Structural studies as a research approach in the Arab region

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Most studies and research papers in the field of economics examine some relation, a relation between two or more variables. Examples include the relation between austerity measures and growing inequality and between exchange rates and price hikes or poverty levels. This also applied to examining the development of inequality in a given country within a given time since this means looking at the relation between inequality and a particular time in the history of that country since time is in itself a variable that encompasses most other variables which impact the level of inequality. In general, it can be said that the common approach employed in social sciences is one that tries to link a change in something to a change in other things. This is referred to as relational research. Another approach is called structural research, which means examining the structures of information and methodologies that produce economic variables. The pattern if expenditure is an example of one of the central structures that inform many economic variables.

Within the network of complex economic variables, several terms include the word "real" such as real gross domestic product, real per capita gross domestic product, real interest rates, real wage growth rate, and others. The word "real" is used in economic terms when adjustments are introduced to the nominal value so that inflation rates are taken into

account. Inflation is a crucial factor in the analysis of different economic variables as well as in the calculation of poverty and hunger rates. Inflation rates are, therefore, considered a vital structure for many economic variables and inflation calculations themselves have an intricate structure on which they depend such as the expenditure patterns of families and individuals. This means that a change in an individual's daily spending pattern would impact all common aspects of economic knowledge. This is because general and abstract economic terms such as real interest rate, gross domestic product growth, or even the calculation of poverty rates depend for the most part on the accuracy of official calculations of daily activities such as the amounts citizens spend on food in relation to the utility bills they pay.

It is not possible to trust the results of examining relations between economic variables without verifying the accuracy of the intricate structure that informs those variables, an argument that is supported by quantitative evidence throughout this book. The following table highlights the challenges facing relational studies based on official data.

Year	2010-2011	2012-2013	2015
Official hunger rates	4.8% (3.820 million people)	4.4% (3.728 million people)	5.3% (4.770 million people)
Alternative hunger rates	9.6% (7.641 million people)	9.3% (8.133 million people)	7.2% (6.750 million people)

Source: Dina Abdallah's paper "On the accuracy of statistical samples," published in this book.

Hunger rates in official statistics are substantially different from those calculated through the alternative methodology and in many cases the latter can amount to the double. Official statistics about the development of hunger and poverty rates are also likely to be inaccurate. According to Egyptian official statistics, the percentage of hunger dropped from 6.2% of the population in 2009 to 4.8% in 2011 then kept dropping in 2013 and rose again in 2015. This development is entirely different from that identified through the alternative methodology used in this book. According to this methodology, the percentage of hunger rose from 2009 to 2011 and rose again in 2013. Even when official statistics

claimed hunger increased in 2015, it was actually the other way around according to the alternative methodology.

These substantial differences between official and alternative methodologies in the estimation of the percentages of hunger and their development pose several questions about the accuracy of analysis based on relational studies that link any variable or economic policy to the percentage of hunger and its development. These questions not only pertain to the accuracy of the studies, but also to the studies' ability to reach accurate conclusions upon which effective policies can be designed in the absence of alternative studies that examine the intricate structures and measurement methodologies that produce economic variables.

Despite the importance of structural studies in the Arab region, several research challenges stand in the way of implementing them on a large scale. One of the most significant challenges is that official calculations of economic variables in the Arab region are extremely centralized and central statistical entities do not provide the detailed data that would allow for implementing alternative methodologies or revising the accuracy of the statistical samples that informed this data. In many cases, available official data is enough to unravel the inaccuracy of statistics, yet the de-

tailed data required to review those statistics is not available. The most prominent example is the study by Piketty et al. (2015, 2018).[60] about the inaccuracy of official statistics about inequality in income distribution and top-income shares in the Middle East. The study revealed that inequality values identified in official statistics in the Arab region are suspiciously small.

