

Investigating the effect of taxes and oil rent on happiness in selected MENA countries with the PSTr approach

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(Communicated by Farshid Khojasteh)

Abstract

Happiness is one of the most important and complex human emotions, whose effects on individual and social life are undeniable. Many and diverse elements play a role in creating and maintaining human happiness, for example, economic, social and cultural factors can be mentioned. Tax revenue is one of the key tools for governments to finance public expenditures, through which governments can provide the necessary financial resources to provide public services, such as health, education, and essential infrastructure. So far, a lot of research has been done in the field of happiness and factors affecting it. But the investigation of the threshold effect of tax revenues on happiness has received less attention. Therefore, the purpose of this research is to investigate the threshold effect of tax revenues on happiness in selected MENA countries in the period of 2008-2023. Also, the effect of oil income rent, corruption, inflation and unemployment on happiness is investigated and analyzed. For this purpose, the panel smooth transition regression model (PSTR) has been used. In this research, according to the studies and the theoretical basis, the variable of tax income has been determined as a transfer variable and its threshold level has been determined (2.77) in the studied countries. The results obtained from the estimation of the model confirm a two-mode nonlinear regression model with a transfer function and a threshold limit. The results show that when the tax income is lower than the threshold, it will have a positive effect and if it is higher than the threshold, it will have a negative effect on happiness. Also, the results show that the variables of corruption perception index have a positive effect and the variables of oil income rent, inflation and unemployment have a negative effect on happiness.

Keywords: happiness, tax revenue, oil revenue rent, panel smooth transition regression (PSTR), MENA countries
2020 MSC: 91B64

1 Introduction

Investigating factors affecting happiness has been one of the most important topics in economic literature in recent years, and many studies have entered this field. Many factors and reasons in the economic field affect happiness, which are different depending on the economic structure of the countries and the level of development of the countries. One of the most important variables, especially in countries with natural resources, is tax and oil rent. Examining the effect of

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Received: July 2024 Accepted: September 2024

tax and oil rent on the happiness index can be different depending on a range of factors, including the specific field and the country in question. Tax plays a vital role in financing public services, infrastructure and social welfare programs [17]. If taxes are distributed fairly and proportionately, and the rich bear more of the burden, it can contribute to greater social cohesion and reduce income inequality. This can have a positive effect on the happiness index by promoting the sense of fairness and social well-being. Also, if tax revenue is effectively used to provide essential public services such as health care, education and social security, it can help improve the quality of life and overall happiness [10]. Conversely, if tax revenue is mismanaged or perceived as wasted, it may negatively affect public satisfaction and happiness. Excessive tax rates can burden individuals and businesses, potentially reducing economic growth and investment. High tax rates may also lead to dissatisfaction among taxpayers and affect happiness. On the other hand, if tax rates are moderate and provide adequate public services, it can contribute to social stability and well-being. Oil rent also refers to the income from oil exports by countries rich in oil reserves. The effect of oil rent on the happiness index can be influenced by various factors. Oil rent can significantly contribute to economic growth and development and provide resources for countries to invest in infrastructure, education and health care [13]. Increasing economic development can have a positive effect on the happiness index by improving living standards and opportunities for citizens. Countries that are heavily dependent on oil rents may experience high income inequality because the wealth from oil reserves may be concentrated in the hands of a few [12]. This can create social inequalities that can negatively affect the happiness index. It is critical for governments to implement policies that distribute oil wealth equitably and address income inequality. Oil extraction and production can have adverse environmental effects, including pollution and climate change [23]. If oil rents are not managed sustainably, they can lead to environmental degradation, which may affect the happiness index due to reduced quality of life and health concerns. The price of oil is subject to fluctuations in the world market, which can cause economic fluctuations for countries dependent on oil rent [17]. Economic instability can have a negative effect on the happiness index by increasing unemployment, reducing welfare and hindering economic opportunities [5]. It is also important to note that the relationship between tax income, oil rent and happiness index is complex and can be different in different countries and contexts. In addition, other factors such as governance, social policies, and cultural aspects also play an important role in determining the overall level of happiness in a society, and the final result of its impact is subject to empirical investigation. Therefore, examining the factors affecting happiness, including oil rent and tax revenues in policymaking in this field, has a prominent and very important role and will have very important policy implications. In this context, Su, and Muhammad [29] in a research investigated the role of economic and social parameters affecting life satisfaction and happiness in the era before and after Covid-19, emphasizing Marx's point of view. By examining the effects of contributing parameters on life satisfaction and happiness (LSH) in China from 2005 to 2020, this article has shown that 9 variables including GDP growth, social participation (SC), employment rate (ER), support Social (SS), Innovation and Development (ID), Life Expectancy (LE), Social Security Coverage (CSS) and Regulation Quality Index have been the main explanations of the happiness index [29]. Lee and Goh [20] investigated whether happiness-based growth policies implemented in some countries can achieve better economic well-being based on GDP per capita using a panel data set including 104 countries from 2006 to 2018. Are they running or not? Experimental results indicate that economic growth of 1 to 3 percent can be achieved by increasing happiness [20]. Mignamissi, et al [25] using a cross-sectional model based on a global sample of 149 countries and using the ordinary least squares (OLS) method and the non-parametric method based on quantitative regressions (QR) on the effects of natural resource rents on well-being They researched mentally. They finally concluded that resource rent tends to reduce happiness, but this effect varies according to the political system and level of development, types and sizes [25].

