THE EFFECT OF DIRECT TAXES ON NEWLY ESTABLISHED FIRMS: THE CASE OF TURKEY FOR 1985-2015 PERIOD

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ABSTRACT

Studies of tax policy and investment have been substantial in business finance and macroeconomic research. Countries make extensive use of tax policy to promote investments. Income & profit taxes and social security contributions are main direct taxes which are expected to be influential on investments also in context of newly established firms. This paper aims to analyze the effect of direct taxes on newly established firms in Turkey between the years 1985-2015 using Granger Causality Test and linear simple regression. Results indicate that, increases both in income & profit taxes and in social security contributions have significant negative effect on newly established firms in Turkey for 1985-2015 period.

1. INTRODUCTION

It is generally believed that saving is source of funding for investment. There is high correlation between national savings and domestic investment rates in the literature and it is assumed that any policy that is designed to stimulate saving, will also stimulate investment. Therefore, countries also make extensive use of tax policy to promote investments.

According to the Harrod- Domar model, the natural rate of growth depends, in the absence of technological change, on the increase of the labor force, and the warranted rate of growth depends on the saving and investing habits of households and firms (Solow, 1956). Thus the analysis of the saving-investment relationship is one of the main topics in the macroeconomic literature. The basic problem of the economics is the effective allocation of the scarce resource and it can be analyzed through the general equilibrium analysis. The analysis would be incomplete without taking into account the size and distribution of the variables such as aggregate consumption, investment, saving etc.

Gross Domestic Product (GDP*)* is the one of the most important aggregates estimated in the system of national accounts. GDP is the standard measure for the value added occurring due to goods and services produced at the certain period in a country. **Gross Domestic Product, by** expenditure approach, consists of the expenditures for consumption and investment and export less import in an economy in the certain period. The main components of this approach are the final consumption of households, the final consumption of government and fixed capital investment of firms and net exports (export-import). Gross national product (GNP) is defined as the sum of goods produced, which, with imports M, may be allocated to private consumption "C", Government spending "G", investment I, export X, M import, so that

Q + M = C+ I + G + X, where NX = X – M is net exports (Taylor, 1996). Rearranging, GNP is

GNP=C+I+G+NX, At Table 1 below, percentage change of Turkish GDP is depicted with expenditure approach.

Table 1: Turkey, Percentage Change of GDP by Expenditure Approach

		GDP Current prices (Million USD)	GDP Chain linked Volume Index (2009=100)	Household Final Consumption Expenditure (%) Change	Government Final Consumption Expenditure (%) Change	Gross Fixed capital Formation (%) Change	Export of Goods and Services (%) Change	Import of Goods and Services (%) Change
Year	Quarter							
2016	I	190 478	139.6	0.9	10.5	6.6	1.4	2.7
	II	218 202	156.2	4.1	14.4	3.8	-1.9	7.2
	III	223 819	161.2	-1.7	5.6	0.5	-9.3	2.1
	V	224 292	171.9	5.7	0.8	2.0	2.3	3.3
2017	I	173 780	146.5	5.1	9.4	2.2	10.6	0.8

Source: TurkStat,www.tuik.gov.tr (Differences may occur due to non-additivity of chain linked volume data.)

As it can be inferred from Table 1, gross domestic product increased by 5% in the first quarter of 2017 compared to the same quarter of the previous year. Household final consumption expenditure increased by 5.1%, government final consumption expenditure increased by 9.4% and gross fixed capital formation increased by 2.2% in the first quarter of 2017 compared to the same quarter of the previous year in the chained linked volume index. Exports of goods and services increased by 10.6%, imports of goods and services increased by 0.8% in the first quarter of 2017 compared to the same quarter of the previous year in the chained linked volume index.

The high correlation between national savings and domestic investment rates has been interpreted as evidence of close relationship between these two variables (Tesar, 1991). The World Bank maintains the argument that private investment is the engine for growth and poverty reduction. (World Development Reports 1999, 2001, 2003, and 2005) and that long averages of the saving-output ratio and investment-output ratio are highly correlated.

