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Survey Impact of Petroleum Products Taxation on Economic Growth of Oil Provinces of Iran

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ABSTRACT

Taxation of petroleum products is one of the value-added tax (VAT) which imposed on seven provinces in Iran. Taxation of petroleum products is because oil and petrochemical companies in these provinces generate revenues from the sale of oil, oil extraction, and petrochemical products. This study seeks to provide a comparison between the impact of taxation on petroleum products and direct taxation on economic growths in the mentioned provinces. For this reason, statistics during 2008-2016 together with Panel VAR method are used. Results for impulse-response functions and variance decomposition show that the major origin of the most changes in economic growth rate could traced back to the government expenditure, as well as taxation of petroleum products during the defined period. It also can realize that taxation of petroleum products in the above provinces has a greater impact than direct taxation on economic growth rate.

1. Introduction

Iran produces substantial revenues from the sale of its resources. Taxation has neglected as a part of the government income and gross domestic product (GDP); however, in recent years, taxation has received much attention and its share in GDP has been rising. Petroleum products taxation is one of the constituents of value-added tax and imposed on seven provinces in Iran because they have revenues through selling and extracting oil as well as petrochemical products.

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In the present research, using a Panel Vector Auto regression (PVAR) model for the period of 2008-2016, we tried to investigate the taxation impact of petroleum products and other effective variables on economic growth of the seven discussed provinces. In fact, the primary objective of this research is to examine the taxation impact of petroleum products in the seven oil provinces in Iran. We also present a comparison between the impact of taxation on petroleum products and direct taxation. Policymakers should consider imposing the tax on petroleum products if it has a greater impact than direct taxation on economic growth of the discussed provinces; this is an essential part of this study. In this research, variables of economic growth, direct taxation, labor, government expenditures, taxation on petroleum products and inflation, resulted from Okoh, et al., (2016) review, discussed and econometric Panel VAR method utilized. This study is an innovative approach in the sense that not such a study has carried out to investigate impact of petroleum products taxation on economic growth in the oil provinces; moreover, no comparison has made between the impact of petroleum products taxation and direct taxation on economic growths.

In section 2, we review the literature and background of the study. Section 3 and 4 explain data and method. In section 5 the estimation results are presented and in section 6 and 7, we draw a conclusion and discussion.

2. Literature Review

Von Newman's model was the first growth model. He managed to formulate a stable and balanced growth mathematically. Following the Newman's model, once Keynes published General Theory, Harrod (1939, 1948), and Domar (1946) tried to make contributions to dynamic short-term theory. They developed the Keynesian idea and made a relationship between economic growth and capital stock; they emphasized the fact that the productive capacity in the economy changes according to the capital expenditures change. These two researchers found that it's impossible to achieve a stable equilibrium in full employment. The most important drawback of their proposed model is the assumption of no-substitution between labor and capital accumulation.

After Harrod and Domar, Solow (1956) in his neoclassical model, rejected the important hypotheses of Harrod and Domartheory and considered the constant return to scale in his growth model, finally he concluded that it was possible to achieve a stable equilibrium in a state of full employment. He believed that the transition to a higher level of economic growth is feasible through technological development. Ramsey (1928), Cass (1965) and Koopmans (1965) suggested the other neoclassical model with regard to economic growth. while this model is similar to Solow model in terms of technical knowledge and exogenous labor, it differs from the Solow model in a sense that it includes endogenous saving─ In other words, in this model, saving results from household behaviors with infinite lifetime in a life cycle which is associated to the consumption. There are differences between this model and previous model in way that it is impossible to take a balanced growth path with a capital accumulation exceeding the golden rule of Ramsey, Cass, and Koopmans model. In the historical trend of growth models, Diamond (1965) presented a growth model. While Diamond' research departed from the constant population cycle and households of infinite lifetimes, he considered the population growth rate to be variable. One of the important aspects of Diamond model is welfare.

In the mid 1980s, Paul Romer and Robert Lucas considered an endogenous model. They involved technology in their model as an endogenous variable and considered this variable as a part of the investment decisions in private sector. Generally, based on endogenous growth models, permanent variations in these variables should lead to the variations in the stability of the growth rate. Because of these models, differences in the social infrastructure, political stability and corruption hanged the growth models.