In Iran, Fathabadi et al [14] in a study titled "Effect of economic variables on satisfaction: a cross-country studying using the analysis of ultimate limits" of consolidated data in the periods of 1990-1999 and 2000-2008 for developed and developing countries to They found that per capita income and life expectancy have a positive effect on happiness in both groups of countries, and unemployment has a negative effect in the group of developing countries [14]. 380 young people from Babolsar city found that the relationship between gender, marital status and education variables is not significant, while the variables of economic capital and employment have a significant relationship with happiness, but they explain only seven percent of happiness [11]. Similarly, Mohammadzadeh and his colleagues [26] investigated the effect of income on the happiness of the labor force in Iran in 2000 and 2005. The empirical findings show a positive and significant effect of income on the happiness of the labor force in Iran Afshari and Dehmardeh [2]. have also studied the effect of poverty, income inequality and human development index on happiness in selected countries for the period of 2005-2012. The results of this study show that in two groups of countries under study, poverty has a negative effect on happiness, but improving income distribution increases happiness. Also, it shows a positive relationship between the human development index and happiness [2]. Mikayli et al [24] in their study entitled "Evaluation of the role of socio-economic factors affecting happiness (a case study of the active population of Tehran)" reached these results that between social cohesion, social participation and social trust, the amount of household income And there is a

positive and significant relationship between age and happiness. However, there is no significant relationship between the level of education, employment status, gender and marital status of people with happiness [24].

Although several studies have been conducted in the field of happiness by separating the factors affecting it, but the results have shown different effects and connections. Although the impact of tax and rent of oil revenues on happiness in the society is very important. But very few studies have been done on it. Therefore, this study investigates the impact of tax revenues, oil rent and other variables such as corruption, inflation, unemployment on happiness for a selection of MENA countries.

2 Research method

The method of conducting this research is quantitative and causal investigation of the relationship between variables. In order to access the desired information, data related to the variables of oil income rent, inflation and unemployment from the World Bank, data related to the variable of happiness from the website of the Global Happiness Report by the Gallup Institute, and for the variable of corruption in this research from the Corruptions Perception Index (CPI) was used and collected from the Transparency International Organization in the period of 2008-2023. The statistical population of this research includes a selection of MENA countries. The reason for choosing MENA countries is the existence of oil revenues in most of them. MENA region countries have 60% of oil resources and 45% of gas resources of the world. The economy of these countries is closely related to global oil price changes. This area is one of the oldest oil fields in the world. The countries examined in this study are 12 out of 21 MENA countries. The sufficiency of the information related to their data is the criterion for examining these countries. Unfortunately, data related to all variables were not available for other countries, and it was enough to examine the countries of Iran, Bahrain, Egypt, Iraq, Jordan, Lebanon, Malta, Morocco, Saudi Arabia, Tunisia, Turkey, and the United Arab Emirates. It should be noted that the selected countries include the largest percentage of the total income of MENA countries. Therefore, the examined sample was also selected as an available sample. Hypotheses testing and quantification of the study of the relationship between independent variables and happiness in selected MENA countries is done using software such as Eviews and MATLAB and using the econometric method of panel smooth transition regression (PSTR). This method is a threshold regression method. The threshold regression method addresses the question of whether the regression functions pass uniformly across all observations or can be broken into distinct groups. There are two types of analysis in this regard, one of which is the traditional analysis, which is based on the approach of dividing the sample into two external groups based on judgment and individual preferences. If this approach is used, the selection of the number of modes and their location is optional and based on the guidance of previous economic theories. Another method used in threshold analysis is the sequential regression method or regression tree, which determines the number and location of thresholds completely endogenously and by using the existing data sorting [22]. In this method, mental ideas are not involved in the formation of the type of nonlinear relationship, and they do not need any form of definite nonlinear function in the investigation of nonlinear relationships. Threshold panel regression models are the first example of the range of regression models based on panel data. In these models, the regression coefficients can change over time and for cross-sectional units, and panel observations in these models are divided into several groups or homogeneous modes according to the threshold variable that is lower or higher than the determined threshold value. Of course, in these models, there are observations very close to the threshold value, which are placed in two different groups in terms of insignificant differences, and therefore, their influence is faced with a sharp jump [8, 15]. In order to overcome this problem, they presented and developed panel smooth transition regression (PSTR), which is actually an extended form of the PTR model in terms of the transfer function. Therefore, in the PSTR model, the slope of the transfer function, which expresses the rate of adjustment, changes the regression coefficients. determines from one mode to another. A PSTR model with two limit modes and a transfer function:

$$y_{it} = \mu_i + \beta_0 X_{it} + \beta_1 X_{it} \cdot g(q_{it}; y, c) + u_{it} \quad i = 1, \dots, N \quad t = 1, \dots, T$$

where y_{it} is the dependent variable (happiness), X_{it} is a vector of exogenous variables (including tax revenues, rents from oil revenues, corruption, inflation and unemployment), μ_i is the fixed effects of periods and u_t is the disturbance component. Also, the function g is a logistic function, continuous and bounded between zero and one, which shows a smooth transition between the modes and is as follows:

$$g(q_{it}; y, c) = \left(1 + \exp \left\{ \gamma \prod_{j=1}^m q_{it} - c_j \right\} \right)^{-1} \quad \gamma > 0, \quad c_1 \leq c_2 \leq \dots \leq c_m$$

where γ is the slope parameter expressing the rate of adjustment from one mode to another and q_{it} is the transition or threshold variable. Also, $c = (c_1, c_2, \dots, c_m)$ represents a vector of threshold parameters or mode change possibilities.

The parameter m also shows the number of times the mode changes. At this stage, the transfer variable should be selected from among explanatory variables, dependent variables or any other variable outside the model that is related to the model under study based on the study of Colletaz and Hurlin [9]. The transfer function usually has one or two threshold limits ($m = 1, m = 2$), the continuous and bounded feature of the transfer function between zero and one is discussed. Assuming, there exists a transfer function with two limit modes. And if the slope parameter tends to infinity, we will encounter a three-mode function whose two outer modes are similar and different from the middle mode. In the PSTR model, the estimated coefficients change continuously between the two limit states $F = 1$ and $F = 0$ according to the observations of the transfer variable and the slope parameter, which are specified as follows:

$$y_{it} = \begin{cases} \mu_i + \beta_0 X_{it} + u_{it} \dots & F = 0 \\ \mu_i + (\beta_0 + \beta_1) X_{it} + u_{it} \dots & F = 1 \end{cases}$$

Finally, the generalized form of the PSTR model with more than one transfer function is defined as follows:

$$y_{it} = \mu_i + \beta_0 X_{it} + \sum_{j=1}^r [\beta_1 X_{it}] \cdot g_j(q_{it}^j; y_j, c_j) + u_{it}$$

where r represents the number of transfer functions to specify the non-linear behavior and other things are predefined. It is worth mentioning that the PSTR model will be estimated by removing fixed effects by removing individual averages and then using the nonlinear least squares (NLS) method, which is equivalent to the maximum likelihood (ML) estimator.

3 Introducing the model and presenting the results

The model examined in this research is as follows:

$$\ln HAPPY_{it} = \mu_i + \beta_{11} \ln TR_{it} + \beta_{12} \ln CPI_{it} + \beta_{13} \ln INF_{it} + \beta_{14} \ln ROIL_{it} + \beta_{15} \ln UNM_{it} + \beta_0 + [\beta_{21} \ln TR_{it} + \beta_{22} \ln CPI_{it} + \beta_{23} \ln INF_{it} + \beta_{24} \ln ROIL_{it} + \beta_{25} \ln UNM_{it}] G(q_{it}; \gamma; c) + \varepsilon_{it} \quad (3.1)$$

The variables examined in this research are as described in Table 1. The data related to this study were collected for the period (2008) to (2023) and then logarithmized from the data. Because logarithmization reduces the positive skewness of data and reduces the effect of outlier data and helps to establish classical assumptions.

