

existing inconsistency of the corporate reporting with International Financial Reporting Standards make it difficult to generate timely and adequate information about cash flows of a company. The main phases of cash flow management effectiveness analysis are defined herein. They include collecting and processing the data, identifying the factors and risks, analyzing the cash flows of the previous period, determining the financial resources and cash needs, budgeting the investments and monitoring the cash flows. Throughout this study, it is proposed to improve the quality of cash flow analysis by introducing certain statistical cash flow analysis indicators. Due to this, it is possible to obtain a high-quality and comprehensive assessment of the formation simultaneity and expenditure of cash flows over the time. The drawbacks of the classical (horizontal, vertical, comparative and ratio) methods of analysis are also described herein. Thus, certain classical statistical indicators are proposed to apply while evaluating the cash flows. Compared to other classical methods, statistical analysis has certain advantages as it allows to identify the relationships between cash flows, closeness of such relationships and their volatility, thereby making the mechanism for evaluating cash flows more holistic.

**Keywords:** statistics, method, analysis, management efficiency, cash flows.

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## POTENTIAL TAX REFORMS AND KUWAIT ECONOMIC GROWTH

*The objective of this study is to identify whether tax reforms are viable in Kuwait in order to create more government income from sources other than oil. The study examines the relationship between the changes in tax revenues, changes in oil revenue and changes in GDP in Kuwait using time series data from 1998 to 2015. The Augmented Dickey-Fuller (ADF) is used to check for the existence of a unit root. The cointegration test is applied to test for long term relationships between variables using the General Least Square (GLS) method of estimation. The results of the tests find that the impact of changes in tax revenues on changes in the GDP of Kuwait is insignificant. Therefore, Kuwait's government could rationally implement tax reforms to have incremental sources of income other than oil revenue. Moreover, it is argued that the government might consider implementing broad based consumption taxes and value added taxes into the tax structure Kuwait, and to invest the revenues from those taxes in productive policies, to induce long term economic growth.*

**Keywords:** GLS Methods, ADF Tests Stationarity, Granger Causality, Elasticity of Tax Base.

### Introduction

This research study takes Kuwait, as an oil dependent GCC member, as a surrogate for studying the need for structural reforms in the country itself, and in the GCC by

choosing specifically tax reforms as a focus. The objective of the study is to assess the viability of reforming the tax structure in Kuwait, and the introduction

of new taxes to diversify sources of income and induce long term economic growth.

Kuwait has a limited scope for tax revenues. The government implements taxes on foreign owned corporations only. However, most of the private sector is held by Kuwaiti individuals exclusively. Moreover, since only the foreign corporations are within the purview of Corporate Income tax law, it makes the generated revenues very limited. Additionally, the corporate income tax is not levied on the income of companies owned by GCC nationals in the same way it does foreigners, further limiting the tax base. However, Kuwait neither implements Value Added Taxes (VAT), income tax nor sales taxes. This tax friendly environment is a common among the members of the G.C.C. This type of governance derives its legitimacy through tradition, religion and more importantly the mobilization of oil wealth to increase the citizens' living standards. Consequently, it is very difficult to broach the subject of taxation, and the issue usually faces major political opposition [4].

#### Methodology

The empirical model used in the study is a multiple regression model based on the Generalized Least Square method of estimation (GLS). It utilizes ANOVA to assess the significance of the changes in tax revenues that are generated to the changes in GDP. Several other tests are conducted. Hence the Augmented Dickey and Fuller test is used to test if the variables are stationary at the same level. The Johansen test is used to isolate long run relationships between variables over time and finally the Granger causality test determines the causal relationships between the variables. Moreover, problems in the data of multicollinearity, heteroscedasticity [18] and serial correlation are tested and corrected. The software used to conduct the analysis of this econometric model is the STATA-IC, where all tabulated results use this platform. All the macro economic data utilized in this GLS estimation is retrievable at Kuwait Ministry of Finance, which can be accessed on the World Data Atlas, Central Statistical Bureau Kuwait. However, if taxes are used for productive purposes, such as a public goods that is an input in production or for public welfare (e.g. public infrastructure, cleaner environment ...etc.) there may be an optimal level of taxation. It is feasible therefore, that a country with higher tax environment could have higher GDP per worker than a country with a lower tax incidence [5].