When growth models were definite, many economists tried to investigate the effects of various variables on economic growth rate including effective variables in growth rate and the tax. Based on the neoclassical growth models, although economic growth rate influenced specifically by fiscal policies, the influence is temporary and its effects disappear in the long term. However, in the most endogenous growth models, the change in government

policies such as the taxes can lead to permanent changes in the economic growth rate.

2.1 Total Tax Income and Economic Growth

Given the importance of government policy impacts on economic growth, many studies conducted in this area. A number of studies, including Marsden (1983), Manas and Anton (1987), Skinner (1987) and Martin and Fardmanesh (1990) examined the relationship between total tax income and economic growth rate using panel data. It concluded that the tax income had a negative effect on the economic growth rate. The first experimental effort involving the inclusion of the fiscal variable in the growth regression is attributed to Barro (1989, 1991) whose formed a mechanism according to which any fiscal policy can measure the level of production and the stable level of growth. He also analyzed that the ratio of real consumption of government to real GDP, which was negatively correlated with the growth rate. Koester and Kormendi (1989) using panel data for 63 countries during the 1970s, calculated the regression of the total tax income on GDP. It's conclusion was that there were insufficient findings for the relationship between the tax rate and the economic growth rate. They also found that the rise in tax rates would lead to a transition to the growth path. Easterly and Rebelo (1993) realized that there were no findings for the strong relationship between tax and economic growth rates in developing countries using an extensive collection of different tax income rates. Padovano and Galli(2001) also took similar steps as the Coaster and Curmandy; on the contrary , they established that there is a strong and negative relationship between economic growth and tax rates. While using a panel model consisting of 25 industrial countries for the period from 1970-1998, Ponduno and Galli (2003) acknowledged the existence of the negative impact of effective and progressive tax rates on economic growth rate. Leibfritz, Thornton, and Bibbee (1997) acknowledged the existence of a negative relationship between the average and ultimate tax rates and economic growth rate. Aghaie (2008), by OLS method established that fiscal policies in Iran (rise in taxes and subsidies) would improve income distribution and lead to a decline

in economic growth, while increase in oil revenues and GDP would bring equality of income distribution and increase in economic growth. Falahati, Almasi, and Aghaie (2009) through simultaneous equations for the period of 1974 to 2005 concluded that fiscal policies lead to the improvement of income distribution and a decline in economic growth. Alesina and Ardagna (2010) investigated the relationship between rise in taxes and growth rate using panel data for OECD countries during 1970-2007. They obtained a negative correlation between rise in taxes and economic growth rate. While applying a simultaneous equilibrium in various sectors with OLS method during 1973-2007, Rajabi et al, (2011) concluded that government expenditures correlate with economic growth rate; moreover, there is an inverse correlation between tax rate and growth rate. Canicio and Zachary (2014) applied Granger causality to examine the relationship between growth rate and rise in taxes in Zimbabwe for the period of 1980 to 2012. They found a bilateral relationship between rise in taxes and growth rate. Aboonouri and Zivari employed the panel data and econometric methods, including OLS and GMM during 1990 to 2011 for a selection of OECD countries as well as Iran. They confirmed that increased tax income for these countries directly related to the economic growth, therefore, Gini coefficient increases, as tax incomes increase; as a result, income inequality is increased. Kalas, et al (2018) presented an empirical analysis of taxes and economic growth in Serbia and Croatia in the period 2007-2016. The results of random effect model had shown that corporate income tax, value added tax and social security contributions had a positive impact on the gross domestic product, while excises affected the gross domestic product negatively. However, only value added tax had a statistically significant impact on economic growth in these countries, with each increase in revenue from this tax contributing to the growth of gross domestic product in the observed period.

2.2 Taxes Structure and the Economic Growth

A number of studies investigated the relationship between tax structure and its impact on economic growth rate such as Plosser (1992), Kneller et al. (1999), Widmalm (2001). For example, Widmalm defined the ratio of tax

income to the personal income tax, corporate income tax, property tax, tax on goods and services, and payroll tax for 23 members of OECD from 1965 to 1990. He found a negative correlation between personal income tax and economic growth.

