

## **IMPACT OF OIL REVENUES AND GOVERNMENT SIZE ON INCOME DISTRIBUTION IN IRAN (1973-2011)**

**Azam Sarlak<sup>1</sup> and Rouhollah Nazari<sup>2</sup>**

<sup>1</sup>*Azad University of Aligoudarz*

<sup>2</sup>*Department of Economics, Ferdowsi University of Mashhad*

*\*Author for Correspondence*

### **ABSTRACT**

Income distribution is one of the most crucial social and economic issues of any country. As a matter of fact, this issue refers to share of each individual from national income and its inequity among them. Inequity of income and wealth is considered as a complication to which developing countries have been facing it. However, oil exporter countries such as Iran challenge this problem much more. In this kind of countries, being separated from other economy sections, oil nearly provides a large amount of government income independently. Moreover, the relation between government size and income distribution is one of the most important issues of related political and social literature of public section. Actually, government size shows intervention of government in economy. The present research using the model of auto regression distribution lag (ARDL) investigates the impact of oil revenues and government size on income distribution 1973-2011. Concluded results display that in short time duration, oil revenues and government size have got positive effects on income distribution. In other words, oil revenues and government size result in inequity increasing. Furthermore, economic growth has got negative effects on income distribution. However, in long time duration due to incurred shocks on Iran economy, these hypotheses no longer are acceptable.

**Keywords:** *Income Distribution, Oil Revenues, Government Size, Auto Regression Distribution Lag (ARDL)*

### **INTRODUCTION**

Income distribution refers to share of individuals of a country from national income and its inequity among them. Micheal Todaro simply defines national income distribution this way “who how much earns of what”. The more equity in income distribution, the more social justice can be involved (Jamali, 2006).

One of the analysis measures of income distribution is Gini coefficient: the more nearer it is to 1, the more inequity but the nearer it is to 0, the more equity it shows. One of the purposes of Islamic Republic of Iran is developing justice and on the other hand, proper distribution of income is regarded as one of the most vital aspects of justice. Nowadays, income inequity is considered as a harmful phenomenon of social life and all societies aim to decrease or even eliminate it (Samadi *et al.*, 2007).

Income distribution and its inequity issue have been discussed a lot. So, it is frequently attempted to identify its causative factors; because if effective factors of income distribution are identified, actually it can be regarded as a step toward achieving social justice and persistent development.

Distribution of income and wealth is a complication that developing countries have been facing it. However, oil exporter countries such as Iran challenge this problem much more. . In this kind of countries, being separated from other economy sections, oil nearly provides a large amount of government income independently. For instance, during 1992-2011 a remarkable amount of government income was provided through selling gas and petrol. Then, in 1994 the first oil shock of Iran economy was its too much dependence on oil and gas sources (Shaykhi, 2011).

During previous years, increasing of oil price for many countries including Iran was considered as a vital part of macroeconomics policies. Earning foreign currency through exporting crude oil by government as well as doing the most important parts of foreign trade by government and also existence of exclusive dependence on that foreign trade is not grown and developed in consistent with era requirements and that is why there are various complications about income distribution. The low price of per barrel US\$24 in

### **Research Article**

2000 increased three times in 2008 and it was a shock for global economy and development of specific countries. Changing of oil price from per barrel \$147 in 2007 to \$37 in the same year can be regarded as a warning trend which shows government income source can incur the same fluctuations in income inequity (Abbasi and Shafaat, 2011).

Government size and its relation with income distribution are the most important issues of related political and social literature of public section. In fact, government size displays the intervention of the government in economy. Interventions of government means any conduct of public section which directly or through at least one intermediate changes economy variables (Ebrahimi, 2008).

In addition to oil and government size, income redistribution and economic growth also are remarkable issues in economy studies. In case income distribution gets done appropriately and richer individuals (whose propensity to consume is low) are taken tax and it is given to poor individuals (whose propensity to consume is high) it not only helps income distribution and social justice but causes to growth and development. While early development theories emphasized on economic growth and even necessitated it to achieve more equity, experience of most developing economies such as Africa and Latin America whose main aim was growth and even they obtained plenty of growths of their historical economy reveals that in spite of their relatively success in economy development, position of the poor had not yet changed and this is because increasing of inequity in these countries; since advantages of economic growth mainly involves the rich (Babazade *et al.*, 2008).