Eltony N. [14], implements a regression analysis using OLS methods using cross country, time series data for 16 Arab countries that included the GCC countries to determine the significance of taxation towards revenues yield in these countries. He argued that in the GCC, there was a significant gap between actual and potential taxes especially in the UAE, Kuwait, Qatar and Saudi Arabia. He also found, that the political system, attitudes toward government and the quality of the tax regimes were also very important determinants of the tax share in GDP, and therefore these aspects should be considered by governments. He concluded that in order to reach maximum tax revenue generating capacity these countries should implement relevant tax reforms to current systems.

The G.C.C consists of Saudi Arabia, Bahrain, United Arab Emirates, Qatar, Oman and Kuwait. The political and economic issues are similar in nature in these countries and may cause positive or negative spillover effects from one country to another, making it easier to implement reforms if neighboring countries do the same, or more

difficult if they fail. The Kuwaiti economy is similar to that of other GCC members in its dependence on petroleum exports, as 95 % of its export revenue comes from oil [36]. Kuwait considered a high-income country, having a GDP per capita of about 70,500 USD as of 2015, falling behind only Qatar, which has the highest GDP per capita in the world (IMF, 2016). Like other members of the GCC, the government is considered obligated to provide education, healthcare and most basic services for the citizens, as a result of the social contract between them. This has caused the governments to subsidize most public goods. The government currently owns the water and electricity services, while food, education and healthcare are available as public and private entities. Most citizens rely on public services. The current subsidy system ensures that education, health services, basic food items, electricity and water are all sold below market prices. [13].

In Kuwait, most taxes that apply are for services to be received, such as stamp duties, fees for documentation renewal and fees for licenses and property transfers. Currently Kuwait does not implement personal income taxes on citizens. corporate profit tax on Kuwaiti nationals and GCC national owned companies or, Value Added Tax (VAT). Zakat on Kuwaiti companies is set at 1 %, but this is not considered part of government tax revenues. Corporate taxes are implemented at 15 % on foreign owned companies [28]. Other revenue sources under tax revenues are the fees government charges on the provision of the public goods and services [22].

Arnold J. [2] argues that corporate tax is the least growth friendly tax, in comparison to consumption and property taxes. Therefore, this is considered as one of the least attractive taxes. [Arnold *ibid*] also, finds that a broadly based consumption taxes would be superior and would cause the least distortions in comparison with taxes that have many exemptions [2]. Moreover, this study found that only when corporate tax rates are lower than income tax rates, is there encouragement to owning a business rather than being an employee. Hence, in this scenario, agents would be encouraged to take risks and invest in private businesses, increasing corporate tax revenues as result.

Kuwait does not levy individual citizen income taxes and therefore corporate taxes are expected to discourage investment in this case, as agents prefer to be employed rather than risking owning a business [29]. A detailed inspection of Table 1 summarizes the impact of ten studies which have aimed at estimating the impact of taxation on economic growth. As may be seen for some studies: for example, Hassan B. [17] indicates a strong positive impact of VAT revenue on economic growth. Moreover, Easterly W. [12] find no significant correlation exists between taxes and economic growth in a large sample. Furthermore, most studies summarized in Table 1 used econometric methods/ OLS/ GLS/panels to estimate the significance of various tax regimes and we adopt similar procedures except we that deliver cointegration and other enhancements/procedures to encompass a similar path of research.