Lee and Gordon (2005) studied a sample of 70 countries during 1970-1997. The conclusion was that there was no meaningful relationship between personal income and economic growth while there is a negative correlation between corporate income and growth rate.

Arnold (2008) examined the relationship between tax structures using panel data for 21 members of OECD from 1971-2004 and found that income tax has a lower growth rate than consumption tax, allowing the establishment of a ranking of tax instruments with respect to their relationship to economic growth. From his perspective, corporate income taxes have the most negative effect on GDP per capita. Arnold et al. applied an error correction model for 21 countries of OECD during 1971-2004 and found that the economic growth increases as taxes shift from direct tax to consumption and property taxes.

Dackeha and Hansson (2012) applied panel data for the period of 1975-2010 for 25 members of OECD and found that corporate income tax and personal income tax have negative effects on the economic growth. Canavire-Bacarreza, Martinez-Vazquez and Vulovic (2013) employed vector autoregressive technique and panel data from 1990-2009 for 19 Latin American countries and found that the reliance on consumption taxes has significant positive effects on growth in Latin American countries while income tax does not have the expected negative effect on economic growth. For corporate income tax, their results suggest reducing tax evasion and greater reliance on collection may boost economic growth.

Tanchev (2016) made an econometric study by the means of OLS method while assessing the impact of the personal income tax on the economic growth in Bulgaria during 2004–2012. He established that progressive income taxation has positive impact on growth. Stoilova (2017) studied the tax structure of the EU for the period of 1996 to 2013 using panel data. He

found that tax structure composing of consumption tax, personal income tax, and property tax.

2. 3 Consumption Tax and Economic Growth

Qarbali (2005) emphasized a simulated income model for VAT in Iran with the aim of reforming the tax system. He concluded that imposing VAT would lead to an increase in the potential tax incomes. Most of the economists share the view that consumption tax as a tax instrument is of economic growth and some studies examined effects of consumption tax on the economic growth. For example, Szarowska (2013) analyzed the relationship between consumption tax and economic growth for EU member using panel data during 1995-2010. He found that consumption tax has significant positive effect on the economic growth. Bernardi (2013) conducted two analyses in general and a particular country-to-country analysis. He found that the interests of shift from direct tax to indirect tax would not appear easily, while he predicted that economic crisis would escalate across European Union with variations in taxes.

2. 4 Taxation on the Petroleum Products and Economic Growth

Ogbonna and Appah Ebimobowei (2012) studied the impact of petroleum revenues on the economic growth of Nigeria for the period of 1970-2010 using cointegration and Granger causality techniques. While they found that taxation on the petroleum, revenues had a positive impact on the economic growth. Moreover, Abdul-Rahamoh et al, (2013) applied a multiple regression from 1970-2010 to investigate the impact of taxation of petroleum products on the economic growth of Nigeria and they found a positive relationship between these two variables.

Okoh et al, (2016) investigated the impact of the petroleum revenues on the economic growth of the Nigeria during 2004-2015 using linear regression. They concluded that taxation on petroleum revenues has a positive and meaningful effect on the economic growth.

3. Method

In the 1970s, econometric models developed, across the world. However, there was widespread criticism of these models regard to the unit root, cointegration, long run relationship between variables, and exogenous and endogenous variables. At that time, vector auto-regression models had the capabilities to demonstrate the dynamics of variables and evaluate the impulse-response functions and variance analysis. There were also drawbacks to econometric models, which led to development of the VAR models; VAR models finally generalized to panel vector auto-regression (PVAR) models.

PVAR models are a combination of the conventional VAR models in which all the dependant and endogenous variables are considered; however, it differs from VAR in terms of cross-section. PVAR equation is:

$$Y_{it} = Y_{i,t-1}A_1 + Y_{i,t-2}A_2 + \cdots + Y_{i,t-p}A_p + U_{it} + \varepsilon_{it} i = 1,2,\dots,N t = 1,2,\dots,T_i \quad (1)$$

In which Y_{it} is a vector of dependent variables, U_{it} is a vector of constant effects, ε_{it} the vector of the specific error, A the coefficients matrix, t and i are the subscripts of time and cross-section, respectively.