Most experimental works about income distributions attempt to separate its various effective factors. One of these noticeable factors (especially on oil economy) which have attracted lots of attentions is the impact of oil revenues on income distribution and the other considerable factor is government size. Therefore, these two variables in particular are being investigated in this research. Moreover, the impact of inflation and economic growth variables are studied in 1973-2011. Most of the previous experimental works has used a special model. However, regarding oil revenues variable, this research has considered specific economic circumstances of Iran.

### **Research Basic Theories**

In this section, related basic theories to relation between using variables of the model are being studied in general.

**Economic growth and income distribution:** in 1995 Simon Kusents presented a theory for the first time which states income inequity would increase during the first steps of economic growth then get balanced and finally starts decreasing during the following steps. He also proved that comparing to developed countries, distribution of personal income in less developed countries is more unequal.

Plenty of researches have studied Kuznets's hypothesis. These investigations reveal that his hypothesis is not just referred to developing countries but developed countries are involved. Recent literature of growth and income distribution shows some approaches for this matter.

What is novel and in common in new researches on income distribution is their close relation with modern theories of endogenous growth.

The first approach emphasizes on the role of capital markets. Considering his/her information about his/her expected future income, in capital markets any individual is able to ask for borrowed money. The second approach states that the more sources distributions suffer from inequity, the more opportunity would be provided for individuals and equities whose income distribution is low so they would be more motivated to commit a crime which avoids investment and growth. This proof is formulated by Fi (1993).

The third approach stresses on government size. Morfi *et al.*, (1989) proved that income inequity negatively affects on growth through decreasing the aggregate demand. The fourth approach emphasizes on a political link that ties income distribution and growth. One of the basic presented thoughts in this area says that the amount of government expenses and tax are results of election and voting in which income is regarded as the most vital determinative factor for voters. It is worth to mention that low-paid voters are for high tax because they should pay low tax or they relatively can make use of government expenses much more. Thus, in an unequal society, having more number of poor than average population, most of the voters would be for high tax and as it is obvious high tax results in reducing of investment

### **Research Article**

which tails decreasing of economic growth. There are three particular sort of studies in this field including AlsinaRuderic's studies (1994), Bertula's studies (1991), Person and Tablini's studies (1994).

The common factor of these three studies is that as government size increases, tax increases along with it and the final output of investment after tax which can be earned by investors of private section will decrease. This process reduces the rate of capital accumulation capital and growth. Determining the related preferred distributions to financial policy, the early distribution of sources is considered as very important issue. Related literature shows the existence of relation between economic growth and developing inequity. Therefore, it cannot be claimed that definitely economic growth results in inequity decreasing.

**Inflation and income distribution:** relation between inflation and income inequity is still one of the challenging issues of economy literature which is related to inflation and income distribution. In order to providing their own expenses, states directly or indirectly have dedicated some parts of purchasing power of people to themselves. Both the direct method which is tax and the indirect method caused to reduction of purchasing power through inflation because of borrowing from banking system. Actually in case of inflation, reduction and changing of purchasing power is a reality. Some owner equities that had stable nominal income or someone whose income increases along with delay of increasing of general level of prices are to lose their real purchasing power. In case of inflation, assets value as factors of maintaining the values and its related incomes are to increase. Therefore, standing power of low-paid groups who have got stable nominal income is changeable (Abunoori, 2003).

Braning (1993) acknowledges that through distributing necessary commodity basket among low- paid groups, government can reduce the speed of inequity in the society. However, this approach cannot root out inflation disease and it needs extreme anti-inflation policies to be able to overcome and manage the inflation.

