Tax Discipline And Its Influence On Financial Security: Its Theory And Application In Practice

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ABSTRACT

The article explores the tax discipline concept as an economic category from a scientific and theoretical point of view. It aims to study the issue of strengthening tax discipline in ensuring the country's financial security. Furthermore, the article investigates a developed mathematical apparatus using the method of econometric assessment of the impact of tax discipline on financial security – *ARDL* (autoregressive distributed lag) and their coefficient of long and short term dependence.

Keywords: Finance, financial security, tax, tax discipline, fiscal policy, budget.

INTRODUCTION

Ensuring financial security is an important task of any state because its independence and role in the international arena depend on its level of economic development. The level of development of economic relations is inextricably linked with the level of financial security. Ensuring the country's financial security is one of the necessary economic development factors at the stage of the modern development of the economy of the Republic of Uzbekistan. The Actions' Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 [1] states that strengthening macroeconomic stability and maintaining high economic growth rates is a prerequisite for sustainable development of the country's economy in the medium term.

Various researchers have led investigations on the current issue based on the logical transformation of economic relations, the logical transformation of financial relations, and the transformation of different views of the concept of economic security. Economic security deals with the three basic types of security:

➢ financial security,

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➢ tax security,
➢ investment security.

Several financial experts and economists commented on the status of these concepts. In particular, N. N. Kaurova defended her dissertation on the study of financial and economic security [2], E.V. Karenina worked on the study of financial security [3]. Also, O.A. Mironova conducted experiments on the study of tax security [4], E.L. Kuzina researched the study of ecological and economic security [5], T.M. Vorozheykina, and E.I. Kendyukh researched food security problems [6].

There are also several authors who studied security issues in public administration and various sectors of the economy [7]. One of the important factors in ensuring the implementation of fiscal functions of the state or a positive impact on the formation of the financial basis of socio-economic development is the strengthening of tax discipline [11,12]. If the level of compliance with tax discipline is higher, it is easier to perform fiscal tasks [13,14]. Conversely, the lower the level of compliance with tax payment discipline, the more difficult it is to perform fiscal tasks for financial security purposes [15].

Today, financial security has become one of the most pressing issues on the agenda of all political, economic and scientific circles. It aims to improve cases at the global scale and aim to ensure the world economy's stability. As a result of global economic integration, financial security has become a focus of the activities of influential international financial institutions, and measures are being taken to maintain financial stability through various economic and political supports.

H. Schubert, a professor at the Massachusetts Institute of Technology, studied tax discipline's impact on financial security in his research. And he drew several conclusions regarding the current topic. He confirmed that the risk of the financial crisis in countries with low tax discipline is high.

MATERIALS AND METHODS

According to the International Monetary Fund and the World Bank's joint program to assess the financial sector's stability, measures to ensure the country's economic security are based on the level of development of the financial sector and its integration into the global financial environment [8]. In particular, implementations of new rules and laws, financial security, financial matters, foreign exchange, internal and external markets in developed countries, and financial services, including banking, insurance, and intermediation services, are considered to ensure the financial market's stability banking system. Here, fiscal stability is supposed to be the main criterion of economic security in many developed and developing countries.

The International Monetary Fund's new edition of Financial Stability Indicators also focuses on financial security. It has noted that fiscal security, especially a balanced state budget, is a priority in the countries' transition period in developing and developed countries [9].

Also, a situational analysis by the Asian Development Bank (ADB) found that with the advent of the Asian financial crisis in 1997 and the global financial crisis which broke out in 2008, China, Japan, and South Korea were members of the organization's financial security system. It was confirmed that a severe financial and economic crisis had occurred as a result of the incorrect selection of the indicators obtained and approaches of several countries to deal with the recession and economic crises [10].

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Budget revenues decreased as a result of the severe consequences of the crisis. Severe financial difficulties of enterprises have also caused mushroomed budget. On the other hand, due to a sharp rise in unemployment, population growth and the need to protect welfare and healthcare increased the budget deficit. However, the financial security system focused more on

- monitoring the stock market
- the banking system
- macro-economic indicators than budget indicators.

Here, after the global financial and economic crisis, when the shortcomings of the global financial security system became apparent, international organizations and governments began to work together to develop a new system of indicators. The procedure required countries to have joint ventures and in harmony exchanging ideas sharing the reasons for past mistakes. As a result, a system of early warning signals, safety nets, risk reduction and cushioning systems has been introduced to prevent financial risks at the international and national levels. It is managed by the International Monetary Fund efficiently. All of these included financial market, banking and macroeconomic indicators, as well as fiscal indicators.

Considering the above considerations and conclusions of scientific and analytical work, the massive research regarding the current topic created an econometric model of indicators that affect our country's financial security. These models help to take into account the specifics of our national economy. Our country is gradually transitioning to a market economy. It is a rapidly developing economy. To do this, we first separated the free and free variables and made the following functional relationship.

$$FSE = f(TDS, BRV, BEX, PDB) \tag{1}$$

Here: FSE - level of financial security (budget equilibrium)
TDS - level of compliance with tax discipline
BRV - the dynamics of the volume of budget revenues
BEX - the dynamics of the volume of budget expenditures
PDB - the dynamics of state and state-guaranteed debt.