In the PVAR models, the estimators of constant effects are incompatible because there is a correlation between the vector of constant effects and the vector of dependent variables. In order to address the correlation problem, the orthogonal deviation method, proposed by Love, Zicchino(2006), is used. In this method, constant effects eliminated and variables adjusted. The average obtained from further values of Y_{it} given by:

$$\bar{Y}_{it}^{m} = \sum_{s=t+1}^{T_i} \frac{Y_{is}^{m}}{T_i - t} \quad (2)$$

In which T_i represents the last year of the sample and $Y_{it} = (Y_{it}^{1}, Y_{it}^{2}, \dots, Y_{it}^{m},)'$is the vector of the dependent variable. The adjusted variable ε_{it}^{m} also becomes $\bar{\varepsilon}_{it}^{m}$ and its vector$Y_{it} = (\varepsilon_{it}^{1}, \varepsilon_{it}^{2}, \dots, \varepsilon_{it}^{m},)'$. Therefore, the adjusted variables given by:

$$\tilde{Y}_{it}^{m} = \delta_{it}(Y_{it}^{m} - \bar{Y}_{it}^{m}) \quad , \quad \tilde{\varepsilon}_{it}^{m} = \delta_{it}(\varepsilon_{it}^{m} - \bar{\varepsilon}_{it}^{m})$$

In which

$$\delta_{it} = \sqrt{(T_{it} - t)/(T_{it} - t + 1)} \quad (3)$$

Finally, the main equation becomes:

$$\widetilde{Y_{it}} = \Gamma(l)\widetilde{Y_{it}} + \widetilde{\varepsilon_{it}} \quad (4)$$

This method removes the incompatibility problem by creating each variable as a deviation from the further observations average. The homogeneous variance is established; as a result, consecutive correlation disappears.

4. Data

In this study, a model similar to Okoh, et al, (2016) is used. Research data are composed of economic growth rate (LGDP), the employed population (LL), inflation rate (PGDP), direct tax (LTAXD), tax on petroleum products (LTOIL), and government expenditure (LKG). The variables used in the logarithms because the estimated coefficients change relatively and they are independent from variable measurement unit (Gujarati, D. 2011); moreover, logarithmic form is useful for decreasing inhomogeneous variances. Data on petroleum taxation collected from Iranian National Tax Administration; other variables collected from information and statistics system of ministry of economic affairs. The present study investigates seven provinces of Iran, including Fars, Hormozgan, Kermanshah, East Azerbaijan, Khuzestan, Markazi, and Isfahan for the period of 2008-2016. Therefore, the present study tries to fit the following equation:

$$LGDP = \alpha_0 + \alpha_1 LL + \alpha_2 PGDP + \alpha_3 LTAXD + \alpha_4 LTOIL + \alpha_5 LKG \quad (5)$$

A summary of the study statistics presented in the table (1):

Table. 1 Descriptive Statistics

Maximum Province	Minimum Province	Std dev	Average	Data name
93.5 (Khuzestan)	-35.5 (Hormozgan)	20.3	19.5	Economic growth rate
1487645 (Isfahan)	310647 (Hormozgan)	436258.2	909665.7	The employed population
23022300 (Isfahan)	801160 (Fars)	5432911	7022439	Direct taxation

9700000 (Markazi)	14488 (Kermanshah)	2044307	1424928	Taxation on petroleum products
9182862 (Khuzestan)	1342638 (Markazi)	1909199	3820727	Government Expenditure
36.7 (Khuzestan)	7.9 (Khuzestan)	9.5	0.20	Inflation rate

Note: the employed population, direct taxation, taxation on petroleum products, and government expenditure used in logarithms; economic growth rate and inflation rate used as percentage.

Source: amar.org

Taxation on petroleum products imposed on seven provinces in Iran. The distribution of these provinces shown in the following illustration:

Fig 1. Locating the Provinces

Taxation on petroleum products imposed on these seven provinces because they run petrochemical and petroleum companies and produce revenue from oil selling and extraction as well as petrochemical products.