**Government size and income distribution:** studying the impact of economic growth on income distribution, Kuznets (1945) is known as the founder of analyzing the impacts of economy's macro variables on income distribution. Literatures also have studied the role of government in this area. On one hand, government with its own expenses in terms of current and capital expenses can aggravate the difference between income earners. On the other hand, it can influence on income distribution through its own revenues in terms of taxes or unrequited transfer. In fact, existence of government causes to many argues on the relation between financial policy (government size in particular) and income distribution. What is worth to remark is the existence of the government as receiver of huge currency revenues in oil exporter countries which is incurred due to exclusive ownership of government. Actually, above mentioned incomes almost lack consistency with economic activities of other sections (Katuziyan, 1998).

**Oil revenues and income distribution:** The Economist magazine analyzed the various aspects of Dutch Disease for the first time. This analysis reveals that high oil revenues increases the exchange rate and finally ruins the balance of payments which tails extremely decreasing of expenses of importing goods and services. This decrease of goods prices causes increasing of labors' wage (even more than wage rate of labors in global market) and investing in non-oil sections starts to cut down. During a short time, increasing of oil revenues causes to reducing competitiveness of whole non-oil sections and then vital parts of economy such as agriculture, companies, condensed industries and oil section are to be providers of entire government incomes. This process tails extreme dependence between oil revenues and economic growth rate in holders of oil countries (Malaye *et al.*, 2011). Studying on indirect relation between dependence on oil and mineral revenues and economic growth, Saj and Warner (1995) discovered that this imbalance growth can result in inequity of income distribution among individuals of a community. Saheb Henry and Nadr (2012) state that related industries to oil, gas and other mines usually are distant from the other industries and economic sections since these kinds of industries have got poor pre and post relations with other economic sections. Therefore, producing these kinds of industries, just few numbers of experts and specialists are involved and other producing institutions enter from out of economy. So it is not unexpected that earned revenues of these industries are distributed just among few numbers of people and it causes to inequity of income distribution in the community.

### **Research Article**

Furthermore, researchers believe that providing general expenses of the government from oil and gas revenues as well as enlarging of government size all ended in inequity of income distribution. This matter is more considerable when more expenses are dedicated to metropolises and capital of provinces. That is, income distribution curve turns out advantageous for urban households and disadvantageous for rural ones. Moreover, because most of the institutional and official sections of country are governmental and because lack of proper mechanisms in holders of oil countries, and also because the riches' convenient accessibility to power centers, distribution of oil sources occur just among authorities and rich people that this process itself compound inequity of income (Moradi, 2009).

### **Reviewing Experimental Studies**

Here some of the experimental researches on income distribution are being studied. Jerjerzade and Eghbali (2004) using Gini coefficient tried to analyze the impact of oil revenues on income distribution in Iran. Basing on co- integration method they concluded that oil revenues causes to inequity of income distribution in the whole country and urban regions. They also realized that about the impact of income distribution on rural regions no conclusion can be gained.

Samadi *et al.*, (2007) basing on a simple model show that if income distribution get done properly and richer individuals (whose propensity to consume is low) are taken tax and it is given to poor individuals (whose propensity to consume is high) it not only helps income distribution and social justice but causes to growth and development. However, basing the results of this paper which is done using time series data (1958-2008) there is an opposite trend in Iran.

Sadeghi *et al.*, (2008) using simultaneous equation system (1981-2008) studied the impact of economic growth and exploitation as well as institutions like ownership, security and jurisprudence issues on the poverty of rural community of Iran. Concluded results reveal that increasing of real wages in agriculture section, increasing of men force exploitation, improving the transaction in advantage of agriculture section and increasing of government expenses all are effective factors to manage and reduce poverty of rural regions.

Saheb and Nodri (2012) using BVAR approach investigate an economic analysis about the impact of increasing of oil revenues on income distribution in Iran. Using Binzin auto regression method and annual data (1972-2009), researchers attempt to study the relation between income distribution and oil revenues. Research conclusions display that increasing of oil revenues resulted in increasing of inequity in Iran. Moreover, increasing of inflation, government expenses and the ratio consumption expenditure to investment expenditure of the government also increase this inequity. However, increasing of per capita inequity reduces the inequity.