**Table 1. Empirical Studies on the effect of Taxes on Growth**

| Study                                       | Data Set                                                   | Methodology                                                           |                                                     |                                                                 |                                                    |                                                                                                                                           |
|---------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|                                             |                                                            | Taxes                                                                 | Growth                                              | Other Variables                                                 | Technique                                          | Result                                                                                                                                    |
| Anderson, Hunt & Snudden, (2014)            | Cross-section data set for euro countries                  | VAT, Labor income tax and Capital tax                                 | GDP                                                 | -                                                               | Global Integrated Monetary and Fiscal model (GIMF) | VAT causes 30 % improvements in fiscal balance                                                                                            |
| De Mooij R. & Keen M., (2012) [7]           | Panel Data (32 OECD countries)                             | VAT                                                                   | -                                                   | -                                                               | C-efficiency ratio                                 | As C-efficiency ratio increases, the VAT revenue increases without increasing the rate                                                    |
| Adekunle A., Remi A.&Ayorinde O. (2013) [1] | Nigeria from 2001-2010 (9 years)                           | VAT                                                                   | Petroleum profit tax and Federal revenue            | Company Income and Education Tax                                | stepwise regression model                          | Strong correlation between VAT and federal tax revenue                                                                                    |
| Hassan B. (2015) [17]                       | Pakistan (1991-2011)                                       | VAT                                                                   | Nominal GDP                                         | Income and trade tax revenue growth                             | OLS Regression                                     | Strong and positive impact of VAT revenue on the economic growth (GDP)                                                                    |
| Njogu L.K. (2015) [30]                      | Kenya (1990-2014)                                          | VAT rates                                                             | Gross domestic product growth rates                 | Consumer price indices and unemployment rates                   | Poisson regression                                 | Significant negative relationship between VAT rates and GDP and significant positive relationship between VAT rates and unemployment rate |
| Barro R.J. (1990) [5]                       | 121 Countries for 1970-1985                                | Consumption tax and income tax                                        | Real government consumption expenditure to real GDP | -                                                               | Endogenous growth model (Cobb Douglas)             | Significantly negative correlation with growth                                                                                            |
| Arnold J.(2008) [2]                         | Panel Data for 21 countries from 1971 to 2004              | Income Taxes + Taxes on consumption and Property                      | GDP per Capita                                      | -                                                               | Pooled Mean Group (PMG) estimation                 | Positive effect on growth from Property and consumption tax<br>Negative effect from income and corporate tax                              |
| Easterly W. and Rebelo S. (1993) [12]       | Cross-section data set for 125 countries from 1970-1988    | Income, Profit, Property tax revenues + Marginal income tax           | Central Government Surplus/GDP                      | Government Expenditures                                         | OLS                                                | No significant correlation between tax rates and growth                                                                                   |
| Shinohara M. (2014) [35]                    | Cross country panel data for OECD and developing countries | Total tax revenue (income – Consumption – Property)                   | GDP per Capita                                      | Trade openness and Population                                   | Pooled Mean Group (PMG) estimation                 | Taxing Labor income has a negative effect on growth                                                                                       |
| Wildman J. (2001) [37]                      | Panel Data of 23 OECD countries from 1965-1990 (25 years)  | Total tax revenue (income – Consumption – Property- Corporate income) | Real GDP per Capita                                 | Prior period GDP – Population growth – Labor market instability | Pooled Mean Group (PMG) estimation                 | Taxing personal incomes is negatively correlated with growth                                                                              |

Source: Authorial Compilation and Tabulation.

### Econometric Model: ADF Tests and Stationarity Profiles

We applied the ADF test to all the 7 variables and difference the non-stationary variables until we found their order of stationarity [8, 9, 10]. Table 2 shows the results. Our inferences were on the critical values under a 95 % confidence interval, aka value of  $\alpha=5\%$  for all the tests conducted in the full model in order to maintain consistency. We applied these tests to the Gross Domestic Product (GDP) variable. After the second difference, or at I (2) order of integration the data becomes stationary with a calculated value of the test statistic -4.765 and p-value of 0.0001 as the shown in table. We proceeded to implement this test using the same method on Oil Revenue (OR) data. We found that it was also stationary after second differences when p-value is at 0.0060 and the test statistic is -3.586. For the variable of Taxes on Corporate Income and Profits (TCIP), we found stationarity after the second differences with a p-value of 0.0002 and the test statistic at -4.531. This made both of those variables of I (2) order of integration. The fourth variable, Taxes on Property Transfers (TPT), was found to be non-stationary therefore we took the first difference and found that it was stationary at p-value 0.0017, which made its order of integration I (1). This causes the variable (TPT) to be at a

lower order of integration than the GDP, OR and TCIP variables [25, 21] Therefore, we dropped this from the next step of the econometric model since it meant that it did not exhibit a long term trend with the fundamental variables in the model GDP and OR. The variable Taxes on International Trade (TIT) was tested and found to be stationary after taking the first difference, where the calculated test statistic is more negative than the critical value at -3.740 and with a p-value of 0.0036 whereas the variable Stamp Duties (SD) was tested and found to be stationary after the first difference as well at p-value of 0.0000.