Table 1: list of variables and their source

Variable	symbol	source
Logarithm of Happiness index	<i>LNHAPPY</i>	Gallup Institute
Logarithm of rent of oil revenues	<i>LNROIL</i>	World Bank
logarithm of unemployment rate	<i>LNUNM</i>	World Bank
logarithm of consumer inflation rate	<i>LNINF</i>	World Bank
Logarithm of Tax revenue	<i>LNTR</i>	World Bank
logarithm of corruption perception index	<i>LNCPI</i>	Transparency International Organization

Before estimating the model, it is necessary to check the significance of the study variables. The results of the Line & Levin (LLC) test to check the significance of happiness variables, tax income, corruption perception index, inflation, unemployment and oil resource rent are reported in table 2 and it shows that some variables of the studied model at the level nonstationary has been Due to the presence of unknown variables in the model, the cointegration test (KAO) is performed.

The results of table 3 of the Kao cointegration test show that the null hypothesis is rejected and the opposite hypothesis, that is, a long-term relationship between the dependent and explanatory variables, is confirmed. After ensuring the existence of cointegration or cointegration relationship between the research variables, the level of the investigated variables in the model can be used to estimate the experimental model of the research without fear of estimating a fake regression. After verifying the clustering in the research model, the F -Limer test is performed to distinguish the panel data from the pooled data. In this test, the hypothesis of the same width from the origins is placed against the hypothesis of the heterogeneity of the width from the origins. The test results are shown in table 4.

Based on table 4, the null hypothesis is rejected and therefore, combined data should be used for fitting. The Hausman test is performed to distinguish the fixed effect model from the random effect model. Hypothesis H_0 indicates

Table 2: LLC unit root test results

symbol	Variable	LLC test	
		statistics	possibility
LnHAPPY	Logarithm of Happiness index	-2/02	0.021
LnROIL	Logarithmic of rent of oil revenues	-3/39	0.000
LnUNM	logarithm of unemployment rate	-1/47	0.070
LnINF	logarithm of consumer inflation rate	-1/46	0.071
LnTR	Logarithm of Tax revenue	-1/27	0.100
LnCPI	logarithm of corruption perception index	-1/68	0.046

Source: The results of research estimation with Eviews software

Table 3: Results of Kao cointegration test

Model	statistics	possibility
Research model	1/61	0.005

Source: The results of research estimation with Eviews software

Table 4: *F*-Limmer test to distinguish the method of combined or pooled data

F-Limmer test	statistics	possibility
	16.76	0.0000
	79.86	0.0000

Source: The results of research estimation with Eviews software

the absence of a relationship between independent variables and estimation error, and hypothesis H₁ indicates the existence of a relationship. Of course, if the number of segments is less than the number of coefficients in the model, the random effect model cannot be used. To perform the Hausman test, the model is first estimated as a random effect and then the Hausman test is performed. The results of the Hausman test are shown in table 5 and show the confirmation of fixed effects against random effects. In the following, the results of the panel smooth transition regression (PSTR) model will be analyzed. However, before estimating the main empirical model under investigation, the null hypothesis of linearity should be tested against the hypothesis of the presence of nonlinear relationship.

Table 5: Hausman test to distinguish fixed or random effects method

Hausman test	statistics	possibility
	16.88	0.004

Source: The results of research estimation with Eviews software

Table 6: The results of the non-linear relationship test

	<i>M</i> = 1			<i>M</i> = 2		
	<i>LM_w</i>	<i>LM_F</i>	<i>LR</i>	<i>LM_w</i>	<i>LM_F</i>	<i>LR</i>
<i>H</i> ₀ : <i>r</i> = 0	14.939	2.834	17.432	19.558	1.821	24.169
<i>H</i> ₁ : <i>r</i> = 1	(0.011)	(0.029)	(0.004)	(0.034)	(0.095)	(0.007)

Source: The results of research estimation with MATLAB software

Table 6 presents the results of the tests for one and two threshold limits (*m* = 1 and *m* = 2). According to the presented results, all the test statistics confirm the non-linear relationship between the variables at a high level of significance. After confirming the existence of a non-linear relationship between research variables, i.e. at least the existence of a transfer function, in the next step, the existence of a non-linear relationship in the residuals of the regression model should be investigated with the aim of determining the number of transfer functions. In this regard and following Gonzalez et al. [16], the null hypothesis of the existence of a PSTR model with one transfer function is tested against the assumption of the existence of a PSTR model with at least two transfer functions.