For example, the inverted pareto coefficient value in Egypt was 1.5, which means that the level of inequality is extremely low that it corresponds to the extremely egalitarian Scandinavian countries and this did not mean currently, but at a time when the distribution system was even fairer than it is now. Therefore, according to official statistics, inequality level in Egypt in 2000 is equal to that in Finland, Norway, and Sweden in the 1980s and less that the inequality level in the same countries at the present time. The study attempted to bridge this obvious gap in official statistics through the afore-mentioned structural methodology and estimates informed by comparison with countries outside the region. It was revealed in the first study in 2015 that based on the

60- Facundo Alvaredo, Lydia Assouad, & Thomas Piketty. "Measuring top income and inequality in the Middle East: Data limitations and illustration with the case of Egypt." ERF, 2015

Facundo Alvaredo, Lydia Assouad, & Thomas Piketty. "Measuring inequality in the Middle East 1990-2016: The World's Most Unequal Region?" Review of Income and Wealth. 10.1111/roiw.12385. 2018

highest scenario, the top-income share could amount to 32% of the Egyptian national income instead of the 27% in official statistics. Following the release of more detailed data by the Lebanese Tax Association on the top-income share in Lebanon, the study revisited earlier estimates to evaluate top-income share in Egypt at 46% of Egyptian national income.

This study offers a clear example of the crisis through which structural studies is going in the Arab region owing to lack of detailed data. The difference between estimates provided in the two studies is basically due to the release of data that is not closely linked to the Egyptian case or most countries in the region except for Lebanon. This difference underlines two issues: first, the inaccuracy of official income and expenditure data used to determine top-income shares so that the release of new data can change the percentage from 27% to 46%; second, both studies rely on estimation statistics to the extent that one piece of information that is not closely linked to most countries subject of the research can increase the estimates in all those countries by more than 50% of the results reached in the first study.

Relying on estimation makes structural studies seem inaccurate as well and sometimes they actually stop at question-

ing official statistics without attempting to issue alternative ones. It is quite easy for state economists and policy makers to dismiss statistics based on estimation. That is why it is necessary to examine the crisis through which this type of studies go and to offer solutions through papers published in this book and written by the author in addition to Arbi Hafidi (Morocco), Jamal Ouididi (Tunisia), and Dina Abdallah (Egypt).

A wide gap exists between papers on the three countries regarding how far each of them achieves the final goal, which is arriving at hunger and poverty rates that are more accurate than official ones. The papers on the Egyptian case are the closest to that final goal than the ones on Tunisia and Morocco while the one on Tunisia was closer than the one in Morocco. This gap even appears within the same country. In the case of Egypt, the section on hunger was closer to the final goal than the one on poverty. The main factor that determined how close or far a paper was from the final goal is the availability of detailed data on expenditure patterns of the poor or the hungry and on the development of the prices of goods these segments of society spend their money on.

In the section on hunger in the Egyptian case, detailed data on the expenditure pattern of the hungry and the prices of

goods they pay for was more available, which led to reducing the role played by estimation. This data includes how the hungry distribute their income on food such as for example how much they spend on vegetables compared to legumes and so on. Spending on non-food products was, on the other hand, subject to arbitrary estimation as the study presumed that they do not spend money on that item at all, hence relying on official statistics in this regard. This estimation was far from realistic yet it was much safer in the light of the absence of any local or international data on the expenditure of the hungry on non-food commodities.

In the section on poverty, there was little information on some of the goods/services on which the poor spend such rents and utility bills and the same applied to changes in public transportation fares. That is why the study was unable to produce growth rates for the poor with the same accuracy as the hungry. Hence, the study stopped at questioning the accuracy of official growth rates for the poor and did not move to alternative estimates on the numbers and percentages of the poor.

