

INEQUALITY DISTRIBUTION OF INCOME AND HEALTH IN SELECTED DEVELOPING COUNTRIES

Sima Nejadlabaf

School of Management and Medical Information Sciences, Tehran University of Medical Sciences,
Tehran, Iran

Mohammad Hadian

Assistant Professor of Economics Department, School of Management and Medical Information
Sciences, Tehran University of Medical Sciences, Tehran, Iran

Azam Jari

Department of Accounting, Islamic Azad University, Mobarakeh Branch, Isfahan, Iran

ABSTRACT

The health is associated with economic situation complex, safe people have more learning power, earning income is easier for them and more benefit give to society and able to take care of children and elderly people and they live the safer from others. This study is descriptive – analytic and it analyzes the effect of inequality distribution of income and control variables on the health indicators (life expectancy and total fertility rate) for a sample 22 of developing countries during terms (1995-2008) with using panel data and the software Eviews 7. The results indicate that inequality distribution of income has adversely affect on life expectancy and a significant positive effect on total fertility rate. Also, the per capita income, education and saving that are used as control variables and by taking constant income level, theses have a positive effect on life expectancy and a significant negative effect on total fertility rate.

Keywords: life expectancy, developing countries, income inequality, total fertility rate

1. Introduction

One of the social issues subjected to the direct and indirect effects of economic development process and income inequality is the health status of the people in the society. Based on the

World Health Organization (WHO) definition, the Health is physical, mental and social complete welfare of individual and not just the absence of disease and disability (Park, 1382).

The status of income distribution between different groups of country has effect on the health of individuals and families. The income gap between different economic groups in a country represents the degree of discrimination between those groups in utilization of services which leads to the welfare of families. Recent researches indicate that the higher the income gap between different groups in country, the mortality rate increases (Kawachi, 1997).

Since the degree of inequality in income distribution exists in all countries, the big difference can be found between income of rich and poor families in both developed and developing countries. Therefore, by increasing in inequality of countries, especially developing countries, the purchasing power of people decreases and families dedicate less percentage of their income to health (paknezhad, 1388).

In this study, the impact of inequality in income distribution and the control variables (Per capita income, education and savings) on life expectancy and fertility rates as a measurement of people's health in selected developing countries from 1995 to 2008 will be investigated.

The discussion in this paper is organized as follows. In next section (2) the research framework and prior studies are discussed, in section (3) the sample selection, research method and variable measurement are explained, in section (4) the research result is analyzed and in section (5) the conclusions of study and suggestions for future researches are discussed.

2. Research Framework and Prior Studies

2.1 Theoretical Framework

2.1.1. Income distribution

The high level of income is a necessary condition for the high standard of living in the society. If the income of society is high but income distribution is unbalanced, many people may be living in poverty (Ahmadi and Shaghghi Shahri, 1386).

The description of the degree of inequality among people in a country and people's share in national income is income distribution. Therefore, investigating the income distribution and

its inequality is comparing the different groups share in national income (jafari Samimi, 1384).

Income distribution which represents the distribution of income between the factors of production is the basis of most economic theory. The issue of income distribution is significant in terms of different factors. These factors include components of the national income and contribution of each component (such as investment, consumption, etc). The income distribution can be also expressed in relation to the distribution of income among individuals or personal distribution of income (Jahangard and Mahboob, 1379). In many developing countries, widespread poverty and low contribution of poor people of income is considered as an important issue.

With the increase in international economic relations, uncertainty resulting from these relations also increases. In recent decades, some evidence which indicates income differences has intensified the interest of economists to the issue of income distribution and influencing factors. Equality is discussed in two theories, equality of opportunities and equality of access. In the equality of opportunities view, none of the self-made obstacles should impede people to achieve the opportunities who deserved and people should have same opportunities in their life. Equality access view emphasizes on justice and being fair. What is considered in equality access view is that everyone could benefit from what he needs (Soltani, 1386).

2.1.1.1. Measuring Inequality of Income Distribution

The increase in income per capita or gross domestic product (GDP) is not a sufficient condition for the development but it is only an indicator for economic welfare. It certainly cannot be said that the increase in income per capita leads to increase in economic and social welfare unless the distribution of income is considered desirable (Mir Jerald, 1378).