5. Result

Variables' stationary

In this section, we examine the long run relations between economic growth and taxation on petroleum products. For this reason, first we assess the reliability of model variables. Engle and Granger (1987) and Enders (1995)

established that variables with unit root in the empirical model leads to an unbiased regression. Therefore, PP Fisher is used to surveyed stationary of variables. If the statistic figures exceed the critical value, it is likely that null hypothesis rejected with regard to the unit roots.Stationary test results given in the table (2):

Table 2. Variables' stationary PP fisher test

Variable's name	Level statistics	Probability	The first-order difference statistics	Probability	Accumulation
DLGDP	24.5153	0.0397	-	-	I(0)
LL	29.8958	0.0079	-	-	I(0)
LKG	10.9201	0.6923	43.4153	0.0001	I(1)
LTAXD	7.59155	0.9095	32.2356	0.0037	I(1)
LTOIL	41.3438	0.0002	-	-	I(0)
PGDP	7.97683	0.8905	25.8207	0.0273	I(1)

Source: Authors' calculations

As table (2), the variables of economic growth rate, logarithm of labor, and logarithm of taxation on petroleum products are stationary at level of 95%. Furthermore, variables of direct taxation, logarithm of government expenditures and inflation are not stable; these variables could be stationary after a differentiation.

Cointegration Test

Some variables in this study are stationary and non-stationary. Therefore, Cointegration test used to ensure that a long run relationship between economic growth rate and taxation on petroleum product exists. Due to low variables, Kao Cointegration test is applied. Results for Cointegration test are as follows:

Table 3. Cointegration Kao Cointegration Test

t statistics	Probability

-1.940709	0.0261

Source: Authors' calculations

Cointegration results denote that the null hypothesis is not acceptable with regard to Cointegration relationship between the model variables and there is a balanced long run relationship between these variables, which is meaningful.

Fixed Effects Test

F-Limer used to distinguish between pooled or panel models. The test results are as follows:

Table 4. F-Limer test

Test statistics	Probability
24.044028	0.0005

Source: Authors' calculations

F-Limer test results confirm constant effects versus aggregated least squares method. In other words, null hypothesis with regard to a combined model rejected. Therefore, the model could be evaluated using PVAR method

Evaluation of the model using Panel VAR

In this section, we investigate the effect of independent variables on economic growth using Panel VAR econometric method. The results give in the table (5):

Table 5. Estimation Results

Descriptive Variables	Coefficient	t statistics
DLGDP(-1)	-0.232661	-1.24079
DLGDP(-2)	-0.5561645	-2.33658
LL(-1)	-1.145250	-1.98102
LL(-2)	0.875129	1.92762
LTAXD(-1)	0.366274	1.96236
LTAXD(-2)	-0.292665	-1.81490

LTOIL(-1)	0.016686	1.85701
LTOIL(-2)	-0.008652	-1.92516
LKG(-1)	-0.109662	-0.55522
LKG(-2)	0.388222	1.98693
PGDP(-1)	0.501197	1.82104
PGDP(-2)	-1.350142	-2.57084
C	-1.075632	-0.79713
R-squared= 0.580676		

Source: Authors' calculations

According to table (5):

- The first lag of the labor logarithm has negative effects and the second lag has a positive effect on the economic growth rate.
- Inflation has impact on economic growth, the first lag has positive effect and the second lag has a negative impact on economic growth.
- First lag of taxation on petroleum products has positive effect on economic growth of selected provinces.
- First lag of direct taxation has positive effect and the second lag has a negative effect on the economic growth rate.

Impulse-Response analysis

In order to examine the economic growth rate of the seven provinces, the Impulse-Response analysis applies impulse to the variables of labor, taxation on petroleum products, direct taxation, government expenditure and the rate of inflation. In this analysis, the impulse applied to the extent of a standard deviation. The charts are as follows:

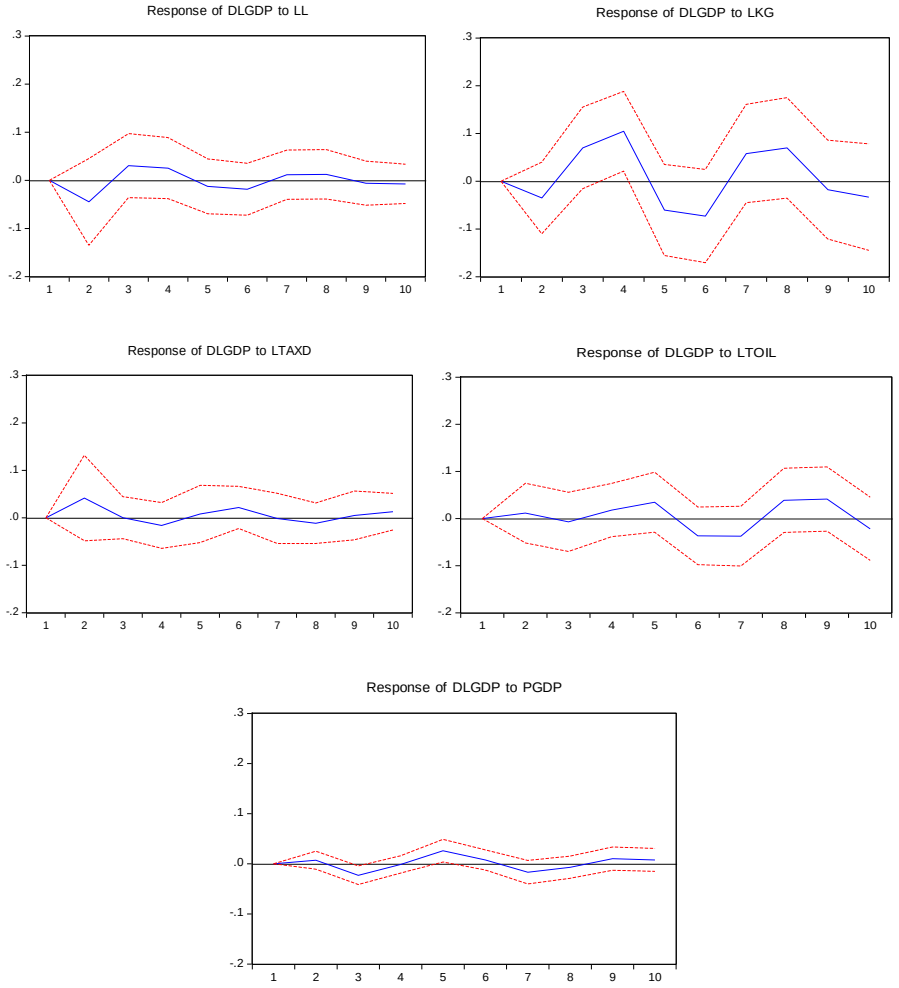

Fig 2. Impulse Responses
Source: Authors' calculations

- The sudden change resulting from the impulse of the economic growth in the 1st period leads to a rise in economic growth by 20.73%. It will fall during the 2nd and 3rd years by -4.85% and -5.19% respectively.

- Applying an impulse to the labor in the 1st year is ineffective. Then for the 2nd year, it leads to a decrease in economic growth rate by 4.46%. This impulse increases the economic growth rate in the 3rd year by 3.06%.
- Applying an impulse to government expenditures variable is ineffective in the 1st year. Then for the 2nd year, it has a negative effect by 3.49%; for the 3rd year, it has a positive effect by 6.97% on the economic growth rate. This effect for the following years is according the above chart.
- A sudden impulse to the direct taxation variable is ineffective in the 1st period; in the 2nd period, it works positively by 16.4%; in the 3rd period, it becomes ineffective again; in the 4th period, it falls by 1.61%. The development of impulse effect on the economic growth is according to the chart.
- Applying an impulse to the variable of taxation on petroleum products; from the 4th period to 10th period, the impulse effects are respectively as follows: 1.79%, 3.46%, -3.76%, -3.73%, 3.86%, 4.14%, -2.17%.
- Finally, a sudden impulse to the inflation is ineffective for the 1st year; for the 2nd year, it causes a rise of 0.71%; for the 3rd year, it falls by 2.29%. These values are given for the following years.

It is obvious that all the effective impulses start from the second period, except for those applied to the variables of economic growth. The impulses have had stable effects on the economic growth rate during ten years. The least effects belong to the inflation rate while government expenditures have a major effect on economic growth.