### Results

Therefore, these two variables were omitted from (the empirical model along with the (TPT) variable. Finally, (AT) was found stationary after taking second differences. So, we kept the 4 variables integrated at order I (2). The reason behind this is that GDP is the dependent variable and hence, we include only the variables integrated at the same level in order to avoid spurious regression results [3]. The multiple regression equation therefore includes the  $\Delta$  Gross Domestic Product (GDP),  $\Delta$  Oil Revenue (OR),  $\Delta$  Taxes on Corporate Income and Profits (TCIP) and  $\Delta$  Activities Taxes (AT) as follows:

$$\Delta \text{GDP}(t) = \beta_0 + \beta_1 \Delta \text{OR}(t) + \beta_2 \Delta \text{TCIP}(t) + \beta_3 \Delta \text{AT}(t) + \varepsilon(t).$$

**Table 2. The Augmented Dickey and Fuller Unit Root Test Results**

| Variables | Calculated value* | Calculated value I(1) | Calculated value I(2) | Critical value at $\alpha=5\%$ | P value (Stationary) | Order of integration |
|-----------|-------------------|-----------------------|-----------------------|--------------------------------|----------------------|----------------------|
| GDP**     | -1.318            | -2.106                | -4.373                | -3.00                          | 0.0003               | I(2)                 |
| OR**      | -1.420            | -0.999                | -3.586                | -3.00                          | 0.0060               | I(2)                 |
| TCIP**    | -0.135            | -2.110                | -4.531                | -3.00                          | 0.0002               | I(2)                 |
| TPT       | -1.629            | -3.949                | -                     | -3.00                          | 0.0017               | I(1)                 |
| TIT       | 0.250             | -3.740                | -                     | -3.00                          | 0.0036               | I(1)                 |
| SD        | -1.003            | -6.086                | -                     | -3.00                          | 0.0000               | I(1)                 |
| AT**      | 3.017             | -1.639                | -4.937                | -3.00                          | 0.0000               | I(2)                 |

\*The Calculated value of the test statistic on the raw data set without taking any differences.

\*\* Variables GDP, OR, TCIP and AT are stationary at the same level and will be included in the model.

The rejection of the null hypothesis of unit root is compared at 5 % significant level for all variables.

Source: Authorial Compilation and STAT-IC Output.

Table 3 shows the results of the application of the test. We analyzed the results starting with the Trace statistic against the Critical Value at the maximum rank of 0. The Trace Statistic of 118.3966 is bigger than the Critical value of 47.21. Therefore, we rejected the null hypothesis of no co-integration and concluded that there was at least one co-integrating relationship between variables. We proceeded to

compare the Trace Statistic to the Critical value at rank 1, and we concluded the same since 55.5348 is bigger than 29.86. At rank 2 and 3 we find that the Trace Statistic of 25.9286 and 10.3100 are bigger than the 15.41 and 3.76 Critical Values respectively. Thus,  $\Delta \text{GDP}$ ,  $\Delta \text{OR}$ ,  $\Delta \text{TCIP}$  and  $\Delta \text{AT}$  are cointegrated, and there is a long-run relationship among them [19, 20].

**Table 3. The Johansen co-integration test results**

| Sample       | 2002-2015 |            | Number of observations 14 |                 |                    |
|--------------|-----------|------------|---------------------------|-----------------|--------------------|
|              |           |            | Lags 2                    |                 |                    |
| Maximum Rank | Parms     | LL         | Eigen Value               | Trace Statistic | 5 % Critical Value |
| 0            | 20        | -359.3694  | -                         | 118.3966        | 47.21              |
| 1            | 27        | -327.93851 | 0.98878                   | 55.5348         | 29.68              |
| 2            | 32        | -313.13542 | 0.87933                   | 25.9286         | 15.41              |
| 3            | 35        | -305.32611 | 0.67229                   | 10.3100         | 3.76               |
| 4            | 36        | -300.1711  | 0.52118                   | -               | -                  |

Source: Authorial Compilation and STATA-IC Output.