The most important indicator of income distribution is income inequality index. The inequality of income is a negative aspect of income distribution. It means that income inequality index shows the disproportion of income in a society (Raghfer, 1386).

Different criteria are used to measure inequality of income distribution. But in practice, researchers have mainly used three indicators: the Gini coefficient, Tail index and Atkinson index. In this research, the Gini coefficient is used as a measurement for inequality of income distribution. The Gini coefficient is a statistical index that is between zero and one.

The Gini index of zero represents perfect equality of income distribution because the individuals or families have the same income or expenses. However, the Gini coefficient of one indicates perfect inequality in the income or expenses distribution because just one person or one group dedicated all income to themselves. From the geometric viewpoint, Gini coefficient is defined based on the Lorenz Curve.

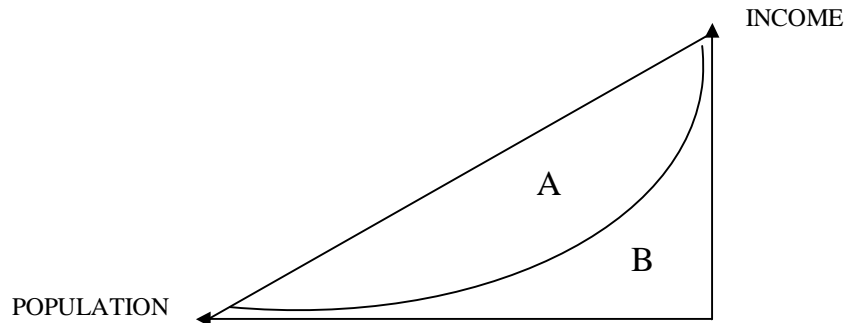


Figure 2.1: Lorenz Curve

In this figure, the horizontal axis is the cumulative share of population which is arranged increasingly based on income or expenses and the vertical axis shows the share of income in relation to the income level of the population. The perfect equality represents by 45 degree-line and based on definition the Gini coefficient is equal to the space between the Lorenz Curve and the 45 degree-line to the total area under this line. If the area between the Lorenz Curve and the 45 degree-line is A and the area under Lorenz Curve is B, the Gini coefficient is equal to dividing the space of A to the space of (A + B), therefore, the Gini coefficient will

$$\text{equal } G = \frac{A}{A+B} = 2A = 1 \text{ (jalali, 1385).}$$

2.1.2 Health

2.1.2.1. Health Economics

Health economics is an important issue in economic science and its history come back to the 1950s when the subject of health care-treatment costs was introduced in the public sector. Health-treatment economy is a practical field of economics and its theoretical structure is based on four areas of the economy such as finance and insurance, industrial organization,

labour and public finance. Health-treatment economy is a part of the public sector which all the general economic concepts can be applied in relation to it because in the health-treatment economy, due to limited resources and facilities (doctors, nurses and beds), the selection issue arises (how many resources for what kind of people or for what kind of health-treatment plans). Thus, the extent and scope of the public economic is discussed in health-treatment economy (Haghparast and Moieni 1383).

In general, health economy is defined as the study of quantity, price and value of the limited resources which are devoted to health and treatment and the way to combine these resources for producing certain services to reach the highest productivity and efficiency. According to the above definition, every health and treatment program has an economic aspect as well as epidemiological and prevention aspects of the treatment. All health care and treatment decisions, including big decisions such as the allocation of financial and human resources for the prevention of major communicable diseases, health and family planning, nutrition, environmental sanitation, health and small decisions such as writing prescriptions for patients, overtime payment to health center staff and they have large and small economic effects (Asefzadeh, 1372).

Health professionals often believe that healthy employees are doing more work in one hour because they have more physical and mental power. In general, they work more hours because of the less absenteeism due to their illness and they are more regular present at work comparing sickly and less powerful workers. Therefore, the healthy workers live more and benefit from greater working lifetime. At the individual level, health can directly increase the total production (by increasing the physical strength and mental power). Moreover, the annual production (through reducing the absenteeism caused by illness) and produce during working lifetime (through reducing infection rate or increasing lifetime and thus a higher lifetime) will be increases.

At the macro level, the increase in individual productivity could increase labour productivity or living standards (GDP per capita) through increasing the number of active workers to the working-age population (Chalzay, 1376). Therefore, the final goal of health economics is the unbiased distribution of resources and optimal use of available resources to achieve the goal of "health for all". As a result, taking advantage of the methods of health economics at the

international level can lead to more efficiency and effectiveness in the health system (Karimi, 1384).