Not only national savings but also components of national savings (i.e. public savings and private savings) have to be analyzed more in detail. Thus our study mainly focused on the correlation between new established firms and private savings, the growth of private savings in particular is given below. (Table 2).

Table 2: Saving and Investment Rates for Turkey (1975-2014) (As % GDP)

	PUBLIC SAVING	PRIVATE SAVING	TOTAL DOMESTIC SAVINGS	PUBLIC INVESTMENT	PRIVATE INVESTMENT	GROSS FIXED INVESTMENTS
1975	4,6	17,7	22,4	6,1	14,8	20,9
1976	4,5	20,9	25,4	6,7	16,7	23,5
1977	3,5	17,8	21,3	7,5	17,5	25,0
1978	5,4	14,2	19,5	6,3	15,8	22,1
1979	2,5	17,2	19,7	6,0	13,7	19,6
1980	3,4	9,4	12,8	6,6	13,7	20,3
1981	5,6	11,8	17,4	6,8	12,3	19,2
1982	5,2	8,9	14,1	6,2	12,1	18,2
1983	4,8	9,2	14,0	6,5	12,5	19,0
1984	4,5	9,3	13,8	6,0	12,2	18,2
1985	5,8	14,7	20,5	6,9	12,4	19,3
1986	6,1	19,0	25,1	7,6	14,1	21,7
1987	4,9	21,2	26,2	7,4	15,5	22,9
1988	5,1	24,0	29,1	6,6	17,6	24,2
1989	3,6	20,8	24,4	5,7	15,5	21,1
1990	2,6	22,1	24,7	5,2	16,0	21,2
1991	0,7	23,9	24,6	5,6	16,5	22,1
1992	-0,6	24,6	24,0	5,5	16,4	21,9
1993	-0,7	25,8	25,1	5,4	19,2	24,6
1994	-0,1	25,0	24,9	3,7	19,1	22,8
1995	-0,1	24,6	24,6	3,1	19,6	22,8
1996	-1,1	23,4	22,3	3,8	20,0	23,8
1997	0,8	22,6	23,4	4,6	20,5	25,1
1998	-1,4	25,7	24,3	4,8	18,3	23,1
1999	-5,0	25,1	20,1	4,9	14,4	19,3
2000	-3,4	21,8	18,4	5,2	15,7	20,8
2001	-7,1	25,5	18,4	4,7	11,7	16,4
2002	-4,8	23,4	18,6	4,9	12,2	17,1
2003	-4,1	19,6	15,5	3,8	13,6	17,4

2004	-1,0	16,9	16,0	3,2	17,5	20,7
2005	2,8	13,2	16,0	3,8	17,6	21,4
2006	4,2	12,4	16,6	3,8	18,9	22,6
2007	2,4	13,1	15,5	3,9	17,9	21,8
2008	1,7	15,1	16,8	4,1	16,1	20,2
2009	-0,8	14,1	13,2	4,1	13,1	17,2
2010	1,5	12,0	13,5	4,3	15,0	19,2
2011	3,7	10,7	14,4	4,1	18,0	22,1
2012	2,9	11,6	14,5	4,2	16,3	20,6
2013	3,4	9,9	13,4	5,0	15,6	20,6
2014	3,2	11,7	14,9	4,8	15,7	20,5

*Source: Ministry of Development, www.mod.gov.tr

Table 2 exhibits that the total saving rate was between 20-25% in the 1990s, decreasing after 2000 to 14.9% in 2014. The main reason for the decline in total savings is the gradual decline in private savings. Although public savings remained at roughly the same level over the years, private savings fell by 10% to 11.7% in 2014, from around 22% in 1990. The recent rise in the current account deficit seems to have been caused by private sector saving deficit. Gross fixed investments have been around 20% in general. The vast majority of total investments are private investments. But total investments in Turkey are inadequate according to national income size and development level.

