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An Evaluation from a Literature Perspective on Fiscal Drag, Inflation and Excessively Elastic Tax System

Mali Sürüklenme, Enflasyon ve Aşırı Esnek Vergi Sistemi Üzerine Literatür Perspektifinden bir Değerlendirme

Hikmet Dersim Yıldız[a]

Abstract

Fiscal drag is a concept that has gained significant prominence, particularly in the international literature. Fiscal drag has been defined in various ways by numerous authors. From a fiscal policy perspective, previous literature has examined how fiscal drag can have different effects during periods of inflation and growth. However, when examining definitions and explanations of the concept, what stands out most is that the fundamental determinant of fiscal drag is "excessive flexibility of the tax system" or "excessive elasticity of the personal tax rate." In other words, the literature frequently concludes that fiscal drag can negatively affect countries' tax structures and, consequently, increase the tax burden on individuals. This study focuses on the concept of Fiscal Drag and examines the effects of the tax system and structure, which are among the most important factors leading to this situation. As a result, by reviewing numerous studies, this study, which offers a comprehensive literature perspective, found that an excessively elastic tax system is the most important determinant of fiscal drag in personal income tax, but that other factors may also contribute to this situation.

Keywords: Fiscal Drag, Tax Elasticity, Inflation

Jel Codes: E62, H29**,** E31

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Özet

Mali sürüklenme, özellikle uluslararası literatürde kendine önemli boyutta yer bulan bir kavram olarak karşımıza çıkmaktadır. Mali sürüklenme birçok yazar tarafından farklı şekillerde tanımlanmıştır. Maliye politikası perspektifinden, mali sürüklenmenin enflasyon ve büyüme dönemlerinde farklı etkiler doğurabileceği önceki literatürde irdelenmiştir. Fakat kavrama ilişkin tanımlar ve açıklamalar incelendiğinde en çok göze çarpan durum, mali sürüklenmenin temel belirleyicisi olarak "vergi sisteminin aşırı esnek olması" ya da "kişisel vergi tarifesinin aşırı esnek olması" olmaktadır. Diğer bir ifadeyle literatürde, mali sürüklenmenin ülkelerin vergi yapılarını olumsuz etkileyebileceği ve dolayısıyla bireylerin vergi yükünü artırabileceği sonucuna sıklıkla ulaşılmaktadır. Bu çalışmada mali sürüklenme kavramına odaklanarak, bu duruma yol açan en önemli faktörlerin başında gelen vergi sistemi ve yapısının etkileri üzerinde durulmuştur. Ardından mali sürüklenme ile ilgili geçmiş literatür incelenmiş ve belirleyicileri irdelenmiştir. Sonuç olarak çok sayıda çalışmayı inceleyerek, kapsamlı bir literatür perspektifi sunan bu çalışmada, aşırı esnek bir vergi sisteminin kişisel gelir vergisi nezdinde mali sürüklenmenin en önemli belirleyicisi olduğu ve ancak başka faktörlerin de bu duruma yol açabileceği bulgusuna ulaşılmıştır.

Anahtar Kelimeler: Mali Sürüklenme, Vergi Esnekliği, Enflasyon

Jel Kodları: E62, H29**,** E31

[a] Arş. Gör. Dr. Yıldız-Hikmet Dersim, Çanakkale Onsekiz Mart Üniversitesi İ.İ.B.F. Maliye Bölümü, *hikmetdersim.yildiz@comu.edu.tr*, ORCİD ID: 0000-0002-2866-3936.

INTRODUCTION

In conceptual terms, fiscal drag is defined as the correlation between changes in the personal income tax base and changes in income excluding tax measures. However, the approach outlined in this definition requires accurately predicting the impact of different fiscal policy measures and is not useful for investigating differences in the fiscal drag effect between taxpayers or the factors underlying it. While one strand of the literature has documented this differentiation using pooled information on income and income group composition, these approaches typically require assumptions about distribution.Traditional views hold that fiscal drag acts as an automatic stabilizer to slow down the economy. However, this is only true in a context of rising inflation and does not always align with the general dynamics of today's global economy. In other words, a view of fiscal drag based solely on a context of rising inflation could be a narrow perspective. Fundamentally, fiscal drag is a situation that arises during periods of economic expansion, regardless of whether it is real or nominal, as a result of increasing progressive taxation. It causes individuals in society to bear a heavier tax burden as a result of their increased incomes. This situation leads to a decline in investment and consumption in the economy.

The concept of fiscal drag was first introduced into the literature by Gardner Ackley, who served as chairman of the Council of Economic Advisers, at a conference held in the United States. The Council emphasized that discretionary changes should be made to the budget rather than automatic changes in order to prevent this negative effect. At the present stage, automatic or built-in stabilizers are not considered sufficient to achieve the objectives of federal fiscal policy (Packer, 1965: 128).Given this situation, it has been emphasized that the concept no longer functions effectively as an automatic stabilizer and that discretionary fiscal policy tools must be used. In other words, without completely abandoning the traditional view, it has been stressed that fiscal drag is a disadvantageous situation that distorts income distribution among taxpayers, and that a different perspective is needed. Finally, some studies argue that it is incorrect to associate the fiscal drag effect solely with the elasticity of the tax system in the literature, suggesting that it may also be related to macro indicators such as growth, employment, and the budget. This study will examine studies that analyze the determinants of fiscal drag, which the literature points to as a disadvantageous situation for individuals, including tax elasticity and other factors.

