Tax Elasticity And Tax Buoyancy In Jordan During The Period (1980-2020) "Analytical Study"

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Abstract:

This study is mainly aimed at disclosing the impact of elasticity and tax buoyancy on the Jordanian economy through an assessment of the elasticity and tax buoyancy and the impact of the amendment of tax laws in Jordan during period (1980-2020). The OLS method was used to estimate the mode, and the results showed: if Jordan's GDP grows by 5% annually and there are no changes in the tax system, tax revenue should increase by 4.8% per year (97% of 5%). This is in case there are no changes to the tax systems. "If Jordan's tax laws and regulations are amended, the Jordan Floating Tax buoyancy indicates that tax revenue collecting in Jordan should increase by 4.9% (99% of 5%)"."In short, the net effects of the structural changes made to Jordan's tax system led to a 0.01% growth in tax revenue, meaning that tax policy was effective in maintaining tax collection in Jordan." However, the changes and amendments that took place in the tax laws did not add any significant additional revenue, but rather increased the burden on citizens, especially those in the middle and poor classes.

Keywords: Tax elasticity, Tax buoyancy, Gross domestic product, Taxation, Tax revenue, Tax income.

I.   Introduction:

States shall pay close attention to their important role in the economy and its development in tax regimes; It is the main source of public expenditure and is essential for building and strengthening the economy and its development (Hammouri & Abu-Shanab, 2017). It is the main gateway to improving domestic production and, with acute economic openness and States' considerable efforts to improve their tax systems, Fiscal policy also plays a central role in achieving economic policy objectives of economic stability and increasing economic growth; Through the mobilization of the State's financial resources, tax withholding affects macroeconomic variables such as economic growth, savings, production, investment and inflation. The degree and nature of this effect vary according to the form of the tax policy followed. Measuring tax elasticity and tax buoyancy is very useful in terms of reforms in the tax structure as well as revenue management. Also, helpful in forecasting revenue. Tax revenues may change due to a variety of factors, such as changes in income, changes in the tax rate and tax base, changes in the efficiency of linking and collecting taxes. The tax revenue response to such changes can be explained. Tax Elasticity can be defined as the percentage change in tax revenues adjusted to the percentage change in income.

Jordan's economy has experienced many economic and financial crises, such as an increase in the proportion of public indebtedness and a rise in the State budget deficit, as a result of inflated government expenditures. In addition, Jordan's economy

has been affected by deteriorating political conditions in the region. The Jordanian Government has therefore endeavored to improve economic performance, particularly in recent years, by adopting a national correction programmed, in cooperation with the International Monetary Fund (IMF); which focuses on a range of reforms, notably tax reforms.

II.   Study Problem:

Although several practical and basic studies and research have been available on the topic of tax Elasticity and its impact on the economy, the standard and quantitative dimension of the effects of the tax system on all aspects of the economy has been absent. This research is therefore aimed at closing the moral gap on the subject of research on the one hand and quantifying the impact of tax elasticity on the Jordanian economy on the other. Views in the economic literature also vary on the extent to which States gain and benefit from a good tax system, for example, reducing unemployment, creating jobs, providing hard currencies, and alleviating the external indebtedness of the State (Hanandeh et al., 2021). In contrast, others consider that the tax regime devotes the economical use of developing countries to the benefit of large and developed nations by controlling capital and concentrating wealth among a few States, and dominating the world economy through the elimination of the State's national power, power, and economic sovereignty. Therefore, the problem with this study is to assess whether extraneous Elasticity impacts Jordan's economy.

III.   Study Questions:

The main objective of the study is to reveal the impact of elasticity on Jordan's economy.

The following sub-questions emerged from this question:

You can raise the tax collection efficiency.

Is it possible to tax more?

Does the tax system suffer from distortions?

How much a citizen can pay the tax.