When investment and saving rates are compared, it is observed that the saving amount in the 1990s does not cover investments (except for 1996). However, after 2000, it seems that savings have started to decline and therefore they cannot cover investments. In recent years, the gap between investment and saving has increased steadily. Increased investments and reduced savings are due to the fact that both investment and imported consumption goods are cheaper due to the effects of low exchange rates and the real interest rates.

Not only savings and investments correlation but also studies of tax policy and corporate investment have been distinctive in business finance and macroeconomic research. In corporate finance, the Modigliani- Miller (1959) theory states that, in a perfect and competitive capital market, the financing decisions of the firms are irrelevant. In other words, under these same conditions, the real and financial decisions of the firms are independent and therefore can be made separately. But, if market imperfections like taxes are exists, the irrelevance result may no longer hold.

Taxes are divided into two main groups such as direct taxes and indirect taxes. Direct taxes covers the taxes that cannot be transferred or shifted to another person, for instance, the income tax, profit tax, social security contributions or corporate tax, which is paid directly to the government. In this case, the burden of the tax falls directly on the individual who earns a taxable income and cannot shift the tax to others. Indirect taxes, on the other hand, are taxes which can be shifted to another person. An example would be the Value Added Tax (VAT) that is included in the bill of goods and services that you acquire from others. The primarily tax is levied on the manufacturer or service provider, who then shifts this tax burden to the consumers by charging higher prices for the commodity by covering taxes in the final price.

Especially in developing countries, the relationship between economic growth i.e. investments and tax revenues could give important signals. Through taxation, a portion of the income and profit of firms are transferred to the public sector, which causes negative effects on investments. In that context, taxes on gross capital will lead to decreases in capital accumulation. For this reason, it should be expected that direct taxes will make more impact on investments compared to indirect taxes. (Durkaya, Mehmet, and Servet Ceylan, 2006). At table 3 below, the data of gross fixed investment and total taxes are given as a percentage of GDP.

Table 3: Gross Fixed Investment and Total Tax Ratio (1999-2014) (As a Percentage of GDP)

	GROSS FIXED INVESTMENTS / GDP	TOTAL TAXES/ GDP
1999	19,3	16.11
2000	20,8	18.21
2001	16,4	19.05
2002	17,1	17.58
2003	17,4	18.66
2004	20,7	18.14
2005	21,4	18.64
2006	22,6	18.71
2007	21,8	18.56

2008	20,2	18.12
2009	17,2	18.49
2010	19,2	19.67
2011	22,1	20.06
2012	20,6	20.16
2013	20,6	21.34
2014	20,5	20.71

Source: Ministry of Development, www.mod.gov.tr, www.tuik.gov.tr

According to Table 3, the taxes/GDP ratio was between 18-20% in the 2000s, increasing after 2010 to 21.34% in 2013. Gross fixed investments have been around 20% in general and the vast majority of total investments are private investments. (as shown in Table 2).

The economists have analyzed the effects of taxes on capital spending and most of the studies argued that firms respond to tax policies. The qualitative features of the response of investment to a change in tax policy are essential. (Hall and Jorgenson, 1969). The effects of a tax policy for the firms are clear especially in terms of the marginal tax rate on returns from a new project. (Fazzari, Petersen, and Hubbard, 1989). In that context, results of this study may have considerable significance for current discussions of the effect of the tax policy on investment decisions, especially on newly established firms.

2. LITERATURE REVIEW

It is assumed that savings and tax policy affecting investment behavior. Even though the assumption that taxes influence corporate financing decisions is widely accepted, it has received limited supporting empirical evidence. Today, a high rate of investment has long been viewed as an important key to economic growth. Consequently, many countries offer special tax incentives to promote investment. Establishing new firm decisions and investments are easily affected by tax policies (Wai, U. Tun, 1971).