1. THE CONCEPT OF FISCAL DRAG

The concept of fiscal drag, also referred to as income sensitivity, describes the increase in the average tax rate faced by individuals as nominal incomes rise under a fixed tax structure, and the faster growth of income tax revenues compared to individuals' incomes (Creedy, 2007: 323). Fiscal drag describes a situation where income growth can force more taxable persons into upper tax brackets, and thus generally leads to a heavier tax liability due to the increasing progression of the system. These effects can be mitigated in a country's tax system by using suitable indexation principles. Where such rules are absent, fiscal drag may undermine the desirable progressive nature (fair tax system) and the tax system's income distribution. With this feature, inflation is an influential factor affecting tax revenues and the tax system (Fuenmayor et al., 2005; Immervoll, 2005; Leventi et al., 2024: 4).

According to Prammer and Reiss (2015), an increase in average personal income can lead to a disproportionate increase in personal income tax revenues; this situation is defined as fiscal drag. Fiscal drag is a result of a progressive tax system, where individuals move into higher tax brackets and pay higher marginal income tax rates as their wages and salaries increase. This fiscal drag, known as ‘bracket creep’ in income tax brackets, occurs in three ways. The first is due to increases in real wages, the second is due to increases in nominal wages to compensate for inflation, and the third is due to a combination of both. Inflation-induced bracket creep in tax revenues, also referred to as inflationary fiscal drag, results in a higher tax burden and a decline in real after-tax incomes.

Lee (2012) highlighted that fiscal drag is a significant problem, defining the concept as a clever and subtle way for official financial institutions to extract more tax revenue from income earners by avoiding increases in tax rates (without indexing progressive tax rate brackets to inflation). He argued that over time, people are exposed to higher average and marginal tax rates and fail to truly understand why. He contended that this situation, coupled with high marginal rates, reduces work incentives and harms the economy in terms of consumption and investment.

Ackley, as chairman of the CEA, explained fiscal drag in his 1965 conference speech by listing its characteristics, determinants, and necessary responses. According to Ackley, a fixed tax rate and constant public spending levels create an increasingly restrictive effect over a period of a few years. Briefly, a fixed budget becomes tighter in a growing economy. Furthermore, CEA members examining the late 1950s highlighted another innovation in the new policy approach to fiscal matters. They reached a clear conclusion that tax cuts could increase private income and, consequently, federal revenue, thereby reducing rather than increasing federal budget deficits, especially when the economy has been operating below full employment for an prolonged time (Packer, 1965: 128-129).

Fiscal drag not only increases individuals' tax burdens but also has macroeconomic effects. In particular, it can significantly influence growth rates as a result of consumption-investment decisions. Before the early 2000s, policymakers chose to attribute low tax revenue growth rates to globalization and tax competition. Less attention has been paid to another explanation: inflation rates have fallen significantly in industrialized countries. In the 1950s, when fiscal drag emerged, countries with high long-term average inflation rates managed to bring these rates down to near-zero levels. While it is still too early to talk about inflation ending completely, it seems unlikely that inflation rates in industrialized countries will return to 1970s levels in the foreseeable future. This situation has become even more difficult in Europe with the entry of traditionally high-inflation countries into the European Union. This is because, by accepting economic and monetary coordination, they have become subject to a monetary regime that makes it difficult to easily return to inflation (Heinemann, 2001: 127-128).

1.1. Nominal Fiscal Drag

In the absence of a progressive tax system and perfect indexation, inflation shifts taxpayers into tax brackets with higher marginal tax rates. This situation, known as “bracket creep, ” leads to an increase in tax-to-income ratios. Since this relationship holds even in the absence of real growth, provided there is positive nominal growth, this phenomenon can be termed “nominal fiscal drag.” (Ursprung and Wettstein, 1992; Heinemann, 2001: 528). In other words, nominal fiscal drag reflects the relationship between inflation and tax revenues.

Nominal fiscal drag focuses on the relationship between inflation and tax revenues. In this context, the term “kalte Progression,” which was coined by the German school of thought in the 21st century and translates literally as “cold tax progression,” was the first concept to describe fiscal drag. Although the Swiss Federal Tax Administration's discussions on fiscal drag in the 1970s were based on the stagflation situation and period that dominated the global agenda at the time, it neglected previous explanations of fiscal drag (Huerlimann, 2018: 293). Many empirical studies in the literature have focused on the nominal fiscal drag effect, emphasizing that inflation causes taxpayers to progress through higher tax brackets and thus bear a heavier tax burden.