The econometric analysis was performed using the ***ARDL*** (autoregressive distributed lag) method because it did not require the studied variables to be in the same order, was suitable for use in small and finite periodic data analysis, and allowed long-term and short-term correlation to be evaluated simultaneously.   According   to ***Pesaran's*** rule, the function (1) is expressed in the form of an unrestricted error ***grinding model (UECM)*** of the ***ARDL*** test:

$$\Delta \ln FSE_t = \varphi_0 + \sum_{i=1}^{p} \varphi_1 \Delta FSE + \sum_{i=0}^{p} \varphi_2 \Delta \ln TDS_{t-i} + \sum_{i=0}^{p} \varphi_3 \Delta \ln BRV_{t-i} +$$
$$\sum_{i=0}^{p} \varphi_4 \Delta \ln BEX_{t-i} + \sum_{i=0}^{p} \varphi_5 \Delta \ln PDB_{t-i} + \beta_1 lnFSE_{t-1} + \beta_2 lnTDS_{t-1} + \beta_3 lnBRV_{t-1} +$$
$$\beta_4 lnBEX_{t-1} + \beta_5 lnPDB_{t-1} + u_t \tag{2}$$

The analysis method was selected, its mathematical formula (2), and then the model hypothesis was constructed. The zero hypothesis that there is no cointegration between financial security and tax discipline is expressed as follows:

$$H_0: \varphi_1 = \varphi_2 = \varphi_3 = \varphi_4 \tag{3}$$

An alternative hypothesis suggesting that there is cointegration between financial security and tax discipline is expressed as follows:

$$H_a: \varphi_1 \neq \varphi_2 \neq \varphi_3 \neq \varphi_4 \tag{4}$$

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Before performing the direct **ARDL test**, unit variable root tests were performed on the variables in the extended **Dickey-Fuller and Phillips-Perron** methods to determine steady-state. All variables were found to be stationary in the first order under the dependency test conditions.

In the next step, we check the cointegration relationship between the variables using ARDL bonds. To do this, we calculated the F-statistical value for the econometric model variables we constructed.

Table 1.
Level correlation test between variables in the ARDL model

F-statistics	95% lower limit	95% upper limit
6.5651	5.4183	6.6854

Microfit 5.0 was calculated in an econometric analysis program.

If the F-statistical value is greater than the upper limit value, the zero hypotheses indicating that there is no effect of degree dependencies is rejected. The correlation test results showed that the F-statistic was greater than the upper limit of the critical value in the confidence interval of 0.05. The zero hypothesis was rejected, and an alternative hypothesis was adopted.

Once the presence of cointegration was proved using the F-test, the long-term linkage was determined using the conditional ARDL model.

$$lnFSE_t = \varphi_0 + \beta_1 lnFSE_{t-1} + \beta_3 lnTDS_{t-1} + \beta_3 lnBRV_{t-1} + \beta_3 lnBEX_{t-1} + \beta_4 lnPDB_{t-1} + u_t$$

Table 2.
Long-term dependence in the ARDL model

Optional variable: LogFSE			
Variables	Coefficient	Stan. error	T-ratio [approximately]
LogTDS	.226891	.042654	2.518[.024]
LogBRV	.015858	.006114	2.557[.024]
LogBEX	-.014814	.179928	-3.662[.002]
LogPDB	.004340	.027955	2.568[.024]

ARDL (1,0,0,1) was selected based on the Akaike data criterion. It was calculated in Microfit 5.0 econometric analysis program.

RESULTS

We paid special attention to the use of advanced econometric methods to develop the economic mathematical model. Additionally, we analyzed the impact of tax discipline on financial security in the method of cointegration and autoregressive distributed lag. According to the findings of our research, the following results were obtained (Table 2-3):

In the ARDL model given in Table 2, the long-term dependence check coefficient is the coefficient of compliance with the tax discipline.

It showed a significant positive impact on financial security with a 5 percent probability. If the remaining factors remain unchanged, a 1 percent increase in the tax discipline compliance coefficient (0.226891) will result in an economic increase of 0.22 percent. The dynamics of budget revenues (0.015858) also positively impacted economic growth, with a 1% increase in it, leading to an increase in financial security level by almost 0.016%.

The econometric model for the short-term coupling test is presented in the following form, which includes elements of an error correction mechanism:

$$\Delta lnFSE_t = \varphi_0 + \sum_{i=1}^{p} \varphi_1 \Delta lnFSE_{t-i} + \sum_{i=0}^{p} \varphi_2 \Delta lnTDS_{t-i} + \sum_{i=0}^{p} \varphi_1 \Delta lnBRV_{t-i}$$

$$+ \sum_{i=0}^{p} \varphi_1 \Delta lnBEX_{t-i} + \sum_{i=0}^{p} \varphi_1 \Delta lnPDB_{t-i} + \delta ECM_{t-1} + u_t$$