Table 4 shows the results of the Granger-causality test. The number of lags used in the causality test is 2 lags. The appropriate number of lags for the causality test was determined by the Akaike Information Criteria (AIC) in order to select the maximum lag length. The first variable to be tested was the  $\Delta \text{GDP}$ . We observed each variable against

$\Delta \text{GDP}$  and found if each of them Granger-causes it then  $\Delta \text{GDP}$  would be chosen as the Y (dependent) variable, and all others would be considered the X (independent) variables. For the first row, the null hypothesis is that  $\Delta \text{Oil Revenue (OR)}$  does not Granger-cause  $\Delta \text{GDP}$ , and the p-value of 0.000 is less than 0.05 therefore we rejected this

hypothesis and concluded that  $\Delta OR$  does Granger-cause  $\Delta GDP$ , therefore there is a causal relationship between them. The results also show a bilateral relationship between the two variables, which means  $\Delta OR$  Granger-causes  $\Delta GDP$  and  $\Delta GDP$  also Granger-causes  $\Delta OR$ . The next variable to be tested against  $\Delta GDP$  was the  $\Delta TCIP$ . From the p-value we find that  $\Delta TCIP$  Granger-causes  $\Delta GDP$  at 0.002, but the  $\Delta GDP$  does not Granger-cause  $\Delta TCIP$

since the p-value of 0.161 is bigger than 0.05. Testing  $\Delta GDP$  against  $\Delta TCIP$  we found that it Granger-causes it while the inverse is incorrect. At p-value 0.186, the  $\Delta AT$  does not Granger-cause  $\Delta GDP$ , while at p-value of 0.033  $\Delta GDP$  causes  $\Delta AT$ . Finally, we observed if all variables together Granger-cause  $\Delta GDP$  and concluded that they do from the 0.000 p-value. Therefore; the choice of  $\Delta GDP$  as the dependent variable is consistent with the results [15].

**Table 4. Granger causality test results**

| The null hypothesis                               | The p-value for level of significance (F-test) | The results*            |
|---------------------------------------------------|------------------------------------------------|-------------------------|
| $\Delta OR$ does not Granger-cause $\Delta GDP$   | 0.000                                          | Reject the null         |
| $\Delta TCIP$ does not Granger-cause $\Delta GDP$ | 0.002                                          | Reject the null         |
| $\Delta AT$ does not Granger-cause $\Delta GDP$   | 0.186                                          | Fail to reject the null |
| All variables do not Granger-cause $\Delta GDP$   | 0.000                                          | Reject the null         |
| $\Delta GDP$ does not Granger-cause $\Delta OR$   | 0.000                                          | Reject the null         |
| $\Delta TCIP$ does not Granger-cause $\Delta OR$  | 0.144                                          | Fail to reject the null |
| $\Delta AT$ does not Granger-cause $\Delta OR$    | 0.000                                          | Reject the null         |
| All variables do not Granger-cause $\Delta OR$    | 0.000                                          | Reject the null         |
| $\Delta GDP$ does not Granger-cause $\Delta TCIP$ | 0.161                                          | Fail to reject the null |
| $\Delta OR$ does not Granger-cause $\Delta TCIP$  | 0.020                                          | Reject the null         |
| $\Delta AT$ does not Granger-cause $\Delta TCIP$  | 0.026                                          | Reject the null         |
| All variables do not Granger-cause $\Delta TCIP$  | 0.030                                          | Reject the null         |
| $\Delta GDP$ does not Granger-cause $\Delta AT$   | 0.033                                          | Reject the null         |
| $\Delta OR$ does not Granger-cause $\Delta AT$    | 0.000                                          | Reject the null         |
| $\Delta TCIP$ does not Granger-cause $\Delta AT$  | 0.000                                          | Reject the null         |
| All variables do not Granger-cause $\Delta AT$    | 0.000                                          | Reject the null         |

\*Based on lag 2 which is determined by the Akaike Information Criteria (AIC).

Source: Authorial Compilation and STATA-IC Output.

Assessment using the Variance Inflation Factor (VIF) which, which quantified the severity of multicollinearity. As a rule of thumb, VIF less than 10 is acceptable for the model to conclude that there is no multicollinearity problem [31]. Table

5 contains the results of the VIF test. From the results we see that all the three independent variables do not have a VIF equal to or, above 10. At 1.08, 1.08 and 1.01 we concluded that there is no multicollinearity between the variables [6].

**Table 5. Multicollinearity test (Variance Inflation Factor)**

| Variable name | Variance Inflation Factor (VIF) |
|---------------|---------------------------------|
| $\Delta OR$   | 1.08                            |
| $\Delta TCIP$ | 1.08                            |
| $\Delta AT$   | 1.01                            |
| Mean VIF      | 1.05                            |

Source: Authorial Compilation STATA-IC Output

By observing the F-value of 21.76 and comparing it to the tabulated F-value of 3.49 at 5 % significance level, we find that it is higher. Therefore, we reject the F-test's null hypothesis that the model is insignificant. We also examined the P-value. At 0.0000 which was less than 0.05 and we rejected the null of an insignificant model. Therefore, we concluded that full model was statistically significant and based conclusions on this finding.