Table 7: The results of the non-linear relationship test results of the residuals

	<i>M</i> = 1			<i>M</i> = 2		
	<i>LM_w</i>	<i>LM_F</i>	<i>LR</i>	<i>LM_w</i>	<i>LM_F</i>	<i>LR</i>
<i>H</i> ₀ : <i>r</i> = 1	8.744	1.059	9.523	12.124	0.650	13.697
<i>H</i> ₁ : <i>r</i> = 2	(0.120)	(0.404)	(0.090)	(0.277)	(0.757)	(0.187)

Source: The results of research estimation with MATLAB software

The results of table 7 show that a transfer function is sufficient to determine the non-linear relationship between

tax income and happiness. After performing tests of linearity and absence of non-linear relationship in the residuals and choosing a transfer function for the model, threshold locations should be determined to estimate the final model. To determine the number of threshold locations, the values of the sum of squared residuals, Schwartz's criterion and Akaike's criterion are used. In this research, according to the suggestion of Colletaz and Hurlin [9], two models with one and two threshold limits are estimated, and Akaike and Schwartz criteria are both compared, and the model that has the minimum value of Akaike and Schwartz criteria, It is selected as the final model.

Table 8: Selection of the number of threshold locations in a transfer function

Schwartz	Akaike	
-8.548	-8.752	M=1
-8.515	-8.736	M=2

Source: The results of research estimation with MATLAB software

According to the results of Table 8, the optimal PSTR model is selected based on Akaike and Schwartz information criteria with a transfer function and a threshold limit.

Table 9: PSTR model estimation results

Linear section (first mode)				Non-linear section (second mode)			
Variable	parameters	Coefficients	t statistic	Variable	parameters	Coefficients	t statistic
LnTR	β_{11}	0.0130	(2.28)	LnTR	β_{21}	-0.4560	(-0.2425)
LnCPI	β_{12}	-0.1569	(-2.14)	LnCPI	β_{22}	0.2183	(1.9053)
LnINF	β_{13}	-0.0254	(-1.65)	LnINF	β_{23}	-0.0220	(-0.9359)
LnROIL	β_{14}	0.0064	(??)	LnROIL	β_{24}	-0.0193	(-2.22)
LnUNM	β_{15}	-0.0175	(-0.86)	LnUNM	β_{25}	-0.3994	(-3.38)
$\gamma = 21/11$				$c = 2/77anti \log 588$			
The numbers in the parentheses indicate the t-statistics. The tax revenue variable is considered as a transfer variable.							

Source: Research estimation results using MATLAB software

Table 9 presents a two-mode model that shows the relationships between the variables of the model. According to table 9, the slope parameter that shows the speed of transition from one mode to another mode is equal to (21) and a threshold limit for the variable of tax income as a turning point and distinguishing two modes expressed in the value model (2.77) is As can be seen in Table 9, the coefficients of the variables change from one mode to another. It is clear that due to the problem of heterogeneity in the coefficients of different variables and the instability of the estimated parameters over time in panel data, it is unreasonable to interpret the numerical values of the coefficients as elasticity and symbols are used to show the research results. According to the results obtained in estimating the model with a transfer function and a threshold value in order to investigate the threshold effect of tax income on happiness in the present study, the results are interpreted. In order to better present the content, the two limit modes available for MENA countries are examined.