IV.   The importance of the study:

The importance of research comes from the importance of information obtained from its sources on the impact of extraneous demand elasticity on the economy. In Jordan, had to determine the impact of repeated changes on Jordan's tax laws, by using different methods to measure this effect, the method of intrinsic demand elasticity, the impact of income is one of the basic methods in open countries to measure their gains from the tax system, as the economy like other developing countries' economies is characterized by a rise in economic openness. The tax system suffers from distortions, in recent years, Jordan has faced several external challenges, which have affected its domestic economy. From the financial crisis, and the European debt crisis, the Arab Spring, which affected the flow of gas, and the Syrian crisis, which left many Syrians deserting Jordanian territory. Lastly, the coronavirus pandemic has increased pressure on Jordan's economy and negatively affected Jordan's balance of payments. This research, therefore, examined the Elasticity of domestic demand and its impact on Jordan's economy. Thus, some recommendations are made to local economic policymakers to identify, reduce, increase and diversify those impacts if they are negative.

V.   Objectives of the study:

This study aims mainly to reveal the impact of the elasticity of the tax demand on the Jordanian economy: an analytical study. It also aims to determine the impact of tax revenues and the impact of income tax on the Jordanian economy and the pocket of citizens.

Study hypotheses:

There is no statistically significant effect between tax revenues and GDP.

There is no statistically significant effect between income tax and GDP.

VI.   Study data sources:

The data required for this study were used: publications, reports and annual time-series data of variables issued by Jordanian government institutions, and departments during the study period. The most important are the Central Bank of Jordan, Ministry of Finance.

To cover the theoretical aspect, the study relied on a range of Arab and foreign sources, and references, which included a collection of books, articles, published research and university letters.

VII. Study methodology:

Statistical and metric methods have been used to calculate the impact of tax Elasticity on Jordan's economy by calculating the elasticity of tax revenues from Jordanian economic data during the period 1980-2020. A model has been assessed by way of small squares (OLS), thereby calculating their impact on Jordan's economy, and the results have been extracted using Eviews.

VIII. Theoretical framework and previous studies:

The idea of tax elasticity of all kinds refers to the extent to which taxes respond to the change in GDP, and Elasticity is measured by dividing the relative tax change by the relative change in GDP. If elasticity is greater than one right, this is evidence of the government's greater capacity to generate more tax revenue by raising the tax ratio or expanding the tax base. If tax elasticity is less than one right, this is evidence of the Government's low effectiveness in increasing tax revenues by increasing the tax ratio. If tax elasticity is significantly lower than one, it means that economic growth is unable to generate more taxes, which means that the tax system is flawed and distorted, and tax reform is required. Tax Elasticity and tax buoyancy can be defined:

Tax elasticity: Tax increase or change in tax revenues as a result of national income change is not linked to other factors such as Tax Rate or Tax bese.

Tax buoyancy: measures the ratio of change in tax revenues to the ratio of change in GDP in general, whether the change in tax revenue ratio is due to natural growth in GDP or an increase in tax ratio or tax base.

Elasticity is one of the main methods of measuring the impact of the tax rate change on Jordan's tax system and this method also determines the degree of change in the tax system due to the change in the tax rate, elasticity is one of the standard concepts used to measure demand, supply and tax impact and in determining its causes, where this method is used to explain changes in the past and identifies the reasons for the change in the tax system, as well as predicting future changes to assist in the future planning of the tax system.

