

## AN EMPIRICAL ANALYSIS OF THE IMPACT OF TAX AMNESTIES ON TAX INCOMES BETWEEN 1980-2014 IN TURKEY

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### ABSTRACT

Regulations on taxation, which is an instrument of fiscal policy, have a direct impact on public revenues. Tax amnesties, which can be regarded as a tax instrument in this context, are a frequently used method in developing countries. This method is to provide income voluntarily for non-fiscally intended individuals. There are 33 small amnesty applications in Turkey that are as small as the first days of the Republic. In other words, on average, a tax amnesty has been issued every three years. This situation puts the taxpayers in a natural expectation and negatively affects the fulfillment of their obligations. In short, the pending taxpayers do not fulfill their tax responsibilities. Tax amnesties in this context cause negative effects on the tax justice principle and the fiscal efficiency of the taxpayer. The purpose of the study, the tax revenues of the tax amnesty in Turkey, which is often used method is to determine whether there is an effect on. Using the vector autoregressive (VAR) analysis, the effect of tax exemption on tax incomes in Turkey will be examined in the period of 1980-2014 and a number of suggestions will be made about the way of applying tax exemption in the obtained data. In the present study, we use the VAR analysis instead of the structural vector autoregression (SVAR) since we aim to eliminate the potential problems that may emerge in the SVAR. We assign tax revenue (vg) as the dependent variable and tax amnesties (vaf) and real gross domestic product per capita (RGDP) as the independent variables. The impulse response and variance decomposition results indicate tax amnesties lose influence over tax revenue in the long run whereas the impact of gross domestic product shows an increasing trend. Being too weak to create the expected impact, the reaction of tax revenue to the shocks in tax amnesties is positive but floating in some periods. Thus, we may conclude tax amnesties affect tax revenue negatively in general.

**Keywords:** Tax amnesties, tax revenue, vector autoregressive analysis.

## INTRODUCTION

It is important that the place of taxes in public revenues cannot be denied. States which hold taxation authority have to pay more attention to regulations on taxation. Because a decrease in tax revenues may cause negative effects in terms of state and finances policies. For this reason, taxpayers are trying to gain voluntary compliance through various applications. One of the important applications that affect tax revenues and voluntary compliance of taxpayers is tax amnesties.

Some periods of tax amnesties are applied by the units holding the taxation privilege as penalty and deletion of actual debts in some periods. In particular, throughout the history of the Republic it has issued several amnesty in Turkey and implemented.

In the first part of this study, a review of the literature on the theoretical, descriptive and practical studies on tax amnesties both in domestic and foreign literature is given. In the second part, the importance, scope, characteristics and reasons of tax exemption are explained in the tax law. In the third chapter, the effect of tax exemption on tax incomes was examined by VAR analysis and the findings obtained were interpreted. A number of suggestions were made in the light of the findings and theoretical explanations obtained in the conclusion part.

### Empirical Literature on the Effect of Tax Amnesties on Tax Revenues

The empirical, theoretical and descriptive studies in the literature on tax amnesty discuss the impact of amnesty on tax compliance and tax revenue. The literature concentrates generally on the effect of tax amnesty on tax compliance, paying very little attention to tax revenue. Especially, the Turkish literature is highly limited on this issue.

Mikesel (1986) has examined the amnesties granted for tax evaders and the natural reactions to those amnesties, suggesting that some tax amnesties are practiced only once for a short time whereas others are implemented repetitively for a long time. Borgne (2006) has conducted a study on the economic and political determinants of the US tax amnesties and concluded governments may partially or completely remit the tax penalties that are responsible for increasing total tax debt. The author has found the negative sides of amnesties outnumber the positive sides. Fox and Murray (2011) have empirically analyzed the impact of tax amnesty on tax revenue and inferred tax amnesties lose their influence over revenue in the long term. Kilonzo (2012) has examined the effects of tax amnesty on revenue and growth in Kenya, suggesting tax amnesty has no positive impact on tax revenue. Considering these studies, we may observe the effects of tax amnesty vary slightly by country. The primary purpose of amnesties is to maximize tax revenue. However, the results of the reviewed studies show amnesties have failed to provide the target maximization.

Kaya (2015)'s research is the only empirical study in Turkey to have examined the reflections of tax amnesty to tax revenue. The author has used the SVAR analysis for the 1980-2013 period. Other studies, such as by Öz and Buyrukoglu (2011), Kargi (2011), Yarasir (2013), and Senyüz (2014), are all theoretical and descriptive.