Theoretical and empirical research shows that business decisions are affected by, among other things, agency costs, informational asymmetry, industry conditions, and taxes. (Harris and Raviv (1991). Similarly Graham (2009), analyzed how taxes affect corporate activities and found out that taxes affect corporate decisions – but the magnitude of the effect is not always large (Graham, John R., 2009).

In a similar study, Alworth and Arachi investigated the relationship between corporate taxes and debt using panel data on Italian companies. The panel data consisted of 1054 companies for the years 1982–1994. The paper also analyzed whether personal taxes affect corporate financing decisions. The results confirmed the importance of personal and corporate taxes in the decision of companies' financing decisions despite the major differences in the structure of financial systems, and the major changes in the macroeconomic environment (Alworth and Arachi 2001).

In another study, the effect of corporate and personal taxes on the firm's optimal investment and financing decisions under uncertainty had been investigated. The study shows that increases in allowable investment-related tax shields due to changes in the corporate tax code are not necessarily associated with reductions in leverage at the individual firm level when investment is allowed to adjust optimally (Dammon and Senbet, 1988).

The study of Reinhard and Li (2011) presents contrary results. The paper analyzed the influence of taxes and the 2000 tax reform-induced tax changes on the financing and investment decisions for German firms between the years 1996 and 2005. Their results did not support the assumption that companies adjust their financial structures for reducing their corporate tax payments. Moreover, this study concludes that market opportunities and market pressures have bigger effect on investment decisions than tax policies. Moreover, no evidence has been found for the belief that tax cuts result in a higher investment activity that might stimulate economic growth and reduce the high unemployment rate in Germany (Reinhard, Ludwig FM, and Steven Li, 2011).

3. MODEL and METHODOLOGY

The aim of the study is to investigate the relationship between saving –investment and tax policy and newly established firms, i.e. investments. It is assumed that direct taxes may affect newly establishing

firms, such as profit & income taxes, social security contributions and corporate taxes. However, since the corporate tax rate charged for Turkish firms did not change after the year 2006 and remained steady at %20, it is considered that it will not have a significant effect on newly established firms and so corporate tax rate is excluded from the model. Therefore, a model is constructed such as newly established firms take place as dependent variable and profit & income taxes and social security contributions are included as independent variables. The model of the study is depicted below in Figure 1.

Figure 1: Model of the study
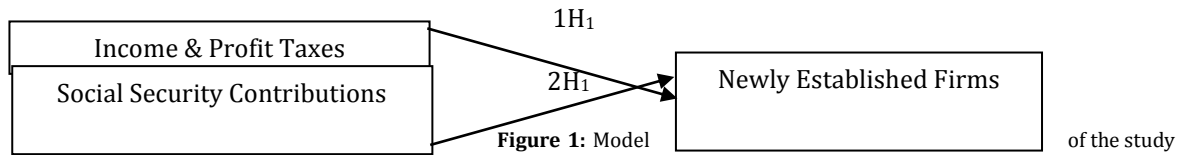
In accordance of the model of the study, the following two hypothesis have been forged.

$1H_1$: Income & profit taxes have negative effects on newly established firms

$2H_1$: Social security contributions have negative effects on newly established firms.

In this context, our data set consists of profit and income taxes, social security premiums and number of newly established firms 1985-2015 period. The data used for this study is given in Table 4 in Appendix.

Since the structure of the data exhibits annual characteristics, time series analysis has been conducted. In order to perform a time series analysis, time series have to be stationary. However, most of the time economic time series are not stationary. Regression analysis performed with non-stationary data will cause spurious regression. Thus, before implementing time series analysis, data has to be made stationary (Guajarati and Porter, 1999). In that context, unit root test has to be implemented in order to realize whether the data is stationary. If the data contains unit root, it means that the data is not stationary. Among various techniques, "Augmented Dickey- Fuller", is one of the most prominent ones (Enders, 2004). At table 5 below, the results for unit root test has been depicted.