First limit mode: In the first limit mode, the slope parameter tends to infinity and the value of the transfer variable (tax revenue) is less than the threshold limit, in this case the transfer function has a numerical value of zero, which is defined as follows:

$$\ln HAPPY_{it} = 0.0130 \ln TR_{it} - 0.1569 \ln CPI_{it} - 0.0254 \ln INF_{it} + 0.0064 \ln ROIL_{it} - 0.0175 \ln UNM_{it}. \quad (3.2)$$

Second limit mode: In the second limit mode, the slope parameter tends to infinity, but the value of the transfer variable is greater than the threshold limit, and the transfer function has a numerical value of one, which is defined as follows:

$$\ln HAPPY_{it} = -0.443 \ln TR_{it} + 0.0614 \ln CPI_{it} - 0.0474 \ln INF_{it} - 0.0129 \ln ROIL_{it} - 0.4169 \ln UNM_{it}. \quad (3.3)$$

Due to the fact that the coefficients of the variables change according to the transition variable and the slope parameter and are different for different countries over time, the numerical value of the coefficients presented in table 9 cannot be directly interpreted and it is better to analyze the signs and be analyzed.

4 Discussion and conclusion

In the current research, the threshold effect of tax income and the effect of oil resource rent on happiness in MENA countries has been investigated, and for this purpose, the regression model of soft panel transition, which is

the most distinguished model of mode change that solves the problem of heterogeneity, has been used. In this research, according to the studies conducted and the theoretical basis of the tax income variable, it is considered as a transfer variable, and the threshold level of tax income in the countries under review has been determined (2.77). According to the results obtained from the model estimation, a two-mode nonlinear regression model with a transfer function and a threshold limit has been confirmed. In this research, tax income is chosen as the transition variable and the speed of change from one mode to another is [21], which shows that mode change occurs at a moderate speed. In other words, the increase in the tax burden in MENA countries will gradually affect public opinion and the level of people's satisfaction. The results of the model estimation according to table 9 show that the variable of tax income in the first mode and before the threshold limit (588 million dollars) has a positive effect and after the threshold limit it has a negative effect on the level of happiness and satisfaction of people in MENA countries. According to the results obtained from the estimation of the speed of mode change, it is mild [21], that is, the increase in tax income gradually affects the level of happiness of people in the society. The result obtained regarding the negative effect of tax income on happiness with the results of studies Hutchinson et al. [18] and Rizkallah [27] correspond.

A high tax burden leads to financial stress and a decrease in individual well-being. When people feel that they are not able to keep a decent portion of their income due to high tax revenues, it can lead to feelings of resentment and dissatisfaction. In addition, the complexity of the tax system and the perceived lack of transparency in how tax revenue is allocated can lead to feelings of frustration and mistrust. If tax revenue, which is the main source of financing public services such as health, education, security, and infrastructure, is effectively spent on improving the quality of these services, it will increase the satisfaction and happiness of the people in the society. However, for low-income people, a high tax burden can exacerbate financial problems and limit opportunities for economic stimulation, which can have a negative impact on overall happiness and satisfaction. Conversely, for people with higher incomes, the impact of tax revenue on happiness may be less pronounced, as they may have more resources to buffer against the effects of tax revenue. Tax revenues can exacerbate income inequality through tax systems that may reduce social cohesion and welfare. Societies with higher levels of inequality often report lower levels of happiness. The fairness of the tax system also affects happiness. If people feel that tax revenues are fairly distributed and effectively used, they may experience greater satisfaction. Conversely, if they perceive the system as unfair or inefficient, it can lead to dissatisfaction.

The corruption perception index variable has a negative effect on people's happiness in the first mode and a positive effect in the second mode. In other words, according to the results obtained with the increase in tax revenue, the perception of corruption index has a positive relationship with the level of happiness in selected MENA countries. Any increase in the perception index of corruption in a country is like a decrease in corruption among government officials and politicians of that country. These results are consistent with the studies of Lee [21], Satrovic et al. [28]. By increasing the corruption perception index in a country, government management, conditions of citizens' access to public services, legal and judicial structure ruling in that country and the situation of the private sector will improve. This means the existence of transparency and recognition and understanding of the negative consequences of corruption, corrupt practices and its social, economic and political consequences. This transparency helps people to be aware of various dimensions of corruption and not remain indifferent to it. Improving the corruption perception index creates a sense of responsibility and pursues positive changes in the society. When people become familiar with corruption and its consequences and the corruption perception index rank is higher, they find the possibility of making more informed and intelligent decisions to improve their social and economic situation. This awareness can increase the sense of individual control over people's lives and futures, which in turn helps to increase happiness. In addition, transparency in a country makes people more active in establishing justice and fighting corruption, and this sense will increase satisfaction and happiness in their lives. At the macro level, improving the perception of corruption can have a positive effect on social happiness, and people become more willing to engage in civic and social activities. In addition, the existence of transparency in a country and public awareness of corruption can lead to pressure on government institutions and authorities to implement more transparency and accountability, and as a result, improve the quality of life and increase the sense of satisfaction among society members. Therefore, the perception of corruption is not only a social and political necessity, but also an effective factor in increasing personal and social happiness and satisfaction. When people become aware of the low level of corruption in society, they not only look for positive changes in their society, but these activities will also improve the quality of their personal and social life and create a fresher and more cheerful atmosphere. The unemployment variable has a negative effect on happiness in both modes. The results show that unemployment can directly lead to a decrease in people's mental health. The unemployed workforce usually suffers from anxiety, depression and feelings of failure. Research has shown that people who lose their jobs or are unemployed for a long time are more likely to develop mental disorders. The results are consistent with the studies of Badri et al. [6], Kanlioglu and Dumludag [19]. Unemployment is one of the major economic challenges that has significant social and psychological effects on individuals and society. Unemployed people usually face a feeling of failure and insensitivity towards life with a decrease in income. With the increase in tax income and passing the