### **Amnesty Concept and Tax Amnesty**

Amnesty is a legal and technical operation for the oblivion of a criminal act and it may be defined as a reason for throwing out public prosecution or penalty in penal law, which can be associated with the governmental renouncement of the authority to impose penalty.

Amnesties are granted if pecuniary and non-pecuniary sanctions are partially or never imposed, letting criminals evade the penalties for their offences. Amnesties are granted for all individuals and the entire society. However, any amnesty may also lead to some new problems. Governments may grant amnesties only when the remission of the crime is for the state interest for encouraging ethically, politically and socially important behaviors if the punishment will be useless. Thus, the reactions to amnesty hinder the emergence of expected results (Özek, 1958: 119-120).

Tax amnesty and crime amnesty are different in terms of principles and purposes despite the qualitative similarities. Governments abstain partially or completely from using the authority to impose punishment in the two cases (Taskin, 2010:125). Crime amnesty is actually for relieving political and social structure whereas the aim of tax amnesty is fiscal and for meeting the income requirement.

The amnesties that are granted for political, economic, financial, sociological and psychological reasons are based on Constitution and used frequently in tax law. Furthermore, the implementation of tax amnesties may also lead to both negative and positive results.

The concept of tax amnesty is used in casual speech and scientific circles but it is never mentioned in tax codes (Saban, 2001:455), which *cannot* be considered to be peculiar to Turkey only. The US has introduced Tax Amnesty Program instead of tax amnesty, showing that developed countries have similar worries as well.

Penalties are the natural consequences if taxpayers fail to discharge their duties and tasks precisely on time. Such penalties include late fee, default interest and irregularity fine for natural and legal persons. However, governments may abolish these penalties by various methods such as prescription, cancellation and amnesty. Tax amnesty is a good opportunity provided by the governing body for the taxpayers that have failed to fulfill tax obligations. The scope of tax amnesty is determined within either the enacted tax amnesty laws or the notifications regarding these laws. Thus, tax amnesties have various hallmarks. Many tax amnesties comprise tax penalties only whereas some involve default interest and original tax (Cetin, 2007: 173). Amnesty is granted generally for liberty-binding punishments in penal law and for fines in lax law.

Pro- and anti-amnesty views increase the importance of tax amnesties. Pro-amnesty economists believe in the necessity of amnesties that are quick sources of income under extraordinary conditions for providing the voluntary compliance of taxpayers with tax payment. Furthermore, amnesties play crucial roles in lightening the workload of tax administration and tax courts and preventing black economy. The justification of the pro-amnesty views is acceptable in some cases. However, some critical objections of amnesty are undeniable.

In the center of anti-amnesty views are the unfavorable properties of amnesties. Anti-amnesty economists argue tax amnesty is contrary to the principles of justice and equality. Furthermore, tax amnesty is non-functional in lightening the workload, reducing tax consciousness and law abidance due to deliberate tax crimes (Savasan, 2006:44).

### Reasons of Tax Amnesties

There are various political, financial, economic, social and psychological reasons for granting tax amnesties in developing and developed countries. Amnesty may be described as a relaxing instrument that emerges after a political crisis. Governments sometimes aim to appeal to their voters via tax amnesties by using amnesties as political stores of value.

Tax amnesty has always excited public attention in Turkey as it is a unique instrument of election campaigns. Turkey has granted 33 miscellaneous tax amnesties almost once every three years since the foundation of the republic. The titles of the 33 tax amnesties are highly interesting since none has been granted directly as *tax amnesty* to probably ease the social reaction. Tax amnesties are also granted shortly after military coups, revolution and counterrevolution for liquidating the former financial management in underdeveloped countries (Cetin, 2007:173). Thus, tax amnesty is an important political power both in developing and developed countries.

The fiscal purpose of tax amnesty is to collect a small part of seemingly uncollectible debts for meeting budget deficit. Considering the laws in use and the existing economic and working conditions of fiscal administration, governments grant tax amnesties for tax evaders for the provision of punctual payment of original tax. Such an amnesty practice is considerably debatable for the principle of justice since it leads to discrimination between tax payers and tax evaders. The primary aim of amnesty application is to increase revenue as soon as possible though tax amnesty is considered as a controversial source of income all over the world. Tax amnesty is a short-run source of income from the fiscal perspective.

There are two basic reasons for tax amnesty practices. The first is to transform hidden incomes, undeclared fortunes and illegal capital flight into investments in legal economy (Bülbül, 2003:207). Amnesty laws are for unearthing hidden assets by eliminating crime threat through the incentive provisions. By this way, declared hidden assets may be taxed at small rates (Dönmez, 1992:51-52). The second aim is to remove the adverse effects of high inflation and unstable policies on tax payers (Keleş, 2002:76). Tax payers fail to discharge their

duties precisely on time due to poor conditions that decrease their incomes and grow debt burdens with late fee and default interest.