### Conclusion and Discussion

The [Prais-Winsten, 1954] regression was used to overcome serial correlation that appeared in regression models. It uses the Generalized Least Square (GLS) to estimate the parameters of the model that has serially correlated errors. (Table 6) The GLS method gives more efficient estimations than OLS in this case [16]. [Prais-Winsten Ibid] also prevents the loss of the first observation in the model. Therefore, it increases the efficiency of the test and is more appropriate for smaller a sample model [Maeshiro A. [27], Park, 1980]. The test produced a transformed Durbin Watson value of 2.01 which when

applied on our data, and the serial correlation was solved [11]. From the observed value of R-Squared which is 0.8447, we inferred that the independent variables in the model ( $\Delta OR$ ,  $\Delta TCIP$  and  $\Delta AT$ ) explain 84.47 % of the variability in the  $\Delta GDP$ . Therefore, a significant amount of the changes that appear in the GDP of Kuwait is explained by our independent variables and only 15.53 % is left and is unexplained. Therefore, this is considered part of the error term and is unexplained by the independent variables chosen. Thus, from these results, we conclude that the general model results are statistically significant.

We observed the effect of  $\Delta OR$ , which had a t-value of 7.02 and a P-value of 0.000. This effect is significant on  $\Delta GDP$  at our 5 % significance level. The value of its beta coefficient of 1.25 indicates a positive relation. The confidence interval also indicated that the rate of change of the conditional mean of  $\Delta GDP$  with respect to  $\Delta OR$  was estimated to be between 0.863 and 1.639. This confirms the dependence on oil for the GDP of Kuwait [16].

Table 6. Regression Model (Prais-Winsten)

| Observations                        | 16     |
|-------------------------------------|--------|
| F-Value (3,12)                      | 21.76  |
| P-Value                             | 0.0000 |
| R-Squared                           | 0.8447 |
| Adjusted R-Squared                  | 0.8059 |
| Old Durban Watson Statistic         | 3.076  |
| Transformed Durban Watson Statistic | 2.01   |

Source: Authorial Compilation and STAT-IC Output.

To attain the core objective, we studied the effects of the changes in tax revenues in Kuwait on changes in Gross Domestic Product (GDP) and measured their relative statistical significance. The econometric model used was a multiple regression model based on the Generalized Least Square (GLS) method of estimation. The data utilized was time series data, collected for 18 years starting from 1998 to 2015, on Gross Domestic Product (GDP), Oil Revenues (OR), Taxes on Corporate Income and Profits (TCIP) and Activities Tax (AT). The data sources were from Kuwait's statistical bureau and the World Bank.

The results indicate that the impact of changes in tax revenues do not affect changes in the GDP of Kuwait significantly. The fundamental issue was that the only significant factor affecting changes in long run GDP growth were changes in oil revenues. This was due to the country's dependence on oil for the generation of GDP. Therefore, the government could viably utilize tax reform policies and introduce new taxes to generate income from sources other than oil. VAT, foreign labor taxes and broad-based consumption taxes are recommended for being growth friendly in comparison with corporate income and personal income tax as per the literature reviewed.

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### ПОТЕНЦІЙНІ ПОДАТКОВІ РЕФОРМИ ТА ЕКОНОМІЧНЕ ЗРОСТАННЯ КУВЕЙТУ

Мета цього дослідження визначити, чи життєздатні податкові реформи в Кувейті, щоб отримати більший дохід уряду з інших джерел, окрім нафти. Розглянуто взаємозв'язок між змінами в податкових надходженнях, змінами в нафтових доходах і змінами ВВП у Кувейті на основі даних часових рядів з 1998 по 2015 рік. Розширений тест Дікі-Фуллера (ADF) використано для перевірки існування одиничного кореня. Тест коінтеграції застосовано для перевірки довгострокових співвідношень між змінними з використанням методу найменших квадратів (GLS). Результати дослідження показали, що вплив змін податкових надходжень на зміну ВВП Кувейту незначне. Таким чином, уряд Кувейту може виважено проводити податкові реформи, щоб мати додаткові джерела доходу, окрім доходу від нафти. Стверджується, що уряд міг би розглянути питання про введення широкомасштабних податків на споживання і додану вартість до податкової структури Кувейту та інвестувати доходи від цих податків у виробничу політику, щоб стимулювати довгострокове економічне зростання.