threshold (588 million dollars), the same small income of people will also be lost. In this situation, the feeling of general satisfaction among the members of the society is greatly reduced. A high unemployment rate not only affects the individual, but it can lead to the weakening of social cohesion, increase in public dissatisfaction, increase in stress and anxiety, feelings of worthlessness and hopelessness, decrease in social connections and increase in financial problems. An increase in tax revenue can directly affect the unemployment rate. For example, when employer taxes increase, it leads to a decrease in investment and employment in the private sector. The decrease in hiring can lead to an increase in unemployment and dissatisfaction. On the other hand, higher tax revenues may lead to a sense of social justice and redistribution of income, which can increase public satisfaction. In a situation where an increase in tax revenue leads to an increase in unemployment, public satisfaction is also greatly affected. On the other hand, if the increase in tax revenue improves social services and increases the quality of life, it may increase public satisfaction, even if unemployment increases. The rent variable of oil resources has a positive effect in the first mode and a negative effect in the second mode on people's satisfaction and happiness. According to the obtained results, with the increase in tax income, the rent of oil resources has a negative effect on happiness. In oil-rich countries, governments usually rely on oil revenues as their main source of financing. This dependence not only leads to a lack of economic diversity, but also causes economic instability in the conditions of falling oil prices. When oil prices fall, governments usually run budget deficits, leading to cuts in public spending and social services. In this situation, people are denied access to health, educational and social services, which directly affects their level of happiness and life satisfaction. In addition, oil rent can cause corruption and financial abuses. The results of the Mignamissi and Kuete [25] and Ali et al. [4] studies are consistent.

Oil rent can significantly contribute to economic growth and development and provide resources for countries to invest in infrastructure, education and healthcare. Increasing economic development can have a positive effect on the happiness index by improving living standards and opportunities for citizens. On the other hand, oil-rich countries usually have a significant dependence on their oil revenues due to the abundance of natural resources. One of the negative effects of oil rent is creating economic dependence. In oil-rich countries, governments usually rely on oil revenues as their main source of financing. This dependence not only brings a lack of economic diversity, but also causes economic instability in the conditions of falling oil prices. When oil prices fall, governments usually run budget deficits, leading to cuts in public spending and social services. In this situation, people are denied access to health, educational and social services, which directly affects their level of happiness and life satisfaction. In addition, oil rent can cause corruption and financial abuses. When oil revenues are distributed opaquely and without strict supervision, social inequalities increase and some people are deprived of their rights by others, despite having rich resources, due to the lack of social justice and corruption in the system. These inequalities can lead to feelings of frustration and hatred and affect the vitality of society. In addition, oil rent fuels social problems such as unemployment and social dissatisfaction. Despite huge oil revenues, if governments do not plan to create job opportunities and invest in non-oil sectors, unemployment and economic stagnation will become a reality. This will lead to frustration and a sense of purposelessness, especially among the young and educated, which will ultimately reduce the level of happiness in society. On the other hand, the lack of democracy and civil liberties in many oil-rich countries is placed next to oil rent, and this issue can have a negative impact on the psychological and social aspects of the people. In such societies, due to political repression and the inability of people to express their opinions and participate in decision-making processes, feelings of powerlessness and frustration are common among people. This sense of helplessness and lack of self-confidence indirectly affects their happiness and quality of life. Also, oil extraction and production can have significant environmental consequences, including pollution, habitat destruction, and climate change. These environmental effects can damage ecosystems, biodiversity and natural resources and affect the quality of life and well-being of communities. In addition, exposure to pollutants from oil extraction can have adverse effects on the health of the surrounding population, leading to increased health risks and decreased happiness. The inflation variable has a negative effect on happiness in both modes. Because the increase in tax revenue leads to the intensification of inflation and reduces the purchasing power of the people, and as a result, reduces public satisfaction and the feeling of happiness. Since with the increase of inflation, the purchasing power decreases, financial worries increase, it causes economic uncertainty, negative impact on social welfare and mental health and reduces the happiness of the society. These results are consistent with the studies of [7], Yavuz Agan et al [3] and Abounoori and Eskandari [1].

