

**EFFECTIVENESS OF PALESTINIAN INCOME TAX RATES IN FACING TAX EVASION****Akram Rahhal***

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DOI: 10.5281/zenodo.246887**KEYWORDS:** Income Tax Evasion, Income Tax Rates, Underground Economy, Tax Evasion Measurement.**ABSTRACT**

The main challenge faced Palestinian Public Budget is the weaknesses of tax revenues in meeting the accelerating of public expenditures. One of the main reasons of this weakness is the incompletion of taxpayers from their duties toward their national government. Palestinian legislators tried to develop a new income tax system during last 7 years to increase the income tax revenues. Unfortunately, the public budget still suffering from high deficit, this case could be interpreted because of increasing the tax evasion- side effect of increasing tax rates-. This paper is designed to explore whether the change in tax rates has raised the tax evasion or not. Therefore, this paper used an indirect method to test the change in the percentage of tax evasion among last 5 years (the same periods of issuing new income tax system). Our findings show that there is a positive relationship between changing income tax rates and increasing the percentage of tax evasion in the last 5 years. The estimated tax evasion has been increased by 22% from 2007 to 2015.

INTRODUCTION

Since 1994, the date of establishing Palestinian Authority and forming the Palestinian ministry of finance for the first time in history, Palestinian public budget suffered from a high deficit reached to more than 350 million US dollar in 2015 while the public debt increased to more than 4 billion US dollar. One of the main reasons of this problem summarized in weakness of collecting local revenues and depending on international financial aids to finance its public expenditures. As a result, Palestinian public budget is facing many challenges either in the part of public revenues or in the part of public expenditures.

One of the main challenges facing Palestinian public budget is weaknesses in public local revenues because of tax evasion which was estimated by general accountant of PA in 2010 by half billion US dollar. In recent years international financial aids has been declined which reflects negatively on public budget. Responding to this, Palestinian legislators took different decisions and issued different income tax laws and rules to reduce the effects of declining in financial aids by increasing the public revenue collection. These legislations were directed to change income tax brackets and income tax rates. Income Tax Law was changed several times during the period of 2004 to 2015. This paper is trying to investigate the extent of effectiveness the income tax rate changes on tax evasion in Palestine

IMPORTANCE OF RESEARCH

The importance of this work is summarized by following question: did the policy of Palestinian legislator in changing income tax rates increase the tax evasion? Definitely the answer will be determined at the conclusion of this paper. Palestinian Authority spent a lot of work to reduce the rate of tax evasion, and these works touch directly the Palestinian economy and Palestinian taxpayers so this work deal with one of the Palestinian recent issues.

METHODOLOGY

For testing the effectiveness of income tax rates on tax evasion, this work will use the indirect method to measure the tax evasion in Palestine because direct method (based on calculating the difference between actual collections of income tax revenues and how much should they be after auditing taxpayers books) is impossible in case of Palestine. The indirect method based on taking the difference between Palestinian General Consumptions and General Domestic Product (GDP) multiplied by tax burden. The work will study the changes in these indicators



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during the period of 2007 to 2015 (time series research) with variables of income tax rates using statistical regression analysis software. Data of this research will be collected from Palestinian Central Bureau of Statistics (BCBS) and Palestinian Ministry of Finance (PMOF)

Problem Statement

Palestinian public budget loose a high amount of its estimated revenues during past period because of tax evasion which increase the amount of deficit, therefore, Palestinian government tried for several times to increase tax revenues by taking different procedures started by issuing new laws and ended by improving tax collection policies. Do changes in tax rates increase the tax evasion? The answer will be found in this paper

Hypotheses

H0: Changes in income tax rates cause an increase in the estimated amount of tax evasion in Palestine

H1: Changes in income tax system cause a decrease in the estimated amount of tax evasion of Palestine