Table 3. Short-term correlation and error correction mechanism

Free variable: dLogFSE			
Variable	**Coefficient**	**Stan. Error**	**T-ratio [approximately]**
dLogTDS	.698872	.2216403	3.1316[.007]
dLogBRV	.035964	.0091687	3.9044[.002]
dLogBEX	.004611	.0019784	2.1989[.041]
dLogPDB	.004611	.0019784	2.1989 [.041]
dTREND	.001796	.8188E-3	2.2102[.045]
ecm(-1)	-.72973	.180241	-4.1428[.001]
ecm = LogFSE -.212875*LogTDS -.049511*LogBRV - .014987*LogBEX + .039127*INPT -.002502*TREND			
Squares of leftovers	.86877	R-Bar-square	.80820
Standart error of regression	.0091550	F-statistics (5.14)	17.2126[.000]
The average arithmetic degree of free variable	.0030500	Involuntary change. standard deviation	.020904
The proximity of the logarithm to reality	69.7981	Schwartz Baes criterion	59.3130
Squares of leftovers	.0010896	Akaike criterion	62.7981
Darbin-Watson statistics	2.3926		

ARDL (1,0,0,1) was selected based on the Akaike data criterion. It was calculated in Microfit 5.0 econometric analysis program.

Table 3 presents the short-term dynamic coefficients derived from the error correction model based on the above study results. The short-term dynamic dependence is entirely consistent with the long-term dependence characteristics. The error correction model coefficient (-0.72973), calculated with a probability of 5 percent, is relatively significant. Furthermore, it shows the signs of rapid variability. Nearly 73 percent of the imbalances that occurred in the previous year will affect the long-term balance in this year.

The tax discipline level was financially related to financial security by 0.7%, the dynamics of budget revenues by 0.04 %, and the dynamics of budget expenditures and public debt by a factor of 0.004. Suppose we pay attention to the results of the analysis. In that case, it

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becomes clear that the tax discipline has a positive role in the long-term and short-term dependence on our republic's financial security.

DISCUSSION

Above, we built an econometric model of the impact of tax discipline on financial security. For the first time, the level of financial security (budget balance) was analyzed econometrically through indicators such as the level of compliance with tax discipline, the dynamics of budget revenues, the dynamics of budget expenditures, the dynamics of state and state-guaranteed debt.

It should be noted that such econometric analyzes in this area have not been sufficiently studied in practice. In some scientific articles, we can observe that the concept of tax discipline. The tax discipline issue was studied in terms of the role and importance of financial security in economic security [2,3,11]. The studies and thoroughness range were also limited by the scientific and theoretical aspects of most authors' research work [4,5,7]. Therefore, in today's globalization, one of the main problems of any country remains the issue of financial security, which means that in this regard, it is necessary further to develop research on this topic of our choice. In most cases, it should be noted that it is limited to a theoretical approach to studying problems. The analysis of any problem must necessarily have a mathematical apparatus.

CONCLUSION

1. Since financial security is an integral part of economic security, the understanding of its essence at the enterprise level is a ***synthesized concept*** that embodies the basics of economic security and financial management. Financial security is a condition for sustainable and secure development. It is a system of interconnected sets of elements based on the stratification and dynamics of supply indicators. Financial security is a typological type of economic security. Economic security is an integral part of national security.

2. According to the rules of socio-economic systematization, "*tax discipline is a set of procedures aimed at ensuring the timely and orderly receipt of taxes and other mandatory payments to the budget voluntarily through the joint growth of the subjects of tax relations on a unified organizational and legal basis. It is a set of measures*."

3. The high or low real state of compliance with tax discipline is directly related to the level of *indebtedness* to the tax budget, and the lower the debt, the higher the compliance with tax discipline will be. Therefore, the level of compliance with tax discipline is influenced by the following factors:
- ✓ the correct organization of tax payment by taxpayers;
- ✓ development of taxpayers' tax culture;
- ✓ transparency of the tax system for taxpayers
- ✓ stability of tax legislation;
- ✓ sufficient improvement of the system of interdepartmental information exchange;
- ✓ organization of efficient and quality service to taxpayers.

4. Tax risk is a risk that may arise in the course of the activities of entities involved in tax relations in the performance of their obligations and cause financial losses to taxpayers.

5. The fiscal imperative of state regulation of tax relations is a resource factor of the state in the "taxes and tax system" as a result of taking into account the objective economic opportunities of taxpayers and the degree of impact of the tax burden on the financial condition of businesses, the

degree of discipline of economic behaviour and from a mere tool of influencing socio-economic processes to a *"real threat to economic security for all economic entities".*

6. The content of essential requirements and conditions substantiating the need for tax discipline and its observance is reflected in the following. The tax relations participants require the fiscal base for public financial security within the tax legislation and the growth and stability of tax discipline voluntarily.

7. Tax planning is a type of financial planning established by law to reduce taxes and mandatory deductions and fulfil tax obligations in the prescribed manner, using the benefits provided by law and other legal methods of reducing tax liabilities.

CONFLICT OF INTERESTS AND CONTRIBUTION OF AUTHORS

The authors declare the absence of apparent and potential conflicts of interest related to this article's publication and report on each author's contribution.

SOURCE OF FINANCING

No funding was required for this research.

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