Tax revenues, especially direct tax revenues such as income tax, can reduce people's net income. This decrease in income causes a decrease in purchasing power and in turn decreases the demand for goods and services. In economic conditions where there is stagnation or lack of demand, a decrease in demand can lead to a decrease in prices in the short term. But if all types of taxes are increased, especially when the economy is growing, people lose their purchasing power with a decrease in real income, and especially when the government increases these tax revenues to cover its expenses, the possibility of inflation increases. Higher tax revenues on companies and producers, especially value-added tax and indirect taxes, can somehow increase production costs. This increase in costs not only reduces

the motivation for investment and production, but can ultimately lead to an increase in prices. Producers are forced to increase the price of products to compensate for their additional costs, which in turn will fuel inflation and reduce public satisfaction. Inefficient fiscal policies as well as the imbalance in the way tax revenues are applied can lead to aggravation of inflation. When governments choose to raise taxes to finance their spending, they may simultaneously neglect other fiscal policy tools such as subsidies and economic incentives. In such a situation, with a decrease in demand and an increase in prices, the national economy is pushed towards stagnation and inflation. The effect of taxes on inflation and prices is not only momentary and can have adverse effects on the economic development of countries in the long run. Repeated increase in tax revenue can cause capitals to leave the country and decrease the level of foreign investments. Also, with the increase in government financing costs, there is a possibility of adopting contractionary policies as well as increasing pressure on the middle and lower classes of society. The relationship between inflation and happiness is intricately linked to the concept of economic stability. Economists believe that average inflation, usually measured between 2% and 3% per year, can be a sign of a healthy economy that promotes consumption and investment. However, when inflation escalates beyond this threshold, it can cause anxiety and uncertainty among consumers, leading to a decline in well-being. This phenomenon can be attributed to several factors, including the decrease in purchasing power, changes in consumer behavior, and the psychological effects of economic instability. So, as people struggle to manage their declining purchasing power, they may resort to cutting back on spending and forgoing luxuries that once contributed to their quality of life. This can lead to a decrease in overall consumption and subsequently a decrease in social interaction and social participation. The psychological impact of such changes can contribute to an overall decrease in happiness, as social connections play an important role in a person's emotional well-being. Therefore, according to the specific conditions of each country, the implementation of a fair tax policy, strengthening of regulatory institutions, development of social programs, promotion of tax culture and re-adjustment of expenses in order to improve the quality of life and reduce poverty can be considered in policies. Also, to maximize the positive impact of oil rents and tax revenue on well-being, satisfaction and happiness, policymakers should adopt a comprehensive approach that addresses key challenges and opportunities. This may include implementing transparent and accountable fiscal modes, diversifying the economy away from oil dependence, investing in human capital and infrastructure, and promoting inclusive governance. In addition, international cooperation and support can play an important role in helping oil-rich countries to overcome the complexities of rent management and oil tax revenue. Finally, it can be concluded that the relationship between tax revenue, oil resource rent and happiness is very complex and multidimensional. Although tax revenue can serve as a tool to finance public services and increase social welfare, if mismanaged it can lead to public dissatisfaction and reduced happiness. On the other hand, the rent of oil resources can play a positive role in improving the quality of life and happiness of the society if allocated appropriately and fairly, but otherwise, it can lead to corruption and social divisions. Therefore, to increase happiness in oil-rich societies, it is essential that governments manage and distribute oil resources intelligently and equitably, while emphasizing on improving the tax system and financing public services.

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