Hamed and Rashid (2013) studied the relation between oil revenues with government expenses and also relation between growth rates of country with oil-dependent economy (Bahrain). Oil revenues are the most important source of government expenses and importing of goods and services in Bahrain. This research uses error correction model (1960-2010). Results show that oil revenues are the main source of economic growth and main source of government expenses in Bahrain.

Rudriguez *et al.*, (2012) studied on oil revenues distribution in Venezuela. Researchers believe that this country is a clear example of oil- dependent economy. In fact this dependence was along with billion oil dollars from 1950-2008.

Being oriented on oil revenues and governmental sections as well as lack of efficient institutional mechanism has caused plenty of complications in this country. Researchers suggest that inequity can reduced through direct distributing of oil revenues and also eliminating of rent.

EL-Kateriand *et al.*, (2011) investigate the public welfare in Kuwait and its relation with oil revenues. Researchers acknowledge that applying economic policies based on equity among citizens, Kuwait has increased welfare of its population. Kuwait revenues are provided through oil selling and the government could increase individuals' welfare too much applying comprehensive policies such as free health services, high social security, free education and distributing of oil revenues among people. Researchers think that these results are originated from appropriate distribution of rent, subside and providing extended job opportunity.



## Research Article

### Model, Fitting, Results Analysis

#### 1. Model

This paper studies the impact of government size, economic growth, oil revenues, inflation and Gini coefficient. This research applies auto regression distribution lag in order to estimate the results. The most significant property of this method is that it makes it possible to separate short-term and long-term impacts.

$$\text{Gini} = F(\text{OIL}, \text{GGDP}, \text{GDP}, \text{INF})$$

In equation Gini stands for Gini coefficient, OIL stands for oil revenues, GGDP stands for government size, GDP stands for gross domestic production and INF stands for inflation. Actually Gini coefficient is a function of national income, economic growth, oil revenues and inflation.

Inflation and income distribution have been analyzed in details in macroeconomics discussions. Since Iran has got a heterogeneous economic structure and also it has been suffering from heavy inflation for three decades ago, so it is not safe from inequity of income distribution (Nazari and Mazaheri, 2000). A couple of economists suppose that a light inflation in economic system (through intermittent variables) would positively influence on economic position. They claim that inflation benefits low-paid groups since liabilities are more than revenues and inflation can make refunding easier. Actually it should be reminded that this condition can be suitable when low-paid groups are able to gain access to large financial sources so that they can get loan and then under shadow of inflation their refunding power would increase. Moreover, basing on Philips model there is an indirect relation between inflation and unemployment: high level inflation can reduce unemployment. This model which was designed for developed and industrial countries is rejected by experimental evidences (Nazari and Mazaheri, 2000).

Gini coefficient is a measurement unit of statistical dispersion which is applied to measure inequity in income distribution of a population. This coefficient is defined as a ratio with 0-1 value. The nearer Gini coefficient is to 0, the more equity of income distribution is shows and vice versa. If Gini coefficient equals 0, it means that everyone has got equal income and wealth( mere equity) and it Gini coefficient equals 1, it means mere inequity and entire income and wealth is owned by one person while others has no income (Bakhtiyari, 2002).

This coefficient is extracted from Lurenz curve of which can use to measure the existence difference between various classes of the community. It is obvious that the further the differences of classes, the more injustice there is in the community and vice versa (Hoseyni and Najafi, 2008).

This study uses auto regression distribution lag to estimate the results. Using this method it is possible to analyze short-term and long-term relations, too. Furthermore, one of advantages of this model is making a relation between short-term fluctuations of the variables with their balanced long-term ones. In this method static variables can be used along with non-static Ones and there is no need for co-integration of variables. If the number of lags of auto regression method are properly determined, estimating of parameters using this method can be efficient and useful (Sameti *et al.*, 2008).