Figure (1): Jordan's total tax revenues (1 million dinars)
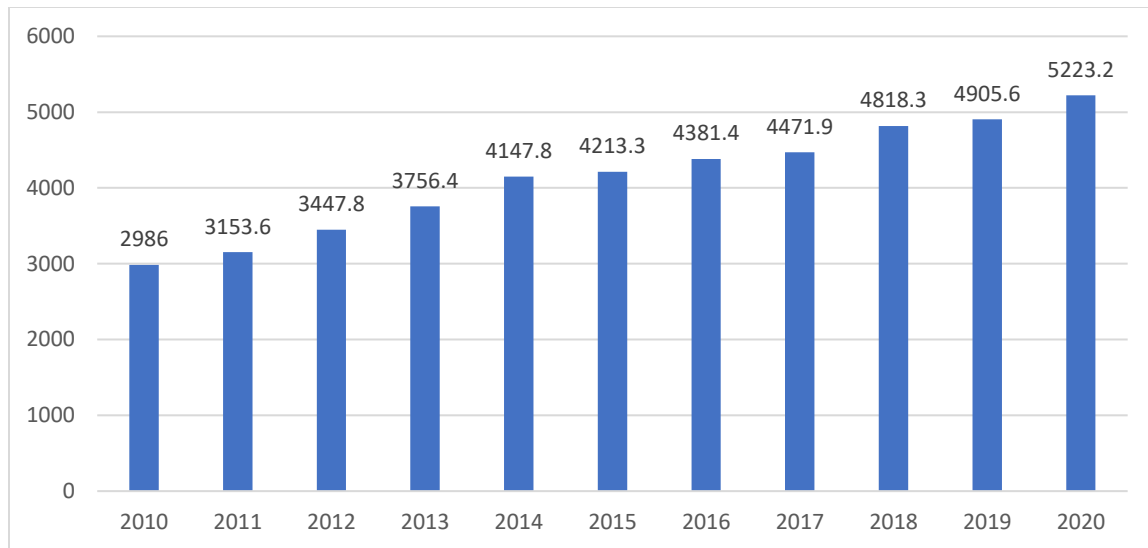
Source: Central Bank of Jordan.

IX. The relative importance of taxes in Jordan's GDP

Tax revenues constitute about 15.8% of GDP for 2020 and consist of:

1- Taxes on income and profits, constituting about 3.3% of total tax revenues, include both individual tax, employee and employee tax, and income tax on companies and other enterprises.

2- Taxes on goods and services, constituting about 10.7% of total tax revenues, include: Imported Goods Sales Tax, Local Goods Sales Tax, Service Sales Tax and Commercial Sector Sales Tax (Special Sales Tax).

3- Taxes on trade and business transactions. It accounts for about 1.1% of total tax revenues, including customs duties, and customs fines (Ministry of Finance, annual bulletin, 2020).

X. Previous studies:

A study, Audi, M., Ali, A., & Roussel, Y. (2021). Measuring the Tax Buoyancy: Empiric from South Asian Association for Regional Cooperation (SAARC). Measuring tax buoys in South Asia. As taxes are the backbone of the economy, therefore, an effective tax system is very necessary for the economy's survival. Economies have a higher tax rate as a percentage of GDP, e.g. UK 33%, USA 24.5%, Germany 38.8%, France 45.4% (OECD, 2019). Therefore, it is always important to measure the recovery of taxes between, and within nations. This study examined the tax boom in the selection of the South Asian Association for Regional Cooperation (SAARC) countries from 1990 to 2019. Combined regression was requested to measure tax float transactions for sales tax, income tax and customs for fees, production fees, and total tax revenues. Results show that sales tax, income tax and total tax revenue are important with floating a factor of 1.30, 1.12 and 1.01 respectively. While excise and customs, fees show a positive but minimal buoyancy factor of 0.81 and 0.62 respectively. Of all income generation taxes, income tax, and sales tax are leading; This indicates that South Asian countries prefer the system of progressive taxation. But South Asia's overall tax system tends toward a proportionate response and needs rigorous checks to improve the tax system. Finally, revenue collection through taxes can be enhanced with the help of a system.

I took up a study, Khadan, J. (2020). Tax buoyancy in the Caribbean: a guide to heterogeneous joint integration models. This study aims to estimate the long and short-term tax buoyancy of a group of 12 Caribbean

countries during the period 1991-2017. Using regression models, the study found long-term and short-term tax buoyancy estimates to be statistically greater. However, the results vary by tax category: for indirect taxes, which account for approximately 65 percent of total tax revenues, the floating of long-term labs is well below 1 (0.35), while for direct taxes it is significantly higher than 1 (1.33). It also found that the long-term tax recovery was lower in the post-global financial crisis period. In terms of short-term floating, corporate taxes and trade taxes are the most prosperous, while property taxes have been found to be statistically irrelevant. For goods taxes on services, a single tax is most important for most countries.