The same problem is seen in the Tunisian case where the paper underlined several contradictions. According to official statistics, poverty line in Tunisia rose from 1,206 dinars

in 2010 to 1,706 in 2015, that is by 41.4%. In light of this increase in the poverty line value, in order for the percentage of the poor in 2015 to remain the same as 2010, that is 20.5% of the population, incomes close to poverty line have to increase by the same percentage of the poverty line itself, that is 41.4%. Yet according to official statistics, even as the poverty line rose by 41.4%, the percentage of the poor dropped from 20.5% to 15.2% of the population. This does not only mean that average incomes close to the poverty line increased by more than 41%, but also that 5.3% of the old poor from 2010 had their incomes increase by at least 60% in order to go above the poverty line even as the value of the poverty line increased. This 60% is based on the theoretical assumption that the average incomes of the 5.3% of the old poor who managed to rise above the poverty line in 2015 is distributed in the upper half of the distance between the national poverty line and the abject poverty line in 2010. This means that their incomes fall in the 942.5-1,206-dinar category. Due to lack of actual data on the income distribution of this echelon, it is presumed that distribution is equal within the above-mentioned economic distance. According to this assumption, rising above the poverty line is conditioned upon a minimum average increase in their income of 61.6% from 2010 to 2015.

The increase rate in the income of the segment that rose above the poverty line as assumed by official statistics is extremely high compared to the increase rate in the average general spending of families and which increased during the same interval by only 37.7%. This is also the case if the 60% is compared with the increase rate of the average incomes of families. This contradiction poses several questions on the accuracy of official statistics on income distribution in Tunisia and the methodology used in measuring the increase in the number of the hungry and the poor there. These questions are similar to the ones raised in the paper on Morocco.

In the case of Morocco, the paper reveals that according to the official methodology used by the Higher Planning Commission, the multidimensional poverty criterion depends on social indicators that are formed and altered in the long term. This means that the improvement or deterioration of these indicators takes a longer time than in measurement criteria of monetary poverty that is linked to income. Looking at multidimensional poverty indicators separately will underline this contradiction in official data. For example, the improvement of the educational state of families, measured by the enrolment of children and adults in schools, usually needs more time than the improvement of income. In oth-

er words, the improvement of the education and health of poor households is a long-term result of the improvement in their income, which means that monetary poverty indicators have to improve faster and larger than multidimensional poverty indicators. Official statistics in Morocco indicate otherwise. The same applies to housing conditions, whose improvement is linked to two major factors: the improvement of the household income and the improvement of state spending on infrastructure and public services. Since official statistics state that the improvement rate of household incomes is less than that of multidimensional poverty and since state spending on infrastructure and public services did not increase remarkably, those statistics on multidimensional poverty in Morocco remain questionable.

Regarding questions on the methodology of measuring monetary poverty in Morocco, official statistics reveal that the inflation rate of goods consumed by the poor such as food and non-alcoholic beverages is in many cases higher than general information rates. For example, in 2008 the general inflation rate reached 3.7% although inflation in food and non-alcoholic beverages was 7.8%, almost the double. Similarly, in 2011 the general inflation rate was estimated at 0.9% while the inflation rate in food was 1.39% and this is likely to be same until 2014. If the value of the

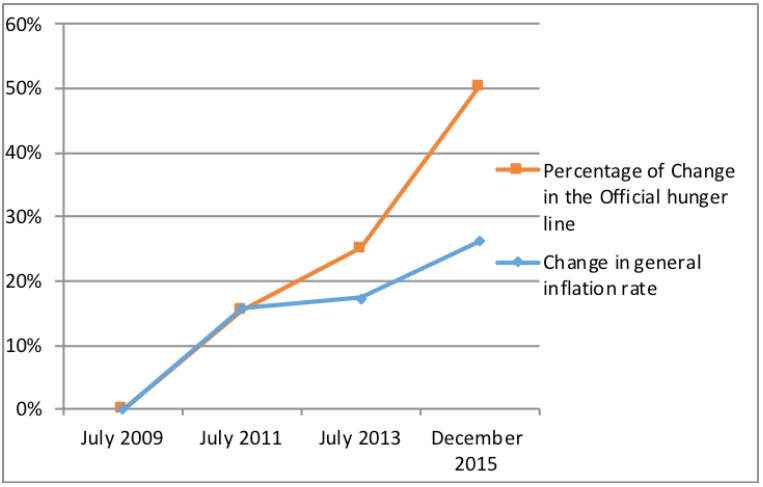
monetary poverty line is upgraded based on general inflation rates, changes in this value are not likely to reflect the inflation both the poor and the hungry face.