The psychological aim of tax amnesty is for persuading tax evaders and payers that have failed to fulfill tax duties completely on time to discharge their financial obligations (Dogan & Besen, 2008: 26-27). Many tax payers evade their tax duties particularly in crisis periods. Thus, governments grant amnesties in crisis periods in an attempt to relax tax payers psychologically and relieve them of financial pressure. Tax amnesty also provides tax payers with a chance to revise their false tax declarations and pay the evaded taxes. Yet another psychological goal of tax amnesty is to eliminate the apathy stemming from the sanctions imposed on tax payers that have failed to fulfill their duties and obligations. However, the positive psychological effects of tax amnesty are removed if governments see amnesty as an instrument of political propaganda when tax evaders and payers are in the expectation of an amnesty.

There are two social reasons for tax amnesty practices: One is to eliminate the inequality between auditable tax payers and non-auditable tax evaders, the other being to remove the miscarriages of management and justice that may frequently appear in the countries incapable of implementing the declaration-based tax system efficiently.

#### **Effects of Tax Amnesties on Tax Revenue In Turkey: Empirical Analysis**

In this chapter, we will give an empirical analysis of the effects of the post-1980 tax amnesties on tax revenues. We have used the VAR model in the analysis.

#### **METHOD**

The VAR models are used for examining the relationship between economic variables. Cooley and Leroy (1985) assert the VAR models are reduced form models that simply summarize the dynamic properties of data. Impulse response functions obtained from the VAR models are used generally for examining the effects of a shock coming to a variable in the system on other variables (Guloglu, 2005:1). In other words, impulse response functions show the dynamic reactions of each variable in the VAR model to structural shocks.

The VAR models are used if the exogeneity of variables is unclear in macroeconomic models (Barisik & Kesikoglu, 2006:66). The existence of economic variables is associated with exposed shocks. These shocks may be temporary or long lasting.

Behind the VAR models is no strong economic theory. Thus, there is no endogenous or exogenous variable distinction in the VAR models. The acceptance that all variables are endogenous obviates the necessary assumptions for exogenous variables in structural models. In structural models, model users' failure in predicting exogenous variables may lead to unsuccessful prediction of endogenous variables even if models are well-defined. The estimation success of structural models is dependent on both the correct definition of model

and model user's prediction performance for exogenous variables (Aksoy et al., 2009:39). Lag lengths of all variables are estimated with the least squares estimator. Variance decomposition and impulse response functions are conducted for interpreting the coefficients obtained in the estimation.

In the present study, we use the VAR analysis instead of the structural vector autoregression (SVAR) since we aim to eliminate the potential problems that may emerge in the SVAR. We assign tax revenue (vg) as the dependent variable and tax amnesties (vaf) and real gross domestic product per capita (RGDP) as the independent variables. The functional equation is as follows:

$$vg_t = (u_t^{RGDP}, u_t^{vaf}, u_t^{vg}) \quad (1)$$

$$\Delta VG = \alpha_1 + \sum_{i=1}^n \gamma_i \Delta VG_{t-i} + \sum_{i=1}^n \theta_i \Delta VAF_{t-i} + \sum_{i=1}^n \lambda_i \Delta RGDP_{t-i} + \varepsilon_{1,t} \quad (2)$$

Function 1 is a function of the error terms of the variables. Function 2 shows the one-period lag effects of tax amnesties and gross domestic product on tax revenues. Here, we have used normalized values.

Various factors have obvious impact on tax revenues. For instance, the public sector borrowing requirement is one of the factors. However, we have discussed the gross domestic product factor only with amnesties since the present study is amnesty-oriented.