2.2 Prior Empirical Studies

Kawachi (2000) in a cross-country research (51 poor and rich countries) investigate the relationship between GDP and three measurements of health (life expectancy at birth, life expectancy at age 5 and infant mortality). The results show that there is a high correlation between GDP and income distribution (measured by the Gini coefficient) with health measurements.

Deaton et al. (2002) investigate the relationship between income inequality and mortality rate. Their results indicate that although the believable and plausible conceptual framework supports the relationship between income inequality and mortality rate but there is weak empirical results which support this relationship.

Wilkinson and Pickett (2005) review 155 research studies and collect and analyze 168 research frameworks on the relationship between income distribution and public health (general). They classify the studies on the relationship between income inequality and health into three groups based on strength of correlation: A) Fully confirming (the studies in which the relationship is statistically significant and positive); b) Partially confirming (the studies in which the relationship is somewhat significant, but not complete); c) Rejecting (the studies in which no relationship was found between variables). 87 studies have investigated the relationship between income inequality and health. 44 cases partially confirmed the existence of the relationship and 37 cases rejected the existence of the relationship between inequality and health.

Li and Zhu (2006) investigate the effect of income and community-level income on individual health using survey data from China for the years 1993, 1991, 1998, 1997 and 2000 according to absolute income, relative income and income inequality hypotheses. They use the probit model to test income inequality and relative income hypotheses. In this study, the health is dependent on the income inequality (measured by Gini coefficient) in the society. The control variables such as per capita income, per capita income squared, age and age squared, education, indicators for gender, marital status, source of drinking water are used in this research. The results reveal that the health is increased by per capita income

increases but with the reduced rate (based on the absolute income hypothesis). With controlling per capita income, a significant correlation was observed between health and income inequality in a society (income inequality hypothesis). This result shows that the above inequality threatens the public health. Moreover, by increasing in inequality, the probability of semi-destructive behaviors of health including smoking and alcohol consumption is raised.

Leigh and Jenches (2007) examine the relationship between inequality and mortality in 12 developed countries between 1903 and 2003. They use the part of income of ten percent of rich people as a new source of income inequality. In this regard, measures of mortality are life expectancy and infant mortality rates which are dependent on income inequality, per capita real income, health expenses and education level of the population. However, the new measurement of income inequality is not a good representative for the inequality in the bottom half of the income distribution, but it is a good indicator for the upper half of the income distribution and the Gini coefficient. The results indicate that the part of income in the upper half of the income distribution has negative association with life expectancy and positive association with mortality rate.

Recently, Jones and Wildman (2008) in the British Household Panel Survey, investigate the direct effect of income on health and indirect effects of income on health using parametric and semi-parametric panel data models. Using flexible forms of income, they ensure about the effect of income on self-reported measures of men and women health. The results for a wide range of techniques are robust and reflect the inclusion of relative deprivation. Also, the results to a large extent reject the effect of the parametric model for relative deprivation on health; however, some evidences reveal the effect of semi-parametric model.

Despite the many studies have done in this issue in other countries, very little research has been done in Iran. Some of these studies will be discussed in next section.

Emadzadeh et al. (1390) in the article "the effect of income inequality distribution on health status in the selected OIC Member countries", investigate the effect of income on health in 18 countries for the years 1980 to 2005. They use the life expectancy index multiplied by the per capita income as the dependent variable. The results indicate that income and education have a significant positive effect on health.

Babakhani (1387) examines the relationship between economic development variables and income inequalities on health during the period 1355-1385 in Iran. He also investigates the power analysis of variance of health variable with income inequality, economic development and economic growth variables. This research is analytical and ecological correlation study and stepwise regression test is used for examining these associations. His results show that income inequality has the highest correlation with the health and comparing to economic development it has more power of developing. The results also indicate that the reduction of inequality and income (less inequality) is the best strategy for provision and promoting health.

Varghani (1386), in his thesis, examine the relationship between income inequality distribution and economic growth in member countries of the Islamic Conference during the period of 1960 to 2005. Using the initial theories about the inequality relationship between income distribution and economic growth, he investigates the interaction between these two variables by the system of equations. In the first equation, the effects of income inequality on economic growth and control variables such as fertility, government consumption, trade, black market premium and political stability are investigated. In the second equation, the effect of economic on income inequality distribution and political stability, education and squared logarithm of real per capita income as control variables are investigated.