Variance Decomposition

Variance decomposition can define the impulse portion of every variable through the endogenous variable variance of the model. Therefore, this section assigned to the variance decomposition of the system variables. Results for variance decomposition give in table (6):

Table 6. Variance Decomposition

Period	S.E.	LGDP	LL	LTAXD	LTOIL	LKG	PGDP
1	0.207320	100.0000	0.000000	0.000000	0.0000	0.00000	0.000000
2	0.224661	89.83364	3.941373	3.137487	0.9013	2.084340	0.101844
3	0.244041	80.66502	4.916822	2.682970	1.8798	8.888011	0.967329
4	0.272547	68.06547	4.805385	2.307096	1.6787	22.35679	0.777566
5	0.283113	63.24074	4.649621	2.169980	4.6703	23.69646	1.572867
6	0.299328	58.67548	4.543694	2.308390	4.4341	28.56574	1.472546
7	0.309151	55.83967	4.403230	2.166447	6.9639	28.95166	1.675030
8	0.322040	52.83235	4.207745	2.055909	6.7297	32.58519	1.589033
9	0.326092	51.92864	4.136490	2.020155	8.4509	31.81309	1.650644
10	0.330072	51.37036	4.087651	2.086474	8.3724	32.41692	1.666156

Source: Authors' calculations

In the table (6), the S.E. column shows the corresponding error prediction during different periods. The error calculated every year based on previous periods and changes based on next values and impulses. Therefore, the S.E. increases in the next ten years. Other columns denote the variance percentage of the specific impulses. In the first row of the table, it can be noticed that the economic growth rate changes in the short run (the 1st year) with respect to the variables while growth rate falls during the next periods and variables cause the economic growth rate to change. The change percentages in economic growth rate in the 2nd year are as follows: 89.83% due to economic variable itself, 3.94% due to the labor variable, 3.13% due to direct taxation, 0.9% due to taxation on petroleum products, 2.08 due to government expenditure, and 0.1% due to inflation rate. 3.94%. The change percentages in the economic growth rate in the long run (10th year) are as follows: 50% due to the economic variable itself, 4.08% due to labor, 2.08% due to direct taxation, 8.37% due to taxation on petroleum products, 32.41% due to government expenditures, and 1.66% due to inflation rate. Hence, it can be noticed that in the long run, the government expenditures as well as taxation on petroleum products are two major independent variables that impact on the economic growth rate. It can see in general that among the descriptive variables, the main change in the economic growth rate is due to government expenditures and the least change is due to inflation rate. Furthermore, due to the abundance of oil and petroleum refineries in these

provinces, taxation on petroleum products accounts for a larger share of provincial taxes than direct taxation.

6. Conclusion

In this study, we have tried to use an auto-regression model to investigate the impact of taxation of oil products on the economic growth in Iran's oil provinces during 2008-2016. At the beginning, we examine the stationary and establish Kao cointegration test. Then we found a long-run relation between model variables. The model was evaluated using Panel VAR econometric technique. Results of the evaluation are not interpretative. Therefore, we calculate the impulse-response functions as well as decomposition variance. Results for impulse-response functions show that the response of labor and inflation variables in the discussed provinces is insignificant effect on the economic growth. The impulses for taxation of petroleum products and government expenditures begin from the 2nd year and impact significantly on the economic growth. Generally, it can establish that the major change in the economic growth rate for the seven provinces originates from the impulses due to government expenditures as well as taxation of petroleum products.

The variance analysis in the short run suggests that the greatest effect on the economic growth rate is due to the economic variable itself while other variables have a significant effect on the growth rate. However, in the long run, it can be noticed that along with the effects of the economic growth rate on the variable itself, the effects of the independent variables of the model have increased. So that in the long run (tenth year), the greatest effects on the economic growth rate are resulted from the economic variable itself, the government expenditures payments, and taxation of petroleum products respectively. Through a detailed examination of the variance analysis with regard to taxation on petroleum products, we found that the effects of this variable have increased over time and in the long run; they have more impacts than direct taxation. Therefore, it can notice that the taxes imposed on petroleum products in the discussed provinces are more effective than direct taxation on the economic growth rates.

7. Discussion

In the Iranian economy, oil revenues account for a significant part of the current budget and an important portion of government revenues. However, the irrelevant use of these revenues leads to serious problems. According to the results of this study, it can suggest that instead of using oil revenues in the current state budget, government can impose tax on the oil and petrochemical companies in the discussed provinces and allocate these revenues to the state budget. The revenues from the taxation of petroleum products could use to import new technologies as to increase oil and petrochemical productions.

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