Ключові слова: метод найменших квадратів GLS, розширений тест Дікі-Фуллера, причинність Грейнджера, еластичність податкової бази.

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### ПОТЕНЦИАЛЬНЫЕ НАЛОГОВЫЕ РЕФОРМЫ И ЭКОНОМИЧЕСКИЙ РОСТ КУВЕЙТА

Цель этого исследования в том, чтобы определить, являются ли налоговые реформы жизнеспособными в Кувейте, чтобы получить больший доход правительства из других источников, кроме нефти. Рассмотрена взаимосвязь между изменениями в налоговых поступлениях, изменениями в нефтяных доходах и изменениями ВВП в Кувейте на основе данных временных рядов с 1998 по 2015 год. Расширенный тест Дики-Фуллера (ADF) использован для проверки существования единичного корня. Тест коинтеграции применен для проверки долгосрочных соотношений между переменными с использованием метода наименьших квадратов (GLS). Результаты исследования показали, что влияние изменений налоговых поступлений на изменение ВВП Кувейта незначительно. Таким образом, правительство Кувейта может взвешенно проводить налоговые реформы, чтобы иметь дополнительные источники дохода, помимо доходов от нефти. Утверждается, что правительство могло бы рассмотреть вопрос о введении широкомасштабных налогов на потребление и добавленную стоимость в налоговую структуру Кувейта и инвестировать доходы от этих налогов в производственную политику, чтобы стимулировать долгосрочный экономический рост.

Ключевые слова: метод наименьших квадратов GLS, расширенный тест Дики-Фуллера, причинность Грейнджера, эластичность налоговой базы.

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### GASTRONOMIC TOURISM, AN OPPORTUNITY FOR DIVERSIFYING THE TOURIST OFFER IN THE SIBIU AREA

*In the tourists' motivation to choose a holiday destination, gastronomy is gaining important insights, which has led to an increasing supply of quality-based local products and a stronger market growth. Gastronomy has become one of the most dynamic segments on the international tourism scene. Gastronomic tourism begins to be viewed as a phenomenon as a new tourist product itself, due to the fact that more than one third of the expenses in the tourist offer of the destination are made food. This shows the importance of gastronomy in the quality of leisure experience. Gastronomic tourism gains more and more importance as motivating the future in choosing the holiday destination. Proof of this is that, according to recent research (Euromonitor, 2018), eating in restaurants is the second favourite activity for international athletes visiting the US and occupying the first place for tourists from North America in their recreational trips to other countries. For these reasons, we developed a questionnaire that was applied to a total of 234 respondents, but randomly among the visitors at the Tourism Fair, which was dashed in November 2017 in Bucharest. The survey aimed at identifying the position of the fish and the gastronomy occupied in the motivation of the tourists to visit Sibiu and the surrounding areas. The results revealed that the traditional gastronomy, through its multicultural aspect, represents the second or third top visiting Sibiu. Certainly this will become even more visible, given the designation for 2019 of Sibiu as a European gastronomic region.*

**Key words.** gastronomic tourism, immaterial patrimony, culture, rural tourism, sustainable development.

**Introduction.** Gastronomy is an important part of rural tourism, and gastronomic tourism is strongly promoted at fairs and festivals with this specific in Europe. Rural tourism has developed in recent years both internationally and in Romania, thanks to its special valences, including the preservation of the environment, the preservation of the local traditions and the cultural values, which make up a unique patrimony. Along with these, the traditional gastronomy has an important role, which in the Sibiu area has multicultural valences. The gastronomic routes become tourist products that are increasingly sought after. They are

a true system, a thematic and complex tourist offer. The route provides information on both traditional gastronomy and other tourist attractions in the area, promoting its economic development. According to a study by the World Tourism Organization, more than 88 % of its members believe that gastronomy is a strategic element in defining the brand and destination of the destination, and over 67 % claim that their country has its own gourmet brand (WTO data, 2018). Regarding tourism products, the study showed that the most important gastronomic activities (79 %),