This study, Sidhu, S. (2020). In the productivity of revenue from the Ivorian tax system from 1984 to 2016. To do so, the Elasticity and buoyancy of tax revenues were assessed during this period. Where the normal micro-box method was used, results showed that the buoyancy tax and Elasticity tax are less than one, reflecting the inelasticity of the tax system. Moreover, it reveals that the tax reforms undertaken failed to improve the productivity of Côte d'Ivoire's tax system.

Improved domestic tax, such as discouraging tariffs, and production fees by the World Bank, IMF, and WTO.

The study, Houghton, c. (1998). Estimate tax buoyancy, Elasticity, and stability as GDP rises, is tax revenue rising at the same pace? To answer this question, it is useful to measure the buoyancy and flexibility of the tax. This methodological study shows how tax buoyancy and tax elasticity are calculated. It shows techniques with examples taken from Madagascar. It develops a measure of tax stability and shows how to do so determining when an increase in particular tax increases or reduces total revenue.

I took up a study, touching us, n. (2007). Estimates of elasticity and tax buoyancy are dynamic tools for measuring tax

performance. This study revisits earlier studies to measure Nepal's tax Elasticity and floating, in the context of structural changes in the tax system in recent years. The objectives of the study are to measure the Elasticity and recovery of taxes and to ascertain whether Nepal's tax system is flexible. The study applied the regression approach of time chains for this experimental measurement. This study reveals that Nepal's tax system is inelasticity (lower than the unit) in the period 19075-2005

It also found a study (2003) of Jordan's foreign trade determinants during 1973-2000, which assessed the export and import function at both macro and micro levels. The study showed that intrinsic flexibility (2.3) and exchange rate flexibility (1.09) at the macro level. Imports reached 1.03 and 0.866.

The Oz study (Uz, 2010) also tested the long-term resilience of Turkish foreign trade with trading partners, and the study indicated that Turkish trade is inflexible for relative prices, so the devaluation of the Turkish lira will have a limited impact on Turkey's trade balance, while the foreign trade was.

Elasticity Income Demand for Total Tax Revenue and Income Tax

By measuring the Elasticity Income Demand for Total Tax Revenue and Income Tax

By measuring the elasticity of the income tax, this measure gives a clearer picture than the previous measure since each form of tax can be calculated, and it is a measure by which the need for tax reform for each form of tax can be determined. There are two types of Elasticities: tax elasticity, which measures the ratio of change in tax revenues to the ratio of change in GDP, excluding the effect of tax increase due to tax ratio or tax base, or if the ratio of tax or tax base changes. In this case, the so-called tax buoyancy is calculated and measures the ratio of change in tax revenues to the ratio of change in GDP in general, whether the change in the ratio of tax revenues is caused by natural growth in GDP or by increased tax ratio or tax base. Tax

policy is more effective in generating more tax revenues if the difference between tax buoyancy is less (tax elasticity), and vice versa. In this light, the effectiveness of using tax policy to generate more revenue can be examined and we advise the Government to make the above measurements, and estimates of all forms and types of taxes before adopting any tax policies that raise the tax ratio or before any tax reform is undertaken. of the income tax, this measure gives a clearer picture than the previous measure since each form of tax can be calculated, and it is a measure by which the need for tax reform for each form of tax can be determined. There are two types of the elasticities: tax elasticity, which measures the ratio of change in tax revenues to the ratio of change in GDP, excluding the effect of tax increase due to tax ratio or tax base, or if the ratio of tax or tax base changes. In this case, the so-called tax buoyancy is calculated and measures the ratio of change in tax revenues to the ratio of change in GDP in general, whether the change in the ratio of tax revenues is caused by natural growth in GDP or by increased tax ratio or tax base. Tax policy is more effective in generating more tax revenues if the difference between (tax buoyancy is less (tax elasticity), and vice versa. In this light, the effectiveness of using tax policy to generate more revenue can be examined and we advise the Government to make the above measurements and estimates of all forms and types of taxes before adopting any tax policies that raise the tax ratio or before any tax reform is undertaken.