Table 5: Unit Root Test

Variables	ADF (t-statistics)	MacKinnon t-statistics at 0,01 significance level	MacKinnon t-statistics at 0,05 significance level	p-values[*]
Newly Established Firms	0,44	-2,64	-1,95	0,80
Profit & Income Taxes	-1,77	-2,64	-1,95	0,07
Social Security Contributions	0,80	-2,64	-1,95	0,80

[*] MacKinnon one sided p-values

Table 5 demonstrates that, t- statistics of ADF of all variables are less than MacKinnon t-statistics at 0, 01 and 0, 05 significance level in absolute value. Besides that, MacKinnon one sided p-values are not significant at 0, 05 significance level. These results indicate that, the time series of variables contain unit root and they are not stationary. Thus, in order to have stationary time series, we take the first difference of time series and implement unit root test for the new time series. Table 6 presents unit root test for new time series in first differences.

Table 6: Unit Root Test for New Time Series in First Difference

Variables	ADF (t-statistics)	MacKinnon t-statistics at 0,01 significance level	MacKinnon t-statistics at 0,05 significance level	p-values[*]
Newly Established Firms	-6,32	-4,33	-3,58	0,001
Profit & Income Taxes	-9,02	-4,32	-3,58	0,000
Social Security Contributions	-4,78	-4,46	-3,64	0,005

Table 6 exhibits that, t- statistics of ADF of all variables are bigger than MacKinnon t-statistics at 0, 01 and 0, 05 significance level in absolute value. Besides that, MacKinnon one sided p-values are significant at 0, 05 significance level. These results indicate that, after taking first differences, the time series don't contain unit root and thus they become stationary. Therefore, our data is ready to perform Granger causality and regression analysis.

After the time series have been made stationary, firstly Granger Causality Test has been performed, in order to determine the direction of the relation between dependent and independent variables (Granger, 1969). However, before applying Granger Causality Test optimum lag length has to be determined (Thornton and Batten, 1985). In that context, lag length selection results of profit & income taxes as independent variable and newly established firms as dependent variable is given below at Table 7.

Table 7: Lag Length Results for Granger Causality Test for profit & income taxes and newly established firms

VAR Lag order selection criteria					
Endogenous Variables: Newly Established Firms, Profit & Income Taxes					
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-328.1790	NA	3.68e+08	25.39838	25.49516	25.42625
1	-320.7857	13.08038*	2.84e+08*	25.42769*	25.42769*	25.22097*
2	-319.1001	2.722914	3.42e+08	25.79928	25.79928	25.45473
3	-316.5285	3.758504	3.88e+08	26.10271	26.10271	25.62035
4	-314.9768	2.029068	4.84e+08	26.48459	26.48459	25.86442

* Indicates lag order selected by criterion
LR: sequential modified LR test statistics (each test at 5% level)
FPE: Final prediction error
AIC: Akaike Information Criterion
SC: Schwarz- Information Criterion
HQ: Hannan-Quinn Information Criterion

As, demonstrated at Table 7, according Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information Criterion (HQ) lag length of Granger Causality for profit & income taxes as independent variable and newly established firms as dependent variable is 1.

After determining the lag length, Granger Causality Test is applied for the relation between profit & income taxes and newly established firms. Granger Causality Test results is reported below at table 8.

Table 8: Granger Causality Test results for profit & income taxes and newly established firms

Granger Causality/ Block Exogeneity Wald Tests			
Sample: 1985-2015			
Dependent Variable: Newly Established Firms.			
Excluded	**Chi-sq**	**Df.**	**Prob.**
Profit & income taxes	7.355070	1	0,0067
All	7.355070	1	0,0067
Granger Causality/ Block Exogeneity Wald Tests			
Sample: 1985-2015			
Dependent Variable: Profit & Income Taxes			
Excluded	**Chi-sq**	**Df.**	**Prob.**
Newly Established Firms	3.083919	1	0,0791
All	3.083919	1	0,0791

As it can inferred from Table 8, at 0,05 significance level, while profit & income taxes generate Granger causality for newly established firms (sig. 0,0067 < 0,05), newly established firms do not generate Granger causality for profit & income taxes (0,0791 > 0,05.