If the papers on Egypt, Tunisia, and Morocco are evaluated based on the alternative statistics they provided on poverty and hunger, it will be obvious that those papers raise questions more than find answers, with the exception of the section on hunger in the Egyptian case. However, the questions raised in those papers determine future research fields as each question left unanswered by any of the papers constitutes an identification on an area that needs more extensive research. This is one of the ways through which structural studies can manage to produce alternative economic variables and indicators. If the questions in those papers are translated into recommendations for future studies in the three countries, it becomes obvious that expenditure patterns of different segments of society including the poor and the hungry constitute the field that needs a great deal of development owing to lack of detailed and accurate data. This shortcoming can be overcome through medium-range field surveys that can be carried out by independent research centers and civil society organizations. This should also apply to tracing the development of the prices of goods and services across a given interval. Expenditure patterns

and price development are among the most significant research fields in terms of producing accurate measurements of several economic variables. In fact, this should be the focus of structural studies in the Arab region at the moment. Only then would it be possible to produce more answers than questions.

Annexes

Figure (1) What moves the poverty line in Egypt?*



Source: The Central Authority for Public Mobilization and Statistics

* All data included in this paper about inflation rates and expenditure percentages are from the Egyptian Central Authority for Public Mobilization and Statistics (CAMPAS) unless otherwise is stated.

Figure (2)

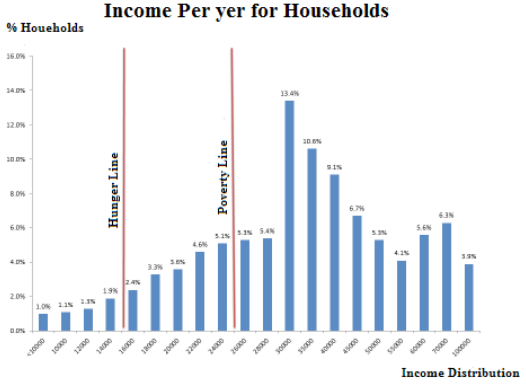
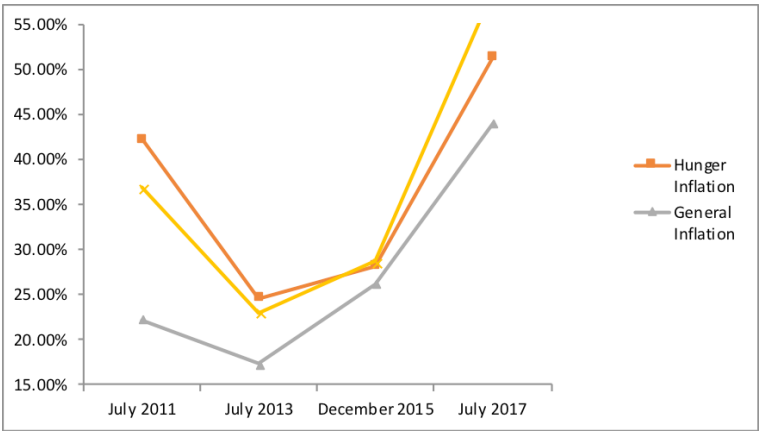


Figure (3)



Source: Central Authority for Public Mobilization and Statistics

Figure (4)
The monetary values of the official and alternative hunger line
(In Egyptian pounds)