For the results of Engel- Granger causality test estimating equations method, a single equation method that leads to the risk of bias, is used. To prevent the error, the control variables of first equation (fertility, government consumption, trade, black market premium and political stability) are entered into the model with a flashback and the fixed effects are estimated using panel data methods. The results suggest a significant negative effect of the income inequality distribution (measured by the Gini coefficient) on economic growth. However, that economic growth has no effect on income inequality. The results also confirm the effect of control variables (such as human capital, trade, fertility and etc.) on this relationship.

3- Presenting and estimating of pattern

3-1-Research Method

The panel data method is used in this study because it is a very suitable technique for expansion estimation methods and provides theoretical results so researchers are able to use

time series and cross section data for verifying issues that are not possible to study in sectional and time series environment (Moalemi, 2001). The regression model of panel data is:

$$Y_{it} = a + \beta x_{it} + u_{it} \quad (1)$$

In this equation, i relates to cross sectional aspects and t relates to time aspects. u_{it} component has a normal distribution and all i and t items are independent from x_{it} . Thus, first, it should be reviewed whether heterogeneous or individual differences exist or not. If there is heterogeneous, panel data technique and otherwise ordinary least square method (OLS) will be used to estimate the model. Panel data method includes three types of estimating; between groups, within groups (fixed effect) and random effect. In between groups estimating regression is on averages and usually this method is used to estimate the long term Coefficients. In within group estimating time is not considered and only the individual effects are concerned. In random effect estimating it is assumed that the intercept has a common distribution with mean A and variance 2σ and unlike previous method are independent from explanatory variables of model. In this method the time factor is considered and the effects of individual units over time are included into the model as explanatory variables (Googerdchiyan, 2006). To choose between panel data method and consolidated data, F test is used:

$$F = \frac{RRSS / (N-1)}{URSS / (NT - N - K)} \sim F_{(N-1), (NT - N - K + 1)}$$

Where: RRSS: Restrict Residual Sum Squares;

URSS: Unrestrict Residual Sum Squares;

N: Number of Firms;

T: Number of time observations;

K: Number of estimated parameters.

To decide about the use of fixed effects and random effects methods it should be noticed that the fixed effects approach is often efficient when the entire community is considered. If some samples are selected randomly from the community, the random effects method would be more efficient. For this purpose, Hasman model is used:

$$W = (b_s \beta_s) (M_1 - M_0)^{-1} (b_s - \beta_s)$$

Where: W has a c_2 distribution with K degree of freedom in which

M_1 the covariance matrix for fixed effects model coefficients b_s and

M_0 the covariance matrix for random effects model coefficients
is S_b .

3-2- The estimating and describing of pattern

We use Gini Coefficient for investigating inequality distribution of income and health in developing countries and gross national product as criterion for per capita income, education and saving are used. This pattern presented in below:

$$H_{it} = f(Y_{it}, Q_{it}, EDU_{it}, SAV_{it})$$

Where:

H_{it} : Position of health in i country in t time

Y_{it} : per capita income level in i country in t time

Q_{it} : Inequality Distribution in i country in t time

EDU_{it} : education level in i country in t time

SAV_{it} : saving level in i country in t time

3-3- Review the Research Model Variables

Income is the only factor which has the greatest effect on the health of people in the country. The correlation between low income and undesirable status of health has been proven in other countries. With few exceptions, the bad income and financial situation is associated with the incidence of the disease and higher mortality rate of citizens. The relationship between income and health status of individuals and families with various health indicators such as the incidence of the disease is also confirmed. In fact, a sufficient income is a prerequisite for other factors such as housing, nutrition and education. All these factors can have a significant impact on the level of health (Kaplan et al. 1996).

Therefore, the increase in family's income leads to children's health achievements improvement. Nutrition and health of adults improve by increasing in income levels. In addition, evidence suggests that higher income has more effect on the health of children in

families where the women have more control over family income and have a more active participation in family decision-making. Women's income has more impact on child survival and nutrition than men's income (Hattami, 1388).