LITERATURE REVIEW

Crane and Nourzad (1990) examined in their paper the effect of marginal tax rates on income tax evasion using data from California Tax Amnesty Program. Their findings were the evaders respond to higher tax rates by increasing their evasion activity. Wei (2004) examined in his paper the relationship between tax tariff and tax evasion in China. The result was one percentage point increase in tax rate is associated with 3 percent increase in evasion. Mughal (2012) conducted study in Pakistan, tried to explore the reasons of tax avoidance and evasion in Pakistan. The result of his study indicates that all assumed variables of reasons of tax evasion are correct. Lefebvre (2011) conducted in his experiment study of tax evasion, welfare fraud in Belgium, France and Netherlands that taxpayers have more evaded behavior in welfare treatment than tax treatment, and tax evasion is less in Walloons than Flemish. Uadiale (2010) findings in his research about the relationship between culture and personnel income tax evasion in Nigeria shows that there is a positive impact on personnel income tax of trust in government and legal enforcement, while this study prove that there is no significant relationship between religious variables and tax evasion in Nigeria. Boylan and Sprinkle (2001) study tried to explore the behavioral determinants of tax evasion. Experiment technique has been used to identify the factors that motivate the tax compliance and characteristics of noncompliant taxpayers. Pommerehne (1994) tried in his research about tax moral, tax evasion and the choice of policy instruments to explore the tax evasion determinants. His findings indicated the grievance sentiments increased in absolute terms, the level of tax evasion also increased and the level of tax moral belief decreased. While fisher (1989) examined the behavior of taxpayers to determine the tax evasion factors. Random survey technique has been used to identify the factors that motivate the tax compliance and characteristics of noncompliant taxpayers.

MEASURING TAX EVASION

The main difficulty in measuring tax evasion is the lack of reliable information about taxpayer compliance. Measuring tax evasion needs certain information about unregistered economy, taxpayer's compliance and submitted misleading financial information by incompliant taxpayers. Therefore finding logic approaches to estimate the tax evasion is necessary to help tax administration in introducing the problem in real way. There are different approaches to estimate the tax evasion, they could be classified to direct and indirect approaches.

Direct Method

Among direct approaches, the most accurate source of information on individual compliance is based on "direct" measurement of evasion via actual audits of individual returns. This needs an effective tax audit by tax administration to discover the undeclared income in annual tax returns. The difference between declared income and undeclared income could be called an income gap.

There is another direct method to estimate the tax evasion is summarized by introducing a survey asked taxpayers their evasion patterns (James, 2012)



Indirect Method

Using indirect method can be summarized by tracing the evasion behavior through different indicators, one this indicator is the difference between income reported on tax returns and income in national income accounts. Another indicator is the difference between income and expenditures in national income accounts, or between official and actual labor forces. This paper will focus on indirect method of the difference between expenditure and income in national income accounts (James, 2012)

Changes in Palestinian income tax rates

Palestinian income tax revenues as a percentage of GDP is very weak, it is not exceeding than 1%. Therefore, tax administration take various actions to increase its tax revenues such as establishing a unified tax unit, this unit has a unified tax data base for all taxpayers. On other hand based on tax administration views, Income tax rates has been changed different times since 2007.

Table (1): Income Tax Brackets and Tax Rates since 2007 to Date

Period	Years	Tax Brackets	Individual Tax Rates	Corporate Tax Rate
1	2008-2011	\$1-\$10000 \$10001-\$16000 \$16001 and above	5% 10% 15%	15%
2	2011-2012	1NIS -40000NIS 40001NIS-80000NIS 80001 and above	5% 10% 15%	15%
3	2013-2015	1NIS -40000NIS 40001NIS-80000NIS 80001NIS-125000NIS 125000NIS and above	5% 10% 15% 20%	20%
4	Since 2016	1NIS-75000NIS 75001NIS-150000NIS 150001 and above	5% 10% 15%	15%

Sources: Palestinian income laws

\$: US dollar – formal currency used for tax purposes till 2011-

NIS: New Israeli Shekel- formal currency used for tax purposes since 2012-

1 US dollar = 3.80 NIS

Palestinian legislator in 2011 change the currency of tax accounting from US dollar to Israeli shekel currency (NIS) while in 2012 increase the number of tax brackets from three to four and increase the upper tax rate from 15% to 20%. In 2016 it was reduced to three tax brackets with upper tax rate of 15% again.

On the other hand corporate tax rate was fixed by 15% except the period 3 it was 20%.

In addition to change in tax rate, personnel exemption was differed from \$7000 in period 1 to 30000 NIS in period 2 and 3 and recently in period 4 it was increased to 36000 NIS

Tax Evasion Measurement in Palestine

As mentioned above there are different method to measure the tax evasion one of them is using direct method while others are using indirect method. In this paper and because the difficulty of using direct method in case of Palestine, indirect method was used to estimate the amount of tax evasion in Palestine. Indirect method is used following equation to estimate the tax evasion (economic & social council in Jordan):

(C-I) * T= evasion from tax

C=General Consumption

I=Income which is represented by GDP

T=Tax Burden

The difference between general consumption and GDP is representing the underground economy.

