next section will reveal the main distinctive approaches of defining pro-poor growth. Each one of these views has its own merits and limitations.

3-1.1 The relative definition group:

Relative definition of pro-poor growth compares changes in the incomes of the poor with respect to changes in the incomes of the non-poor. Using this definition, growth is pro-poor when the distributional shifts accompanying growth favor the poor. According to McCulloch and Baulch (2000), whenever poverty bias of growth it must be a pro-poor, they compare the actual income distribution with one that would obtain in the case of distribution-neutral growth, propose a measure of pro-poor growth known as the poverty bias of growth (PBG).

Nevertheless, the higher values of the PBG may not imply a greater reduction in poverty because poverty also depends on the growth effect. An attempt to capture the degree of pro-poor growth, Kakwani and Pernia(2000) study "what is pro-poor" represents a major departure from the "trickle –down" phenomenon that was dominant in 1950s and 1960s, which implied a vertical flow from the rich to the poor, then the benefits of economic growth go to the rich first, while in the second round the poor begin to benefit when the rich start spending their gains. K&P (2000)

proposed a new indicator—the pro-poor growth index—that measures the degree to which growth can be deemed pro-poor. Kakwani followed the work of the pro-poor growth index (Kakwani and Pernia 2000) which have captured the distribution of growth benefits among the poor and non-poor but it doesn't take into account the level of the actual growth rate. In response to this Kakwani and Son (2003), proposed the PEGR (Poverty Equivalent Growth Rate) defined as the growth rate that will result in the same level of poverty reduction if the growth process had not been accompanied by any change in inequality (everyone get the same proportional benefits of growth), which takes into account not only the magnitude of growth, but also how much benefits of growth are distributed between the poor and non-poor. For K&S the word “pro-poor” literally means that the poor should receive more but not less benefits than the non-poor.

3.1.2 The absolute definition group

The second prevailing definition is the absolute definition which focuses on what happens to poverty. Growth is considered to be pro-poor if and only if poor people benefit in absolute terms, as reflected in some agreed measure of poverty. Consistent with this approach the work of both Ravallion and Chen (2003) & Kraay (2003), where it is based on changes in both rate of growth and the distribution of the gains. On one hand, the absolute approach emphasizes on the proportional gains of the poor using poverty elasticity, while on the other hand it's hard to discern whether a particular elasticity actually implies that the poor have benefited disproportionately or not. In Dollar and Kraay (2000) study "growth is good for the poor" they proposed the link between the average income and the average income of the poorest quintile, the poor were defined as those in the bottom of the income distribution of a country. D&K came to conclusion that the growth incomes of the poor tracked in average income roughly one-to-one, which means that elasticity of the income of the poor relative to mean income is statistically indistinguishable from unity.

Ravallion and Chen (2003) study which focused on what happens to poverty instead of focusing on the distributional shifts during the growth process, so they came out with the view that pro-poor growth is the growth that reduces poverty. The extent which growth is pro-poor depends on how much the chosen measure of poverty changes, in that case, what happens to the distribution changes only a part with addition to what happens to the average living standard. From the inception of Ravallion and Chen (2003), and building on Dollar and Kraay (2002), Kraay (2003) took a further deep step by adopting a broader definition and then applied standard poverty decomposing technique to identify three potential sources of pro-poor growth: (a) a high growth rate of average incomes; (b) a high sensitivity of poverty to

growth in average incomes; and (c) a poverty-reducing pattern of growth in relative incomes.