Human capital is an important field of public action that can lead to large differences in income distribution. There are two important reasons that governments increase dramatically their expenses on education through them. First, the social efficiency is high and investment in these fields leads to increase in labor productivity and consequently, increase in national income and decrease in income inequality distribution (Abrishami, 1375). Second, it is observed that female education regularly has a negative impact on fertility and positive impact on health of family therefore it is effective in improving of income distribution (Fishloo, 1375).

Cutler and Lieras-Muney have suggested three general explanations for the relationship between health and education: 1) Poor health leads to lower level of education due to this fact that as the kids continue to live with the disease, higher education is not possible. 2) There is a positive relationship between family background and education (going to school). 3) More education directly leads to improved health. Therefore, the empirical results show that there is a positive correlation between education and health. Educated people have better health than those with lower education. Thus, high levels of health and low levels of illness and death is a proof of this claim (Cutler & Lieras, 2004).

Therefore, prior studies have shown that in many countries, an increase in going to secondary education level significantly improve human capital distribution and its income capacity (Kiyang et al., 1381). The relationship between education and health is less complicated than income. The causality from health to education is possible, but there is little evidence of this effect of sample income. Also there is a very weak negative correlation between education and health. However, there are less specified criteria for education than income. (Fuchs, 2004)

Saving have also effects on people's level of health. It means that lower levels of health affect the ability and motivation of saving. Disease has a significant impact on medical costs because spending more budgets on individual health leads to less saving. Thus, people should have more saving for being healthy (Smith, 1999).

3.2.3. Tools for Data Collection

In this research, the data of income, education, life expectancy, total fertility rate and Gini coefficient have been collected from published statistics of world development indicators and world income inequality database and central bank information.

Due to data limitations in developing countries, 22 countries including Argentina, Armenia, Belarus, Brazil, Bulgaria, Colombia, Costa Rica, Iran, Latvia, Hungary, Slovakia, Slovenia, El Salvador, Uruguay, Lithuania, Moldova, Estonia, Panama, Peru, Poland, Romania, and Venezuela have been selected and for estimating and analyzing data, Eviews 7 software has been used.

4. Results

Hardy Z-test is used for ensuring about the reliability of data and the result of this test is represented in table 1.

Table 1: the results of collective unit root test on research variables

Hardy Z-Test		Variables name
Value	Prob.	
12/1989	0/000	<i>H</i>
12/1655	0/000	<i>Y</i>
6/8183	0/000	<i>Q</i>
8/3141	0/000	<i>EDU</i>
10/6616	0/000	<i>SAV</i>

Source: Compiled by Author

To specify the type of estimation using panel data, F-Limer test is used. The results of this test reveal that F-Limer is equal to 113.45 which is more than the critical value of table and thus the model is estimated using panel data.

Moreover, to determine the presence of fixed or random effects Hausman test is used. The results show that the null hypothesis based on random effects is rejected and it is necessary to estimate the model based on fixed effects.

In order to explain the effects of research variables on health status, step method is used and each variable is examined separately. Research variables are estimated through three models. The final model which is including all research variables is as follow:

$$H_{it} = \beta_0 + \sum_j \beta_{j1} Y_{it} + \sum_j \beta_{j2} Y_{it} + \sum_j \beta_{j3} Y_{it} + \sum_j \beta_{j4} Y_{it} + U_{it}$$

As the results of model estimating in table 2 shows, in first model, the effect of income inequality distribution on health is investigated. Estimated coefficients are indicated that per capita income in 99 percent confidence level has impact on life expectancy in selected developing countries. Thus, with 100 \$ increase in per capita income, health is increased by 3%. Coefficient of income inequality distribution indicates that in all selected developing countries, the inverse relationship exists with life expectancy. It can be said that life expectancy is a summary measure for health status.

In second model, education variable (The gross enrolment ratio in secondary schools) is added to first model as a human capital development measurement and its impact on life expectancy has been studied. This model shows that education variable in 99% confidence level has positive and significant effect on life expectancy. With higher education, life expectancy is increased so that with each year increase in education, life expectancy is increased 0.033.

Therefore, human education improves income through increasing people skills and expertise. The increase in income leads to increase in saving and this in turn helps to further investment in staff training. Moreover, the educated people are more aware of the factors affecting health and care more about their health and less involve in risky behaviors such as drug abuse. Finally, the results of estimating this model show that income inequality distribution has a negative effect and per capita income has a positive effect on life expectancy in selected developing countries.