Following table is reflecting the practical application for above equation over the years from 2010 to 2015 in million dollars



Table (2): Estimated Amount of Tax Evasion Using Indirect Method from 2010-2015

Period	Years	Consumption Million US \$	GDP Million US \$	Difference (Underground Economy) Million US \$	Tax Revenues Million US \$	Tax Burden %	Estimated Tax Evasion Million US \$	Average of Estimated Tax Evasion Million US \$
1	2010	10855.5	8913.1	1942.4	1816.3	0.203778708	395.8197619	395.8197619
2	2011	12494.7	10465.4	2029.3	1998	0.190914824	387.4234525	555.5
	2012	13285.4	11279.4	2006	2124	0.188307889	377.7456248	
	2013	14444.3	12476	1968.3	2203.9	0.17665117	347.7024984	
3								
	2014	15318.6	12715.6	2603	2651.8	0.208546982	542.8477933	
	2015	15234.6	12673	2561.6	2811	0.221810148	568.188874	

Resources: Publications of ministry of finance www.pmf.ps and Palestinian central bureau of statistics <http://www.pcbs.gov.ps>, calculations is done by myself

Based on above table, estimated of tax evasion in Palestine was increased by 43.5 % during last 5 years. It was increased from 395.8 million US Dollar in 2010 to 568 million US dollar in 2015, while the estimated of tax evasion was decreased in during the years of 2011-2013 because of adopting different tax rates than previous period.

Following diagram is representing the increase in tax evasion over past periods

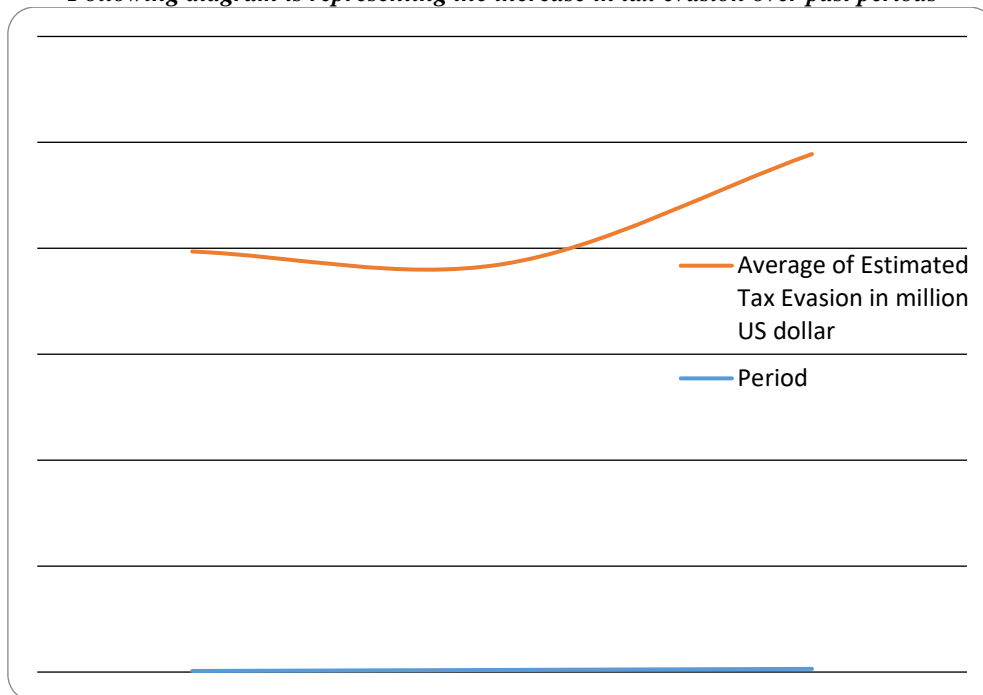



Table (3): Combined changes in tax Brackets, Tax Rates and Estimated Tax Evasion

Period	Years	Tax Brackets	Individual Tax Rates	Corporate Tax Rate	Average of Estimated Tax Evasion
1	2008-2010	\$1-\$10000 \$10001-\$16000 \$16001 and above	5% 10% 15%	15%	395.8197619
2	2011-2013	1NIS -40000NIS 40001NIS-80000NIS 80001 and above	5% 10% 15%	15%	370.9333333
3	2014-2015	1NIS -40000NIS 40001NIS-80000NIS 80001NIS-125000NIS 125000NIS and above	5% 10% 15% 20%	20%	555.5