After Granger Causality test, linear simple regression is performed in order to test 1H1 hypothesis and determine the effect of profit & income taxes on newly established firms. Below at table 9, linear regression results are given.

Table 9: Linear regression results for profit & income taxes and newly established firms

Dependent Variable: Newly Established.				
Method: Least Squares				
Included observation: 30 after adjustments				
HAC standard errors & covariance (Prewhitening with lags=1, Bartlett kernel, Newey-West fixed bandwith= 4,000				
Variable	Coefficient	Std.Error	t- Statistics	Prob.
Profit & Income taxes	-1080.355	424.3838	-2.545702	0,0167
Constant	1188.769	1569.638	0.744545	0,4628
R-Squared : 0,054777		Mean dependent var: 1790.167		
Adjusted R-Squared: 0,021019		S.D. dependent var: 9098.686		
S.E. of regression: 9002.555		Akaike info criterion: 21.11274		
Sum squared resid: 2.27E + 09		Schwarz criterion: 21.20616		
Log likelihood: -314.6912		Hannan-Quinn crit.: 21.14263		
F-statistics: 1.622645		Durbin-Watson stat : 1.858461		
Prob. (F-statistics): 0,213196		Wald F-statistic: 6. 480597		
Prob. (Wald-statistics): 0,016696				

As it can inferred from Table 9, at 0, 05 significance level, profit & income taxes has a negative significant effect on newly established firms. However, only 2 percent (Adjusted R-squared= 0, 021019) of variance in dependent variable (newly established firms) is explained with profit & income taxes. Besides that, one unit of increase in profit & income taxes leads to 1080 unit decrease in newly established firms. As a result 1H1 hypothesis is accepted.

Likewise, in order to conduct Granger causality test for social security contributions and newly established firms, lag length criteria has been determined. Lag length selection results of social security contributions as independent variable and newly established firms as dependent variable is given below at Table 10.

Table 10: Lag Length Results for Granger Causality Test for social security contributions and newly established firms

VAR Lag order selection criteria						
Endogenous Variables: Newly Established Firms, Social Security Contributions						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-258.8070	NA	2.10e+08	24.83876	24.93824	24.86035
1	-258.1540	1.119330	2.90e+08	25.15752	25.45596	25.22229
2	-251.1093	10.73487*	2.20e+08	24.86755	25.36494	24.97549
3	-248.5697	3.386050	2.62e+08	25.00664	25.70299	25.15776
4	-245.8149	3.148330	3.15e+08	25.12523	26.02054	25.31954
5	-241.3583	4.244408	3.37e+08	25.08174	26.17600	25.31923
6	-235.6704	4.333644	3.46e+08	24.92099	26.21421	25.20165
7	-231.1834	2.563983	4.50e+08	24.87461	26.36679	25.19845
8	-222.7153	3.225965	5.04e+08	24.44907	26.14020	24.81609
9	-197.5768	4.788279	2.04e+08*	22.43589*	24.32597*	22.84608*

* Indicates lag order selected by criterion
LR: sequential modified LR test statistics (each test at 5% level)
FPE: Final prediction error
AIC: Akaike Information Criterion
SC: Schwarz- Information Criterion
HQ: Hannan-Quinn Information Criterion

As, demonstrated at Table 10, according Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information Criterion (HQ) lag length of Granger Causality for social security contributions as independent variable and newly established firms as dependent variable is 11.

After determining the lag length, Granger Causality Test is applied for the relation between social security contributions and newly established firms. Granger Causality Test results is reported below at Table 11.