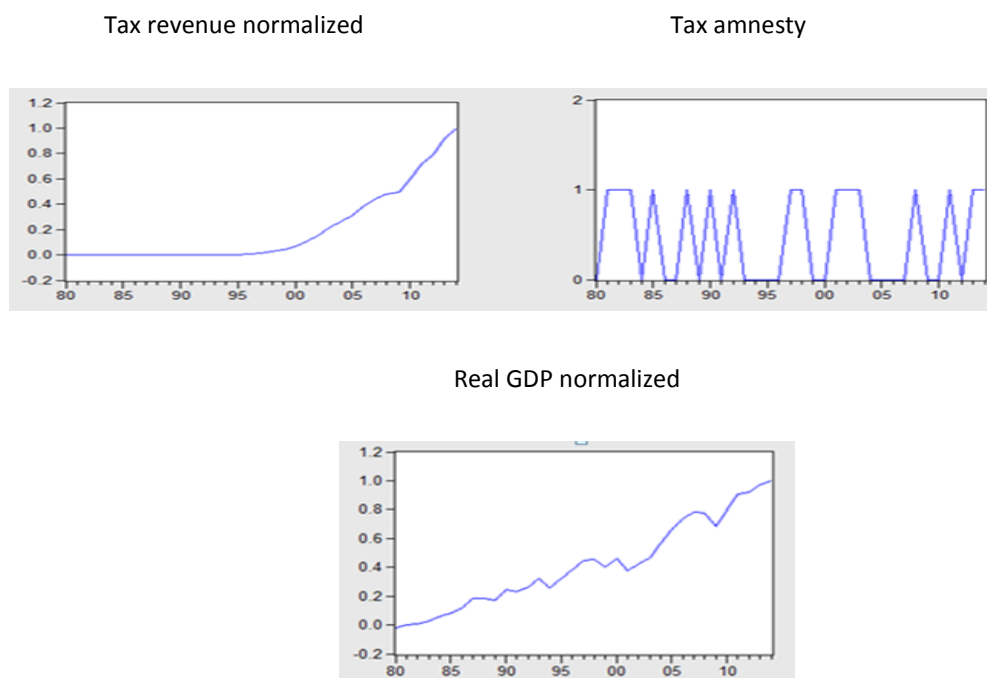
Elections are undeniably solid factors for granting tax amnesties. Turkish governments have granted tax amnesties once every three years shortly before and after elections, showing that amnesties serve for political purposes. In Turkey, tax amnesties have been granted sometimes one after another or once every two or three years as from 1980 to 2014. The relationship between tax amnesty and tax revenue is highly controversial. Tax amnesty has a money making effect on tax revenue in the short term but loses its influence in the long run.

### Data Set

We have collected the data on total tax revenue in the 1980-2014 period. Furthermore, we have determined the gdp per capita in the relevant period. The collected data has been normalized for assuring the reliability of the analysis method and results.

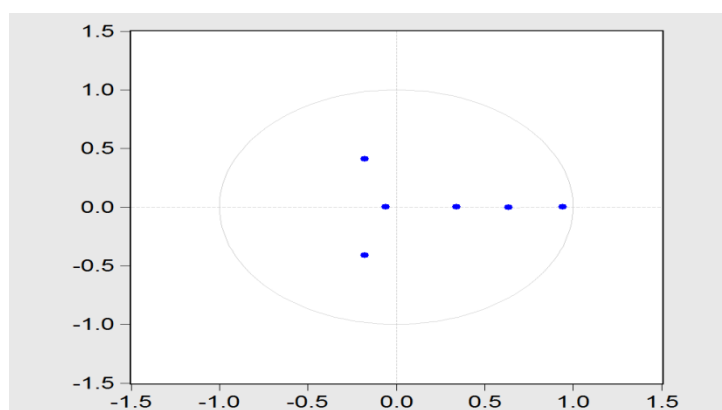
### Interpretation of Findings

Figure 1 shows the progress of the variables being used in the model.



**Figure 1.** Changes of Variables by Time

We have normalized the data on the stationarity of series and performed stationarity tests. There is no stationarity problem. Figure 2 shows the findings obtained from the inverse roots of the AR characteristic polynomial.



**Figure 2.** Inverse Roots of AR Characteristic Polynomial

All roots are in the circle, indicating that the model is stationary and the VAR system is stable.

After the stationarity test, the determination of proper lag lengths is important for the VAR model. Diagnostic tests are performed after testing for the stationarity of the model. We have used Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criteria (SC) and Hannan-Quinn Information Criteria (HQ). Table 1 shows the obtained results.

**Table 1.** Determination of Lag Lengths for VAR Model (1980-2014)

| Lag Number | Log Likelihood Function | Final Prediction Error FPE) | Akaike Information Criteria (AIC) | Schwarz Information Criteria (SC) | Hannan-Quinn Information Criteria (HQ) |
|------------|-------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------------------------|
| 0          | -3.355986               | 0.000299                    | 0.397249                          | 0.534662                          | 0.442798                               |
| 1          | 116.6032                | 2.92e-07*                   | -6.537698*                        | -5.988047*                        | -6.355504*                             |
| 2          | 120.8092                | 4.01e-07                    | -6.238074                         | -5.276185                         | -5.919235                              |
| 3          | 124.5458                | 5.81e-07                    | -5.909112                         | -4.534984                         | -5.453627                              |

Not: (\*) shows the criteria-selected lag length.