Above table show clearly that increasing the range of tax brackets, increasing number of tax brackets and increasing the upper tax rate as well as increasing the corporate tax rate has a positive correlation with tax evasion, which means the adopted tax policy caused an increasing in the amount of tax evasion. In details, the average of estimated tax evasion was increased from 395.8 million US dollar in period 1 to 555.5 million US dollar in period 3, this increasing was resulted because of increasing in the estimated of underground economy while the average of tax burden is stable about 20% during all periods. while the average of estimated tax evasion was decreased during second period by 6% from 395 million in period 1 to 370.9 million dollar in period 2 because the adopted tax law was increased the range of tax brackets in period 2, but it was increased again by 49.5% during third period when number of tax brackets increased to four, range of each tax bracket reduced and upper tax rate increased to 20%.

Hypothesis test

This paper used simple regression analysis to test hypothesis and to answer the paper question: Do changing income tax rates increase the amount of tax evasion?

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.802251
R Square	0.643606
Adjusted R Square	0.287213
Standard Error	47.3568
Observations	3

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4050	4050	1.805886	0.407271
Residual	1	2242.667	2242.667		
Total	2	6292.667			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	331.6667	72.33871	4.584913	0.13671	-587.484	1250.817	-587.484	1250.817



Based on above analysis the t-statistic is 1.343833 this factor is below than 2 which means there is no longer relationship between adopting tax system and amount of tax evasion, while coefficient correlation r is 0.8 which means there is a positive correlation between tax rates (independent variable) and tax evasion (dependent variable), this means changes of tax rates caused increasing in amount of tax evasion

Table (4): Estimated Tax Evasion from Income Tax in million US Dollar

Year	Revenue from income tax	GDP	Income Tax Burden	Est. of Underground Economy	Income Tax Evasion
2010	187.9	8913.1	0.02108133	1942.4	40.94837
2011	222.8	10465.4	0.021289201	2029.3	43.20217
2012	201	11279.4	0.017	2006	35.5
2013	207.8	12476	0.016655979	1968.3	32.78396
2014	207.6	12715.6	0.016326402	2603	42.49762
2015	307.3	12673	0.024248402	2561.6	62.11471

Resources: Publications of ministry of finance www.pmf.ps and Palestinian central bureau of statistics <http://www.pcbs.gov.ps>, calculations is done by myself Based on above table the estimated evasion from income tax was increased from 40.9 million dollar in 2010 to 62 million dollar in 2015. In spite of increasing in income tax revenues from 187.9 million US dollar in 2010 to 307.3 million dollar in 2015 The income tax burden is remain unchanged about 2% this means the increasing in tax revenues is resulted because the improvement in economic indicators only.

As a result, evasion from income tax in Palestine is increased from 41 million US dollar in 2010 to 62 million dollar in 2015, so the increasing in income tax revenues has a parallel increase in income tax evasion.

CONCLUSION

Palestinian Public budget has suffered for a long time from high amount of deficit reach to 387 million US dollar in 2016 budget which represents about 3.5% of GDP. Based on this paper measurement the budget deficit is less than the estimated amount of tax evasion, it was measured by 568 million US dollar in 2015. So facing the deficit of public budget needs fiscal policies lead to reduce tax evasion. In 2013, Palestinian Legislator adopted a new income tax law by increasing number of tax brackets and increases the upper tax rate from 15% to 20%, this law was effective in 2014. As a result, the average of estimated tax evasion is increased by 49.5%. While adopting 2011 income tax law has reduced the average of estimated tax evasion by 6% than previous period. From beginning 2016, the number of tax brackets decreased to 3 with applied upper tax rate of 15% and increasing the range of each tax bracket from 40000 NIS to 75000 NIS for each. The last change effects will be cleared within next few months.

Our conclusion show that changes in income tax law has a positive correlation with tax evasion -negative effect on estimated amount of tax evasion- during tested periods. In our views the estimated amount of tax evasion will be decreased 2016 because of reducing upper tax rate and increasing the range of each tax brackets similar to the reduction in 2011. As a result 2015 changes cause an increase in estimated amount of tax evasion in Palestine

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