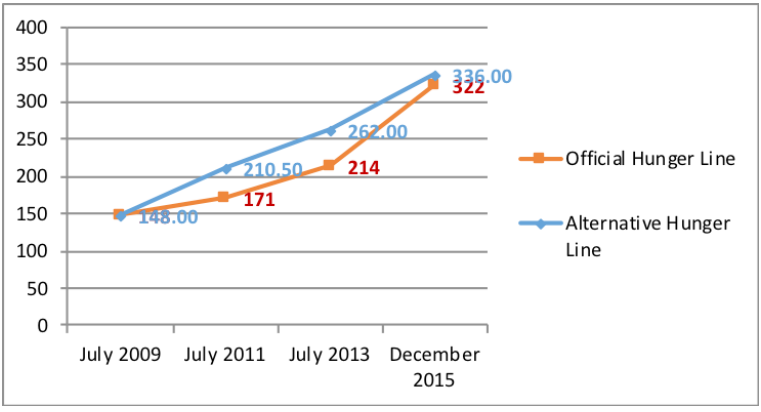
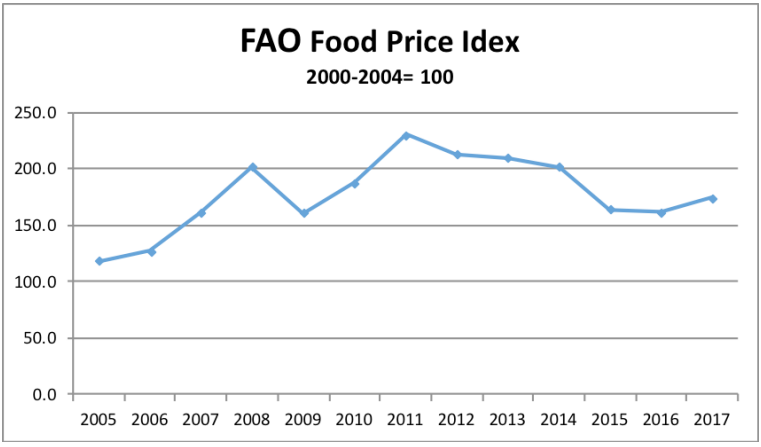


Figure (5)
Global food prices according to the Food and Agriculture Organization (FAO)



Source: http://www.fao.org/worldfoodsituation/foodpricesindex/en/

Figure (6)
The monetary value of the official and alternative hunger lines (in Egyptian pounds)