The idea of the intrinsic elasticity of taxes of all kinds refers to the extent to which taxes respond to the change in GDP, and elasticity is measured by dividing the relative change of tax by the relative change in GDP. If flexibility is greater than one right, this is evidence of the government's greater capacity to generate more tax revenue by raising the tax ratio or expanding the tax base. If income elasticity is less than one right, this is evidence of the Government's low effectiveness in increasing tax revenues by increasing the tax ratio. If income elasticity is

significantly lower than one, it means that economic growth is unable to generate more taxes, which means that the tax system is flawed and distorted, and tax reform is required. Jordan's total tax revenues will first be measured in 1980-2021.

XI.   Study Model:

In order to measure tax elasticity and Buoyancy elasticity for total tax revenues, we will assume the following relationship:

$$Y_t = f(GDP_t)$$

$$TR_t = A\ Y_t^{\beta}$$

$$\ln TR = \ln A + \beta \ln Y$$

TR: Total tax revenues.

A: Fixed

B: Elasticity factor for total tax revenues.

Tax buoyancy of Total Tax revenue in Jordan

After estimating the model, the results were as follows:

Ln TR = - 1.7697 + 0.9944 Ln Y

$$(-5.87)\qquad\quad (29.47)$$

$$R^2 = 0.98$$

From the model tax buoyancy coefficient of 0.99%, Jordan's overall tax system structure during the study period was almost equally elastic, responding equally to changes in GDP. This indicates that the tax system produces tax revenues equally. However, the laws on Jordan's tax system in recent years have not made a difference.

Tax elasticity of Total Tax revenue in Jordan

After estimating the model, the results were as follows:

Ln TR = - 1.6060 + 0.9752 Ln Y

$$(-5.54)\qquad\quad (30.03)$$

R^2 = 0.98

From the model's calculated Elasticity factor of 0.97%, Jordan's tax structure in the study period was almost equally elastic, responding

Tax Elasticity and Tax buoyancy In Jordan

Jordan 1980-2020

Buoyancy	elasticity
0.99	**0.97**

If Jordan's GDP grows by 5% annually and there are no changes in the tax system, tax revenues should increase by 4.8% per year (97% from 5%). This is in case there are no changes in the tax system.

If Jordan's tax laws and regulations are amended, Jordan's float tax index indicates that the collection of tax revenues in Jordan should increase by 4.9% (99% from 5%). In short, the net effects of structural changes on Jordan's tax system have led to tax revenue growth of 0.01%, meaning that tax policy has been effective in maintaining Jordan's tax collection. However, changes and amendments to tax laws have not made any significant addition to revenue but have increased the burden on citizens, especially middle-class and poor people.

XII.   Results:

The results of the analysis showed that:

1.   The estimate of Elasticity for Jordan's tax revenues calculated at 0.99% showed that Jordan's tax structure during the study period was almost equal to Elasticity, so as to respond equally to changes in GDP. This indicates that the tax structure produces tax revenues equally. From the model's calculated Elasticity factor of 0.97%, Jordan's tax structure in the study period was almost equally flexible, responding equally to changes in GDP. This indicates that the tax structure produces tax revenues equally. Taxes are the basis of the economy; an

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2.   Changes and amendments to Jordan's tax laws have not made any significant addition to revenue but have increased the burden on citizens, especially middle-class and poor people.

3.   Jordan's tax effort is high. This means that the category paying taxes pays more than its tax capacity and this is a strain on some sectors, especially productive sectors; This has a negative impact on those sectors' competitiveness.

XIII.   Recommendations:

Based on its different dimensions, the study recommends that:

1.   The need to maintain the administrative effectiveness of the tax system and reduce the tax burden. and that the tax system should be modern and relevant to global economic development and to citizens' ability.

2.   Improve the means of collecting and collecting, and choose methods that are commensurate with individuals' economic conditions, and their degree of tax awareness.

3.   Income tax must be in the form of a progressive tax in order to fit into the composition of income segments, and include high-income categories.

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