One of other advantages of this method is removing of heteroscedastic variance. Notice in spite of heteroscedastic variance, our estimations on coefficients using least squares method would stay without bias but estimated variance using least squares method are to be biased for these coefficients. That is, estimated variance of coefficient is more or less than real variance of the population. In this way, inferences which are deducted through least squares method probably are not true. For example, suppose estimated variance is less than real variance of the population. So t statistic would be more than real statistics and then false statistics can be found in critical area. Therefore, null hypothesis which proves no statistical significance for estimated coefficient would be rejected while it is likely to be insignificant (Jalali *et al.*, 2001).

Other property of mentioned method is that it considers proper lags of the variables in the model and presents estimation with low probable of bias. The number of proper lags of each descriptive variable can be determined by one coefficients of Akaike criterion (AIC), Schwars Criterion (SBC), Hannan Criterion (HQC) or balanced coefficient  $R^2$ . Generally speaking, dynamic model is a pattern in which lag of variables like relation 2 can be involved: X is independent variable and Y is independent variable.

## Research Article

$$Y = aX + bX + cX + E$$

In order to reduce the bias of coefficient estimation of model in small samples, it is better to apply a model which considers plenty of lags for variables like relation 3:

$$(L,P)Y = b(L,q)X + cW + e$$

In above relation  $Y_t$  is dependent variable and  $X_{it}$  is independent one.  $L$  stands for lags and  $W_t$  is  $S \times 1$  which shows predetermined variables of the model including intercept, dummy variables, time duration and other exogenous variables.  $P$  shows the number of applied lags for independent variable and  $q$  shows the number of applied lags for independent variables.

The above mentioned model is a descriptive ARDL which says:

$$(L,P) = 1 - L \dots \dots \dots L_p$$

$$B(L,p) = b + bL \dots \dots \dots bL_i \quad i=1,2,\dots,K$$

Number of proper lags for each descriptive variable can be determined by one of criteria of AIC, shuarts Benzin SBC, Hannan Queen HQC or balanced coefficient. Normally, in samples which are less than 100 ShuartsBenzin Criterion is used so that freedom degree can be maintained. This criterion saves determining lags; in conclusion the estimation will have got more freedom degree (Pearson and Shin, 1996). In order to measure long-term coefficients of the model, the same dynamic model can be used. Long-term coefficients related to  $X$  variables can be calculated this way:

$$(L,P) = 1 - L \dots \dots \dots L_p / B(L,p) = b + bL \dots \dots \dots bL_i \quad i=1,2,\dots,K$$

Inder (1993) shows that this kind of  $t$  statistics has got normal distribution and also basing on critical quantities,  $t$  test is proper.

Thus, applying  $0_1$ , some valid tests for long-term relations can be done. To estimate long-term relations in ARDL method it is possible to use the following double-steps approach: in the first step existence of long-term relation of variables is analyzed. In this step, there are two ways to reveal whether this long-term relation is true or spurious. Having estimated ARDL of dynamic model in this step, the hypothesis below is to be tested:

$$H: 0-1 > 0$$

$$H: 0-1 < 0$$

The null hypothesis states that there is no co-integration or long-term relation. In order to test considered hypothesis, 1 should be deducted from aggregates of coefficients and lag variable then divided by aggregates of standard deviation of the mentioned coefficients which resulted in  $t$  statistic test.

$$t = 0-1/S$$

If absolute value of calculated  $t$  statistic is more than absolute value of presented critical amounts with 95% level of significance, null hypothesis is rejected and existence of long-term relation is confirmed. The second method which is presented by Pesaran and Shin analyzes existence of long-term relation between studied variables using  $F$  statistic of error correction model for significance test (Pesaran and Shin, 1996).

## Fitting and Results Analysis

Considering time series of research data, results of unit root are presented initially:

**Table 1: Results of statistic test for studied variables**

Variable	Statistic	Significance Level	Result
National income	-5.41	0.001	static
Gini coefficient	-4.12	0.032	static
Inflation	-4.4	0.041	static
Oil revenues	-4.51	0.031	static
Government size	-4.12	0.039	static

Results of table 1 display that variable at level 5% are static. In the next step, statistic test are to be calculated to analyze their truth. Notice that depended on applying  $F$  test or Chi-squared tests, there are different null hypotheses. In the following part, tests are presented in details:

**Research Article**

**Table 2: Statistical tests in F version**

Test	Statistical Distribution	statistic	Null hypothesis	Rejecting or confirming $H_0$	Result
Autocorrelation	F	2.06	No autocorrelation	confirmed	No autocorrelation
Model specification	F	4.12	Model specification is true	confirmed	Model specification
heteroscedasticity	F	2.45	No heteroscedasticity	confirmed	No heteroscedasticity

As it is shown above both F and Chi-squared tests confirm statistical estimation. In mentioned estimation, Gini coefficient is dependent variable. Since this model had already tested existence of intercept but it was not significant, here a model without intercept is used. Moreover, Logarithm of variables is not used here. It should be reminded that less Gini coefficient means improvement of income distribution. Thus, if any variable negatively influences on Gini coefficient, actually it causes to improvement of income distribution.

**Table 3: Statistical tests in LM version**

Test	Statistical Distribution	Statistic	Null hypothesis	Rejecting or confirming $H_0$	Result
Autocorrelation	LM	3.89	NO autocorrelation	Rejected	NO autocorrelation
Model specification	LM	4.95	Model misspecification	Rejected	Model specification
homoscedasticity	LM	4.85	heteroscedastic	Rejected	No heteroscedasticity

Here results of structural breaks test are presented.

**Figure 1: Structural Breaks Test**

Margin lines show twice standard deviation of residuals; since nowhere residuals chart have cut the lines so this model has got no structural breaks.

Short-term estimation: lags of variables also are considered in short-term formula. That is, it is going to be determined that to what extent effective variables influence on Gini coefficient.

Short-term model is mathematically presented as:

$$\text{GINI} = \text{BGini} + 0 \text{ oil} + \text{Y Gov} + \text{GDP} + \text{Inf} + \text{E}$$

This model involves these properties:

A. Gini coefficient is dependent variable of the model.

B. Independent variables include: 1. Lags of dependent variable (Gini coefficient) 2. Oil revenues and its lags (Oil) 3. Government size and its lags (Gov) 4. National income and its lags (GDP) 5. Inflation and its lags (Inf) 6.  $E_1$  that is model's error. Moreover, a dummy variable is considered for 1977 that Islamic Republic of Iran was established and economic position of the country was not suitable so as the impact of 1997 appears in intercept. Calculated model extracted from short-term estimation is presented in table 4.

**Research Article**

**Table 4: Short-term estimation (dependent variable: Gini coefficient)**

Variable	Coefficient	Sig
Gini coefficient lag 1	0.94	Significant
Gini coefficient lag 2	-0.25	significant
Gini coefficient lag3	0.72	significant
National income	-.71e <sup>-5</sup>	significant
Inflation	0.23e <sup>-3</sup>	significant
Inflation lag1	-0.56e <sup>-4</sup>	significant
Inflation lag 2	0.34e <sup>-2</sup>	significant
Oil revenues	0.63e <sup>-5</sup>	significant
Oil revenues lag 1	-0.72e <sup>-5</sup>	significant
Government	-0.14e <sup>-6</sup>	significant
Government lag1	0.78e <sup>-6</sup>	significant
Dummy variable	0.012	significant

It can be mathematically presented as below:

$$\text{Gini} = 0.94 \text{ gini} - 0.25 \text{ Gini} + 0.72 \text{ Gini} - 0.71 \text{ GDP} + 0.23 \text{ Inf} - 0.56 \text{ Inf} + 0.34 \text{ Inf} + 0.63 \text{ Oil} - 0.72 \text{ Oil} - 0.14 \text{ Gov} + 0.78 \text{ Gov} - 0.012 \text{ Dum} + E$$

Considering Akaike criterion, the impact of lag for studied variables is as below:

Error! No text of specified style in document

**Table 5: Impact of lag for studied variables**

Variable	Impact of Lag
Gini Coefficient	3 lags for current Gini coefficient are effective: Gini coefficient of last year, 2 years ago and 3 years before influence on Gini coefficient of the current year.
National income	No lag: just national income of this year affects on current Gini coefficient.
Inflation	2 lags: in addition to inflation of the last year and, inflation of 2 years before also affects on current Gini coefficient.
Oil revenues	1 lag: in addition to oil revenues of this year, oil revenues of previous year also affects on current Gini coefficient.
Government size	1 lag