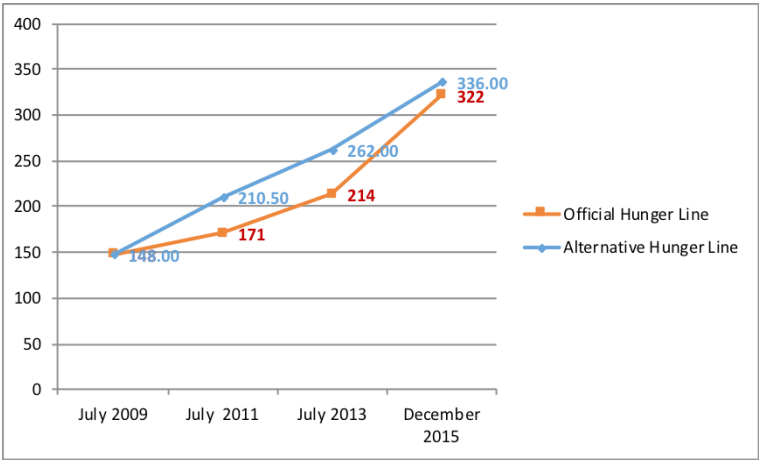


Figure (7)
Change in the official poverty line against general inflation rate

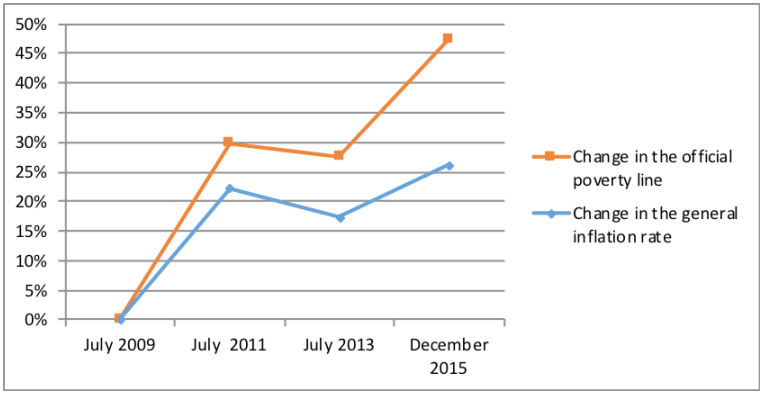


Figure (8)
Official and alternative inflation rates for the poor

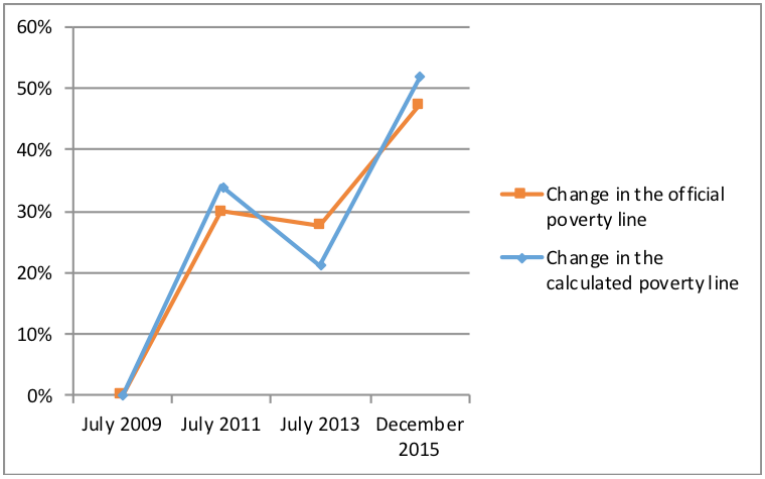


Figure (9)- Supplement
General inflation rates and inflation for the poor and the hungry

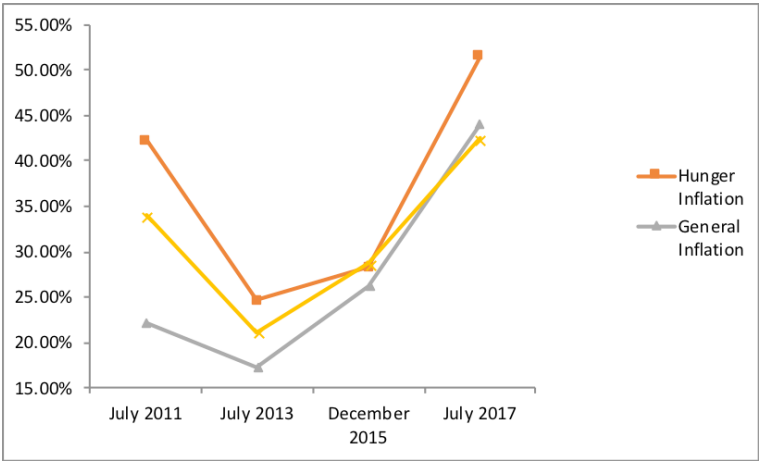


Figure (10)