3.1.3 Non-income dimension of pro-poor growth

Growth that is declared to be pro-poor where the measure is based only on income must not automatically imply improvement in the non income (or social) dimension of poverty. (Klasen 2006), clarifies The non-monetary dimension of pro-poor growth by investigating the missing gap in the literature on pro-poor growth where the income dimension supreme. Consistently with Klasen’s view (2005) that income dimension is not the sufficient, Osmani(2005) argues that pinning the definition of pro-poor growth exclusively on distributional impact adds nothing to the traditional concern with equitable growth that can be traced back at least to Chenery et al. (1974).,Osmani took a further step to the need to clarify the quality of pro-poorness, taking into account the distinction between the rate and the nature of the growth , Osmani's view that pro-poor growth is a combination of Ravallion and Kakwani approaches, suggesting that the concept of PPG must refer the absolute magnitude of poverty reduction .yet, contain an element of bias in favor of the poor ? So critical question must be raised is how this bias is defined? This entails to identify a benchmark to gauge the pro-poorness of growth.

3.2 Measuring Pro-Poor Growth

Methodology and data

The research relies on an empirical tool that uses Distributive Analysis SATA Package DASP, which provide the results of three main indices of PPG. The method introduces a complementary and consistently measures of PPG with the Growth Incidence Curve (GIC) from the Household survey. Tanking into consider that the author is not authorized to use the Household surveys due to the Egyptian government restrictions policy. The author used the grouped data from the Povcal data bank to calculate the indices.

Data

World Development Indicators	GDP, GDP per capita, Population
Povcal data	P ₀ ,P ₁ ,P ₂ , income shares , Gini coefficient . Loranze curve data

The study can be a complementary work regarding the measurements of PPG , as it develops the measures of PPG that uses grouped data of world bank Povcal data . The study differs from the work of El-Laithy et al (2011) or (2008), the first (2011) covers only the period (2005-2008) based on the Household Income, Expenditure

and Consumption Panel Survey conducted by Egypt's national statistical agency as data is easily available, the study of El-Laithy compares Growth Incidence Curves (GIC) based on a cross section of data with GICs based on the panel data ,and how it may results contradict depending the mobility factors up and down .The research of this study covers the five waves (1990-2008) using both the grouped povcal data .

3.2.1 Measuring PPG from grouped data (DASP)

In this fold the research presents the three main indices of PPG using DASP program. A Brief review of indices is presented in Appendix 1.

Table 7 presents the indices at poverty line \$38 and poverty measure of H_0 where $\alpha = 0$, during the period (1990-1995) growth was pro-poor for only two indices except for K&S (2000).The period was marked by stabilization program and price liberalization, particularly in agriculture. This was accompanied by a significant decline in all poverty measures except the poverty gap square .Also, in spite of the decline in Gini as an inequality measure , the Household final consumption expenditure annul growth declines to reach 2.44% in 1995 from 3.7 % in 1990 according to WDR (2013), which means the poorest people didn't benefit from the economic reform. . That is the only explanations to K&S 2000 index of anti-pro-poor growth .Moving to the 1995 to 2005 the growth was anti pro-poor for the two sub-periods. It has witnessed a reversal of the pattern of expenditure distribution, with an increase in poverty measures. Inequality (GINI) increased by two percent point. Unlike the period (2004-2008) growth was pro-poor. Which means GDP growth still the main trigger for reducing poverty and inequality in Egypt mitigate

Table (7) Pro-poor growth indices (1990-2008) Poverty line =38 $\alpha = 0$

Indices Estimate	1990-1995	1995-2000	2000-2005	2004 -2008
Growth Rate(g)	-0.030135	0.146668	0.002852	0.013421
Ravallion & Chen (2003) index	0.116517	0.043268	-0.018977	0.022711
Ravallion & Chen (2003) - g	0.146652	-0.103400	-0.021829	0.009290
	<i>Pro-poor</i>	<i>Anti-poor poor</i>	<i>Anti-poor poor</i>	<i>Pro-poor</i>
Kakwani & Pernia (2000) index	-3.142857	0.500000	-34665648.393	3.000000
	<i>Anti-Pro-poor</i>	<i>Moderate - poor poor</i>	<i>Anti-Po-poor</i>	<i>High Pro-poor</i>
PEGR index	0.094709	0.073334	-98877.090693	0.040263
PEGR – g	0.124844	-0.073334	-98877.093545	0.026842
	<i>Pro-poor</i>	<i>Anti-poor poor</i>	<i>Anti-Pro-poor</i>	<i>Pro-poor</i>