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Table 11: Granger Causality Test results social security contributions and newly established firms

Granger Causality/ Block Exogeneity Wald Tests			
Sample: 1985-2015			
Dependent Variable: Newly Established Firms.			
Excluded	**Chi-sq**	**Df.**	**Prob.**
Social Security Contributions	19.97111	9	0,0181
All	19.97111	9	0,0181
Granger Causality/ Block Exogeneity Wald Tests			
Sample: 1985-2015			
Dependent Variable: Social Security Contributions			
Excluded	**Chi-sq**	**Df.**	**Prob.**
Newly Established Firms	12.85093	9	0,1695
All	12.85093	9	0,1695

As it can inferred from Table 11, at 0,05 significance level, while social security contributions generate Granger causality for newly established firms (sig. 0,0181 < 0,05), newly established firms do not generate Granger causality for social security contributions (0,1695 > 0,05).

After Granger Causality test, linear simple regression is performed in order to test 2H1 hypothesis and determine the effect of social security contributions on newly established firms. Below at table 12, linear regression results are given.

Table 12: Linear regression results social security contributions and newly established firms

Dependent Variable: Newly Established Firms.				
Method: Least Squares				
Included observation: 30 after adjustments				
HAC standard errors & covariance (Prewhitening with lags=9, Bartlett kernel, Newey-West fixed bandwith= 3,000				
Variable	Coefficient	Std.Error	t- Statistics	Prob.
Social Security Contributions	-2038.236	175.5469	-11.61078	0,0000
Constant	2326.902	583.6865	3.986561	0,0004
R-Squared : 0,098374		Mean dependent var: 1790.167		
Adjusted R-Squared: 0,066173		S.D. dependent var: 9098.686		
S.E. of regression: 8792.489		Akaike info criterion: 21.06552		
Sum squared resid: 2.16E + 09		Schwarz criterion: 21.15894		
Log likelihood: -313.9829		Hannan-Quinn crit.: 21.09541		
F-statistics: 3.055013		Durbin-Watson stat : 1.842544		
Prob. (F-statistics): 0,091448		Wald F-statistic: 134.8102		
Prob. (Wald-statistics): 0,0000				

As it can inferred from Table 12, at 0, 01 significance level, social security contributions has a negative significant effect on newly established firms. However, only 6 percent (Adjusted R-squared= 0, 0661) of variance in dependent variable (newly established firms) is explained with social security contributions. Besides that, one unit of increase in social security contributions leads to 2038 unit decrease in newly established firms. As a result 2H1 hypothesis is accepted.

4. CONCLUSION

The present study analyzed the effect of profit & income taxes and social security contributions on newly established firms for the period from 1985 to 2015. Results indicate that increases both in income & profit taxes and in social security contributions have significant negative effect on newly established firms in Turkey for 1985-2015 period. However, both income & profit taxes and social security contributions explain only a small portion of variance in newly established firms. Only 2 percent of variance in newly established firms is explained by income & profit taxes and only 6 percent of variance in newly established firms is explained by social security contributions which points out that there are also other factors which affect the number of newly established firms in Turkey. The findings of this present study demonstrate similarity with the findings of Alworth & Arachi and especially with findings of Graham & John which reveal that taxes affect corporate decisions but the

magnitude is not always supposed to be large. However, our findings contradict with the findings of Dammon & Senbet and Reinhard & Li. Eventually, our findings support the theory that asserts establishing new firm decisions and investments are affected by tax policies. The results of this study may have considerable significance for current discussions about the effect of the tax policy on investment decisions, especially on newly established firms and be a groundwork for further studies about this topic. However, the limitation of this study is that, the data used for analysis covers only 1985-2015 period due to unavailability of data of newly established firms in Turkey before 1985.

REFERENCES

Alworth, J. & Arachi, G. (2001) "The effect of taxes on corporate financing decisions: Evidence from a panel of Italian firms.", International Tax and Public Finance, 8(4): 353-376.

Dammon, R. & Senbet L. (1988) "The Effect of Taxes and Depreciation on Corporate Investment and Financial Leverage", Journal of Finance, 43: 357-73.