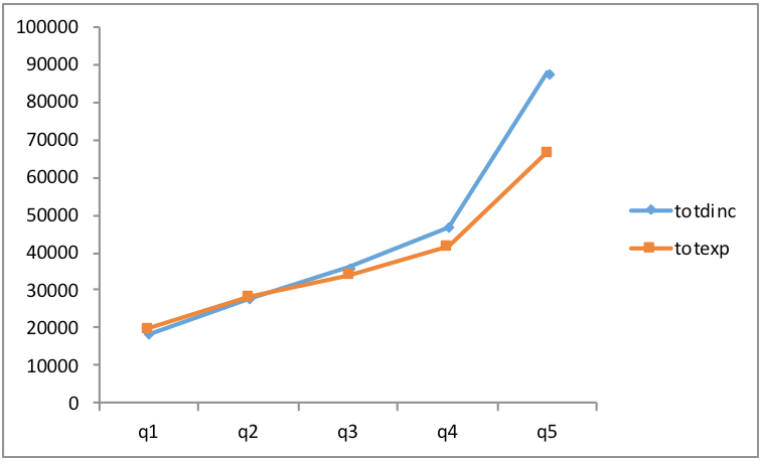
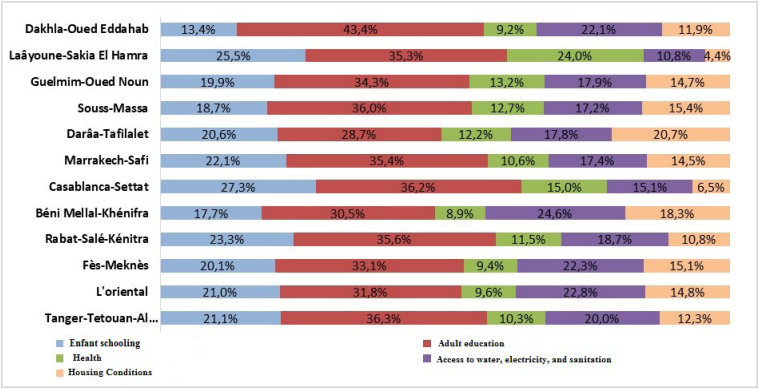


Figure (11)



Source: Higher Planning Commission, population statistics in 2004 and 2014

Figure (12)

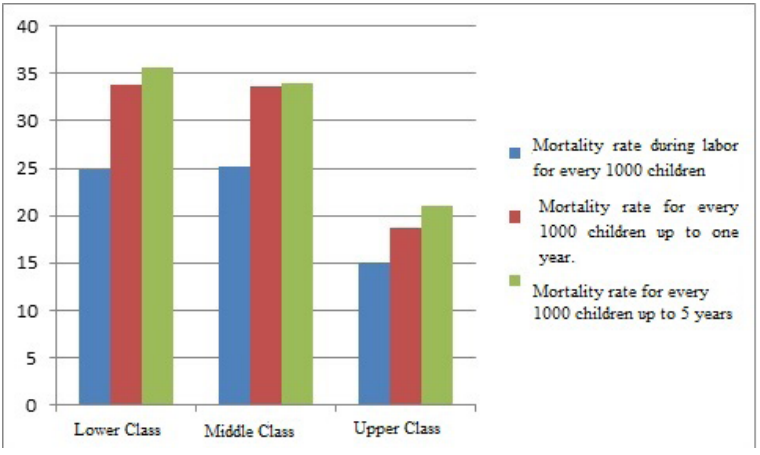
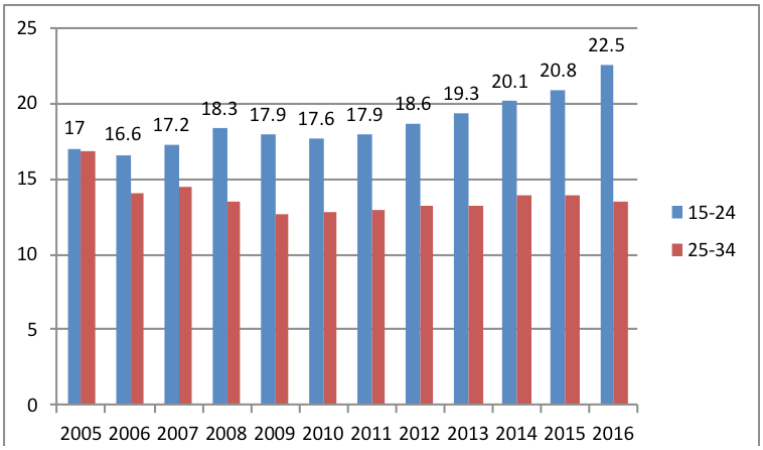


Figure (13)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