Author's calculations

Table (8) Pro-poor growth indices (1990-2008) Poverty line =60 $\alpha = 0$

Indices Estimate	1990-1995	1995-2000	2000-2005	2004 -2008
Growth Rate(g)	-0.030135	0.146668	0.002852	0.013421
Ravallion & Chen (2003) index	0.058390	0.063223	0.000540	0.035797
Ravallion & Chen (2003) – g	0.088525	-0.083445	-0.002312	0.022376
	<i>Pro-poor</i>	<i>Anti-pro-poor</i>	<i>Anti-pro-poor</i>	<i>Pro-poor</i>
Kakwani & Pernia (2000) index	-0.250000	0.650000	3.500001	3.333333
	<i>Anti-pro-poor</i>	<i>Moderate - pro-poor</i>	<i>High Pro-poor</i>	<i>High Pro-poor</i>
PEGR index	0.034897	0.007027	0.005987	0.012582
PEGR – g	0.035940	0.007571	0.005987	0.012534
	<i>Pro-poor</i>	<i>Pro-poor</i>	<i>Pro-poor</i>	<i>Pro-poor</i>

Author's calculations

Conclusion

The study has reviewed some the most frequently used income –based definition of middle class in the empirical literature. The analysis of the way in which middle class has evolved over time requires a measure that is sensitive to the changes in income distribution. The empirical results for absolute –thresholds definition indicate that the size of middle class in Egypt has been increased in the last two decades. While the relative –thresholds definition may have another trend, it indicates that the size of MC is not that bulging. The researcher proposes a threshold based on the median as a lower threshold as the size of population who lies between the national poverty line and median is about 33% of the population , those who are conventionally called middle class . The study also presents the wealth index of middle class in Egypt, which emphasizes the strong stable Middle class households' expenditure level, noting that the index used an absolute income –based thresholds. The evidence presented in this study suggests that definitions of the middle class based on sound principles of distributional analysis are most needed beside the income –based definitions.

The paper has proposed an empirical test to test whether distributional changes are pro-poor in Egypt during the period time (1990-2008) using the three main indices . It shows that Egypt's growth was pro-poor in two sub-periods. Egypt has achieved a reasonable poverty reduction according to international standard during the growth booming period; inequality also was moderate by global standard. However ,despite the fluctuation if Egypt's economic growth and achieving a pro-poor growth during the study time, middle class in Egypt shows a stable pattern in size . That would

entail a deep further study of income and social mobility of this class. To monitor the real evolution of this class from other aspects rather than income –based threshold, especially after the political changes that swept the Arab region. Inevitably, an in-depth analysis of the characteristics and vulnerability of middle class and its relevance as an engine for economic development are substantially needed.

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Appendix :

1- Ravallion and Chen index (2003)

$$\text{Index} = W_1(z) - W_2(z) / F_1(z)$$

Where W_D is the Watts index for the distribution $D \in [1, 2]$, $F_1(z)$ is the headcount poverty for index of the initial distribution . Which means if the index $-g$ is positive, then this period is pro-poor growth as it presents in table 6 and 7.

2- PEGR Index: Kakwani, Khandker, and Son (2003)

$$\text{Index} = \left(\frac{P_2(y^2, z, \alpha) - P_1(y^1, z, \alpha)}{(P_1(\frac{\mu_2}{\mu_1}), z, \alpha) - P_1(y^1, z, \alpha)} \right)$$

If this exceeds the growth rate g , the actual growth rate, the growth is judged pro-poor (with the relative statement).

3- The Kakwani and Pernia pro-poor index (2000):

Kakwani and Pernia consider that growth is pro-poor when the poor receive the benefits of growth proportionately than the non-poor. PPGI shows the ratio of elasticity for total poverty reduction in case of distribution neutral growth. This ratio will be greater than one when growth is pro-poor.