In third model, saving is added to the second model and the results of estimating this model show that saving has impact on life expectancy and increase in saving leads to more life expectancy. In this model like previous models, per capita income and education have positive and significant effects on life expectancy in selected developing countries.

Table 2: The Effect of Income Inequality Distribution on Health Status (Life Expectancy Measurement)

R^2	Q	SAV	EDU	Y	C		
0/97	-0/012	...	...	0/0003	69/68	Coefficient	First Model
	-1/03	...	...	31/24	138/98	Statistic	
0/97	-0/012	...	0/033	0/0002	67/07	Coefficient	Second Model
	-1/12	...	9/28	24/98	119/24	Statistic	
0/96	-0/003	0/013	0/033	0/0002	66/52	Coefficient	Third Model
	-0/26	1/74	8/85	23/74	110/04	Statistic	

Source: Compiled by Author

Table 3: The Effect of Income Inequality Distribution on Health Status (The Total Fertility Rate)

R^2	Q	SAV	EDU	Y	C		
0/96	0/0008	...	...	-6/90	1/92	Coefficient	First Model
	0/35	...	...	-3/05	19/11	Statistic	
0/97	0/0009	...	-0/01	9/62	2/75	Coefficient	Second Model
	0/39	...	-14/37	0/45	23/34	Statistic	
0/97	0/0008	-0/0004	-0/01	9/93	2/76	Coefficient	Third Model
	0/35	-0/28	-13/7	0/45	22/62	Statistic	

Source: Compiled by Author

Regarding this fact that in table 3 the total fertility rate is a dependent variable, in the first model, the results show that per capita income has an inverse relationship with total fertility rate so that with 1 \$ increase in per capita income, the total fertility rate is decreased 6/9 %.

The coefficient of income inequality distribution implies that the total fertility rate also increases with increasing inequality. In second model, the effect of education on health status is estimated and the results show that education has a negative and significant effect on total fertility rate in 99% confidence level. The result of third model also indicates that with increasing in saving, the total fertility rate decreases and this result confirms the negative and significant impact of saving on total fertility rate in selected developing countries.

5-Conclusion

Due to the health is a sign of justice and developing of societies in all economic, social, human and dimensions, so government's direct role is clear in securing and promotion of health. One of basic goals of inequality distribution of income and health is accurate receiving of how position of these two events and presenting effectiveness methods and politicises for creating justice in health. Based on this research one of effectiveness factors on health position is inequality distribution of income, so that life expectancy and total fertility rate increase when this factor increased. Also education has positive relationship with life expectancy and reversed relationship with fertility rate. Saving has positive relationship with life expectancy and negative relationship with fertility rate. Based on research results, we presented suggestions for welfare of health position:

- 1- Poverty is one of reasons that cause people can't access health and treatment cares, so trying for welfare of income distribution cause to developing of the persons' life level (using welfare of nourishing, human education and health). So government should try to justly distribute income for all society persons.
- 2- The education can develop health. Education creates skill and expert for poor people and increase productivity, so their income increase and this matter cause to health.
- 3- Saving provide income for in retirement periods and has positive effect on health position, so it's necessary that saving and capitalization increase in health developing.
- 4- Establishment of tax discipline for welfare of income distribution and treatment and health.