Here the impacts of variables on Gini coefficient are represented:



## Research Article

**Table 6: Impacts of variables on Gini coefficient**

Error! No text of specified style in document

Variable	Impact on Gini coefficient of the current year
Gini coefficient of last year	+
Gini coefficient of 2 years ago	-
Gini coefficient of 3 years ago	+
National income	-
Inflation	+
Inflation of the last year	-
Inflation of 2 years ago	+
Oil revenues	+
Oil revenues of last year	-
Government size	-
Government size of last year	+

All variables influence in sinus way on Gini coefficient. That is, if this year they positively affect on Gini coefficient, the previous year the affected negatively and vice versa. The reason of this process can be found in alternative recessions and propensities of Iran economy. However, direct impact (just the first year) of variables on Gini coefficient can be studied and analyzed properly. Notice that if Gini coefficient increases, income distribution will aggravate. That means if any variable positively affects on Gini coefficient, it can resulted in worse income distribution. In table below the impact of various variables on income distribution (just impact of the first year) is analyzed:

**Table 7: Impacts of variables on Gini coefficient**

Change	Impact on income distribution
Increasing of national income	improving of income distribution
Increasing of inflation	aggravating of income distribution (negative impact on income distribution)
Increasing of oil revenues	aggravating of income distribution (negative impact on income distribution)
Enlarging of government size	improving of income distribution

Logically, Increasing of inflation causes that the poor turn poorer and the rich get richer. Increasing of oil revenues causes that earned financial sources get spent inappropriately that tails increasing of inflation. Increasing of national income (excluding oil) causes to increasing of income of agricultural, industrial and services sections that tails improving of income distribution. Enlarging of government size initially causes to orientation of economy of the country toward governmental and coupon economy then in a short time duration results in improving of income distribution.

Long-term estimation is as below:

$$\text{Gini} = B \text{ Oil} + \text{Gov} + \text{INF} + \text{GDP} + E$$

There are no lags in long-term model.

**Table 8: Impact of existent variables on long-term model**

Variable	Impact on Gini coefficient	Impact Coefficient on Gini Coefficient	Impact on income distribution
National income	–	$-0.12e^{-4}$	+
Inflation	+	0.011	–
Oil revenues	–	$-0.31e^{-5}$	+
Government size	+	$0.09e^{-5}$	–

## Research Article

Above table mathematically is presented as:

$$\text{Gini} = 0.31e^{-5}\text{OIL} + 0.09e^{-9}\text{GOV} + 0.011\text{INF} - 0.12e^{-4}\text{GDP} + E$$

Variables of long-term model are as below:

**Table 9: Impact of variables in long time**

Error! No text of specified style in document

Change	Impact on income distribution
Increasing of national income	improving of income distribution
Increasing of inflation	aggravating of income distribution (negative impact on income distribution)
Increasing of oil revenues	improving of income distribution
Enlarging of government size	aggravating of income distribution (negative impact on income distribution)

In long time duration enlarging of government size would avoid provoking of free market then reduces national income and aggravates income distribution. In long time duration increasing of oil revenues ends in increasing of revenues of all sections which tails improving of income distribution.

Coefficient of error correction model (ECM) in Estimations of Long-term coefficients in table 8 is 0.52. That is, if t time duration changes to t+1, standard deviation of Gini coefficient from long-term modified model of variables about 52 percent moves toward balanced long-term trend. Being negative, less than unit and significance of this coefficient means existence of a balanced long-term relation and also causative relation of descriptive variables on Gini coefficient.

## CONCLUSION

In recent years economy of Iran has been suffering from plenty of shocks. As it is shown above there are some hypotheses for this study all of which are extracted from the results of previous researches. This research also in a short time confirmed all hypotheses including: 1.oil revenues has caused to inequity of Iran economy during considered studying years 2. Economic growth negatively influences on income distribution in Iran 3. The impact of government size on income distribution in Iran is positive 4. In long time duration due to incurred shocks on economy of Iran these hypotheses are no longer acceptable.