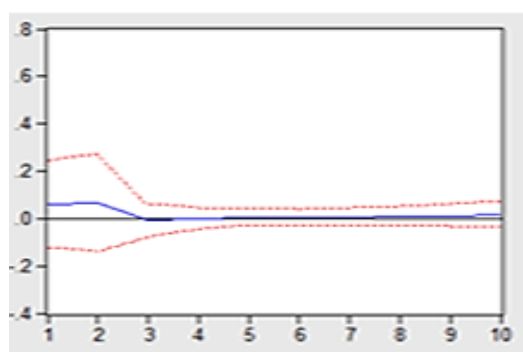
Four of the 5 criteria show the first-degree lag, indicating the data being used in the analysis is reliable.

### Impulse Response Results

Impulse response analysis is used for examining the dynamic interaction of the variables. Thus, we have used this analysis for determining the source of the change in total tax revenue. Impulse response analysis enables to measure to what extent the dependent variable will react to the one-standard-error shock in any variable.

Figure 3 shows the reactions of total tax revenue to the shocks in tax revenue, tax amnesties and gross domestic product.

**Reaction of Tax Revenue to Shocks in Tax Amnesties**



**Figure 3.** Reactions of Total Tax Revenue to Shocks

In the first period, total tax revenue gives a positive reaction with a soft increase trend to a shock emerging in tax amnesties. This reaction undergoes a serious decrease trend yet stays positive from the very beginning of the second period to the third period. The impact of the shock disappears in the middle of the fourth period.

### Variance Decomposition Results

In the previous chapters, we have tried to interpret the impulse response figures obtained from the VAR model. In this chapter, we will try to determine which variable has the strongest effect on tax revenue. We have used variance decomposition since it gives reliable information about the dynamic structure of the system.

**Table 2.** Effects of Shocks on Total Tax Revenue: Variance Decomposition

| Period | Tax Revenue Shocks | Tax Amnesty Shocks | Real GDP per Capita Shocks |
|--------|--------------------|--------------------|----------------------------|
| 1      | 100.0000           | 0.000000           | 0.000000                   |
| 2      | 97.68822           | 1.667694           | 0.644089                   |
| 3      | 98.67007           | 0.901091           | 0.428840                   |
| 4      | 99.15919           | 0.569812           | 0.271001                   |
| 5      | 99.32172           | 0.490046           | 0.188233                   |
| 6      | 99.33468           | 0.478787           | 0.186529                   |
| 7      | 99.23438           | 0.515327           | 0.250292                   |
| 8      | 99.04547           | 0.591955           | 0.362573                   |
| 9      | 98.80305           | 0.686582           | 0.510365                   |
| 10     | 98.52851           | 0.790487           | 0.681007                   |
| 11     | 98.23617           | 0.899128           | 0.864703                   |
| 12     | 97.93765           | 1.008061           | 1.054286                   |

In Table 2, tax amnesties explain 1.6% of tax revenues with a one period lag at the beginning. This effect diminishes until the seventh period and increases slightly later on. However, the last 1% effect falls far behind the beginning level, showing clearly that amnesties have failed to create expected effects in the long run. The effect of the real gdp per capita shocks decreases in the first six periods and increases later on. We may suggest the impact of gross domestic product on tax revenue is more dynamic than that of amnesties. Furthermore, the impact is reductive in the long run.

### CONCLUSIONS AND RECOMMENDATIONS

We have examined the effects of tax amnesty on tax revenue for the 1980-2014 period of Turkey and conducted some analyses with the VAR technique in an attempt to obtain some concrete conclusions. The impulse response and variance decomposition results indicate tax amnesties lose influence over tax revenue in the long run whereas the impact of gross domestic product shows an increasing trend. Being too weak to

create the expected impact, the reaction of tax revenue to the shocks in tax amnesties is positive but floating in some periods. Thus, we may conclude tax amnesties affect tax revenue negatively in general.

In the light of the obtained findings, it is unadvisable that tax amnesties be granted for meeting the short-run financing requirement. Furthermore, governments may avoid granting tax amnesties for financing public expenditures.

Periodically granted tax amnesties may damage tax justice since regular tax payers lose confidence in tax management. Furthermore, tax payers that have benefited from amnesties will develop an expectation of a new amnesty and avoid recording their financial activities. Thus, tax amnesty probably turns into a punisher for honest payers.

Governments are expected to abstain from using tax amnesties as an instrument of election campaigns. We recommend tax amnesties be granted especially after natural disasters or in extraordinary situations.

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