REFERENCES

- Asefzadeh, S.1371.**Health Economics**. Student Publication [Persian]
- Abrishami, H.1375. **Iran Economics**, Tehran: Scientific and Cultural Publication Company. First Edition, 225[Persian]
- Ahmadi, A. M. Shghafi Shahri, V.1386.**Planning and Economic Development** 2nd ed. Hamedan: noorelm Publications [Persian]
- Babakhani, M.1387.Economic development, income inequality and health in Iran: 1355-1385.**The Scientific Research Journal of Social Welfare**,7(28),239-259.[Persian]
- Cutler, D. M. Lieras-Muney, A.2004. **Education and Health**, National Poverty Center Policy Brief #9
- Chalzay, F.1376.**Health Economics**. Asgari M, Tehran: New Economy Publication. 20. [Persian]
- Deaton, A. Smith, GD.Harper, S. Hillmeier, M. Ross, N. et al.2002.Health Inequality and Economic Development. **Journal of economic literature**.41: 58-113.
- Emadzadeh, M. Samadi, S. Paknezhad, S.1390.The Impact of Inequal Distribution of Income on the Health Status in Selected OIC Countries. **Journal of Health Information Management** 8(3), 306-314[Persian]
- Fishlow, A.1375.Inequality, Poverty and Growth: Where Do We Stand? Mohammadi T, **Journal of Planning and Budget**, 7,125-148[Persian]
- Fuchs, V.R.2004.Reflections on the Socio-Economic Correlates of Health. **Journal of Health Economics**.23, 653-661.
- Googerdchiyan A (2006) Investigating the Factors that attract foreign direct investment in Iran's petrochemical industry using panel data, Iranian J. Econ. Res., p. 26.
- Jafari Samimi, A.1384.**Economic Public Sector (1)**.Seventh Printing Tehran: Samt Publication.123-124[Persian]
- Jalali, M.1385.Analysis of Gini Coefficient and its Income Elasticity in Iran. **Journal Community Bank of the Islamic Republic of Iran** 16(48), 25-42. [Persian]
- Jahangard, E.Mahbub, H.1379.Survey Effect of Income Redistribution on Macroeconomic Variables in Iran. **Journal of Researches and Economic Policies**.15, 31-56.[Persian]
- Jenches, CH. Leigh A.2007.Inequality and Mortality: Long-run Evidence from a panel of Countries. **Journal of Health Economics**, 26(1):1-24.

Jones, A.Wildman, J.2008.Health, income and relative deprivation: Evidence from the BH-PS. **Journal of Health Economics**.27:308-324.

Karimi, I.1384.**Health Economics**. Gap Publication.[Persian]

Kyang, Chu.Davoodi, H.Sanjyv, G.1381. Government Social Spending and Tax Policies and Income Distribution in Developing Countries, Kalantari M, **Journal of Economic Research and Policies**.23(10),101-105. [Persian]

Kaplan, GA Pamuk, ER, Lynch, JW. Cohen, RD. Balfour, JL.1996.Inequality in Income and Mortality in the United States:Analysis of Mortality and Potential Pathways. Published Erratum: **Brit Med J** 312.999-1003

Kawachi, I.Kennedy, BP.1997.Health and Social Cohesion: Why Care about Income Inequality? **British Medical Journal**, Vol.314.1037- 40

Kawachi, I.2000.Income Inequality and Health.In:Berkman L,&Kawachi I.**Social Epidemiology**,Oxford University Press.

Li, H.Zhu, Y.2006.**Income, Income Inequality and Health: Evidence From China** World Institute for Development Economics Research, Discussion Paper No.2006/07.

Marandi, AR.1385.**The Textbook of Public Health (3)**.Tehran: Ministry of Health and Medical Education.2039.[persian]

Mir Jerald.1378, **Economic Development**. Azad Gh (Armaki), Tehran: Ney Publication. [Persian]

Moalemi M (2001). **Trade integration in East Union nations using a gravity model**, M.A Thesis, Isfahan University, Iran

Paknezhad, S.1388.**The Impact of Inequal Distribution of Income on the Health Status in Selected OIC Countries (1980-2005)** [Thesis], Isfahan: Economics and Administrative Science College.[Persian]

Park, K.1382.**Textbook Preventive Medicine and Community Medicine**, Eftekhari Ardebili S Tehran: Ilya [Persian]

Raghfar, H.1386.**Measuring Income Inequality**. Tehran: Azahra University.20. [Persian]

Soltani Mohajer, E.1386.Survey Effects of Reciprocal Growth and Income Distribution. **Journal of Daneshpajuhan**.1 19-32[Persian]

Smith, J.p.1999.Healthy Bodies and Thick Wallets: The Dual Relation between Health and Economic Status, **Journal of Economic Perspectives**.13:145-166.

Varghani, E.1386.**Relationship between Income Inequality and Economic Growth in the Organization of Islamic Countries (OIC) (19960-2005)** [Thesis], Isfahan: Economics and Administrative Science College.[Persian]

Asian Journal of Business and Economics
Volume 3, No.3.2 Quarter II 2013
ISSN: 2231-3699

Wilkinson, R.G, Pickett, K.E.2005.Income Inequality and Population Health: A Review and Explanation of the Evidence. **Social Science & Medicine**.62, 1768-1784.