Considering concluded results of the present research, it is suggested that government should take an action to provide independent budget from oil revenues. Actually, variety in export and transforming of crude oil into oil products also can be recommended. In this way, value added of ultimate products would be increased and dependence of national income on exporting crude oil revenues would reduce. The more budget of country is independent from share of oil revenues, the more impacts of inequity of income distribution would decrease; so justice in income distribution would appear. Regarding that inflation has got negative effect on income distribution, managing of inflation by government is offered. However, controlling of inflation itself would cause to recession, so government should make a policy that inflation controlling does not result in recession but causes increasing of national income and prosperity.

Furthermore, since enlarging of government can compound income distribution, so it is suggested that government should pay attention to private section more. Government can be helped through condensing and lowering its tasks. Generally speaking, government is less efficient before private section and it has to only take the responsibility of observing the tasks.

## REFERENCES

- Abbasi Q and Shafaat M (2011).** Contrastive Studying of oil price fluctuations on exchange market indices in importer and exporter oil countries case study: Iran and Germany. *Accounting International Conference, Investing and Financial Management, Tehran.*
- Abunuri A (1976).** The impact of indices of macroeconomics on income distribution in Iran. *Economy Research Magazine of Tehran University* **51** 1-31.

### Research Article

- Babazade M, Ghavidel S and AmuzadKhalili H (2009).** Studying the effective factors of income distribution focusing on the role of foreign trade case study: Iran 1976-2006. *Applied Economy Quarterly* **1**(2).
- Bakhtiyari S (2002).** *Income Distribution in Economists' Theories Radical* (economy affairs publication).
- Ebrahimi S (2008).** Studying the relation between economic growth and income distribution in Iran. *Economy Research* **37** 112-132.
- JalayiEsfandAbadi A, Ghasemi A, Rostami H and Soleymani F (2011).** Studying and predicting income distribution of urban and rural regions of Iran in 1404 horizon. *Economic Strategy Quarterly* **1**(2) 159-187.
- Jamali A (2006).** Studying the impact of Government size on income distribution in Iran 1983-2003. *Economy of Agriculture Research Magazine* **1**(147) 3-165.
- Jarjarzade A and Eghbali A (2004).** Studying the oil revenues on income distribution in Iran. *Social Welfare Scientific-Research Quarterly* **4**(17) 1-19.
- Katuzyan M (1997).** *Oil and Economic Development in Middle East*, nine articles on historical sociology of Iran, translated by: AlirezaTayeb (center publication).
- Moradi M (2009).** Impact of oil on macroeconomics pointers focusing on transferring and works mechanism. *Economic Research Quarterly* (3) 205-223.
- SadeghiShahdani M, Nadri K and Ghlich V (2008).** Impacts of governing role of government in economy of income distribution using ARDL case study: Iran. *Quantity Quarterly*, 6<sup>th</sup> period (4) 73-100.
- SahebHonar H and Nadri K (2012).** Economic analysis impact of increasing of oil revenues on income distribution approaching BVAR, case study: Iran. *Economic Energy of Iran (Economy of Environment and Energy)* (9) 115-149.
- Samadi S, Zahedmehr A and Faramarzi A (2007).** Studying the impact of financial policies of government on income distribution and economic growth in Iran. *Business Research Quarterly* (49) 99-119.
- Sameti M, Khanzadi A and Yazdani M (2008).** Impacts of oil revenues and its injection into economy and income distribution, case study: Iran. *Quantity Economy Quarterly* 6<sup>th</sup> period (4) 51-72.
- Sameti M, Ranjbar H and Ohediesfahani S (2000).** Analysis of impact of globalization on income distribution in selected countries 1983-2003. *Business Research Quarterly* **59** 163-183.
- Sheykhi A (2011).** Impact of oil revenues on inflation and economic growth in Iran. *Applied Economy Magazine* (9) 112-123.