Durkaya, M. & Ceylan S. (2006) "Vergi Gelirleri ve Ekonomik Büyüme.", Maliye Dergisi, 150: 79-89.

Enders, W. (2004) "Applied Econometric Time Series", Second Edition, John Wiley and Sons Inc., New Jersey.

Fazzari, S. M.; Petersen, B.C. & Glenn Hubbard R. (1989). "Investment, financing decisions, and tax policy.", NBER Working Paper, 1193: 1-15.

Modigliani, F. & Miller M. (1959) "The Cost of Capital, Corporation Finance, and the Theory of Investment.", American Economic Review, 49(4): 261-97.

Graham, J. R. (2009), "Taxes and corporate finance: A review", The Review of Financial Studies, 16(4):1075-1129.

Granger, C.W.J. (1969) "Investigating Causal Relations By Econometric Models and Cross-Spectral Models", Econometrica, 37(3): 424-438.

Guajarati, D.N. & Porter, D.C. (1999). "Essentials of Econometrics", Fourth Edition, McGraw-Hill, New Jersey.

Hall, R. E. & Jorgenson, D.W. (1969) "Tax policy and investment behavior: Reply and further results." The American Economic Review, (59)3:388-401.

Harris, M. & Raviv, A. (1991). "The theory of capital structure", Journal of Finance, 46(1), 297–355.

Ministry of Development, www.mod.gov.tr.

Reinhard, L.F.M. & Li, S. (2011). "The influence of taxes on corporate financing and investment decisions against the background of the German tax reforms.", The European Journal of Finance, 17(8): 717-737.

Solow, R.M. (1956) "A contribution to the theory of economic growth.", The quarterly journal of economics, 70(1): 65-94.

Taylor, A. M. (1996), "International capital mobility in history: the saving-investment relationship". National bureau of economic research, No. w5743: 1-41.

Tesar, L. L. (1991). "Savings, investment and international capital flows." Journal of International economics, 31(1-2):55-78.

Thornton, D.L. & Batten D.S. (1985). "Lag Length Selection and Tests of Granger Causality Between Money and Income", Journal of Money, Credit and Banking, 17(2):164-178.

The World Bank, World Development Reports, www.worldbank.org.

TUIK, Turkish Statistical Institute www. tuik.gov.tr,

Wai, U.T. (1971). "Financial intermediation and national savings in developing countries", Center Discussion Paper, 126: 1-116.

TUIK, Turkish Statistical Institute www. tuik.gov.tr,

APPENDIX
Table 4: Data set

Years	Newly Established Firms	Profit & Income Taxes as percentage of GDP	Social Security Contributions as percentage of GDP
1985	13917	37	8.3
1986	16043	38.6	7.8
1987	21128	35.6	9.2
1988	20481	34.2	8.7
1989	14882	36	10
1990	18699	33.5	11
1991	17942	34.8	11
1992	27816	32.5	10.7
1993	43841	32	11.3
1994	48573	29.7	8.6
1995	56046	28.3	6.3
1996	55303	26.2	9
1997	67898	27.4	7.2
1998	57377	33.2	7.4
1999	27083	31.4	8.8
2000	33161	29.5	9
2001	29665	28.9	12
2002	30842	24.8	9.1
2003	32259	23.7	9.5
2004	40919	22.1	10.7
2005	47401	21.8	10.2
2006	52699	21.6	9.6
2007	55350	23.7	10.1
2008	49003	23.9	12.5
2009	44472	24.1	13.4
2010	51971	21.3	13.7
2011	54335	21	14.7
2012	39764	21.8	14.9
2013	49943	20.2	15.5
2014	58715	21.1	15.9
2015	67622	20.3	16.2

* **Source:** Ministry of Development, www.mod.gov.tr, TUİK, www.tuik.gov.tr, TOBB, www.tobb.org.tr