1.2. Real Fiscal Drag

Real fiscal drag shows that the rise in tax revenues is because of real wage growth rather than inflation. If the tax-to-income ratio (tax elasticity of income) responds positively to rising real income, i.e., if it increases more than tax revenues, then “real fiscal drag” exists. According to Heinemann, even if tax brackets are well indexed to inflation, this will not eliminate such fiscal drag. Even a perfectly indexed tax system with genuinely progressive rates will lead to an increase in tax-to-income ratios with positive real growth. In other words, real fiscal drag will result in an increase in tax income elasticity due to the effect of real wage growth, despite the best measures against inflation (Heinemann, 2001: 528).

In real fiscal drag, even if the inflationary effect causing nominal fiscal drag is eliminated, the positive growth generated by productivity and wage increases will cause a shift to a higher bracket in the progressive tax rate in real terms. In this situation, referred to as real fiscal drag, if the government does not intervene, real earnings will increase and more tax revenue will be generated each year. In such a scenario, where the government's tax policies remain unchanged, the tax burden on individuals will increase (Lee, 2012: 180).

2. EXCESSIVELY ELASTIC TAX SYSTEM

To prevent fiscal drag, the tax system in general, and personal income tax in particular, should not be excessively elastic. At this point, it cannot be said that there is a common view in the literature on what exactly the concept of an “excessively elastic tax system” means. In inflationary periods, the absence of a tax system designed to cope with possible changes in the economic climate will cause individuals to pay more tax, ultimately affecting their investment and consumption decisions and causing them to decline. Şen and Sağbaş (2015) stated that a tax system effective enough to reduce investment and consumption is excessively elastic. This situation, which describes the classic fiscal drag, is based solely on the assumption that taxes will cause it. However, as explained in the previous sections, other macroeconomic indicators besides the tax system can also cause fiscal drag. To clearly understand a general situation such as the excessive elasticity of the tax system, it is first necessary to explain the income elasticity of taxes. The income elasticity of taxes is precisely the fundamental determinant that leads to fiscal drag.

Tax elasticity is also referred to in the literature as the cyclical elasticity of taxes or the income elasticity of taxes. Cyclical changes can be overcome with well-designed tax systems. Therefore, the concept of tax elasticity is a crucial factor in assessing the effectiveness of the tax system and designing future tax policy. Tax elasticity measures the change in tax revenues resulting from changes in GDP (or the relevant GDP component/tax base) and is also referred to as an “automatic” change. If tax elasticity is high, it is not necessary to change tax rates frequently, as frequent and temporary changes in tax rates create uncertainty by disrupting consumption and investment decisions. Decomposing elasticity into tax base elasticity and base elasticity to GDP makes it possible to obtain the response of tax revenue to a change in the tax

base and the response of the tax base to a change in GDP. Tax elasticity measures the change in tax revenue resulting from changes in tax rates, bases, regulations, or administrative efficiency, and these changes are also known as “discretionary” changes. Tax elasticity measures the total change in tax revenue, i.e., not only the change resulting from changes in GDP but also the change resulting from discretionary tax changes (Mukarram, 2001: 75-76).

On the other hand, the income elasticity of taxes is one of the most important tools of public finance for tax collection. If it is elastic, tax collection grows with the growth of national income and reduces uncertainty regarding tax revenues. Conversely, if the tax system is not income elastic, frequent changes in tax rates are required to maintain collection at fixed levels in the short term (Fonseca and Ventosa-Santaulària, 2011:89). However, this view reflects a supply-side perspective of public economics. Governments need tax elasticity to be equal to or greater than 1 in order to increase tax revenues. This situation leads to fiscal drag, causing individuals to be dragged into the upper brackets of the progressive tax scale.

In the literature, tax elasticity is calculated as the ratio of the change in tax (ΔT) to the change in income (GDP) (ΔY) and is formulated as follows (Giray and Zeren, 2020: 241).

Tax elasticity = ΔT / ΔY (T = Tax, Y = Income) The measurement of elasticity is expressed as follows. If;

-Tax elasticity is less than 1, it indicates that the tax system and structure are inelastic and that tax revenues increase less than the increase in income.

-Tax elasticity equals 1 indicates that the tax system and structure have unit elasticity and that tax revenues increase proportionally with income.

-Tax elasticity greater than 1 indicates that the tax structure and system are elastic and that tax revenues increase more than the increase in income.

Tax elasticity is a measure designed to measure the response of tax revenue to a change in national income or production, after controlling for external effects such as discretionary changes in tax policy (Leuthold and N'Guessan, 1986: 1). When examining the degrees of elasticity, the final state of tax elasticity can lead to fiscal drag. The concept of an excessively elastic tax system is a frequently encountered expression, particularly in the national literature. First of all, it would not be appropriate to label every situation where the ratio of change in tax revenue to change in income is greater than 1 as “excessively elastic.” In any case, the very definition of this term used in the literature is already a matter of debate. Based on this, and in light of the discussions surrounding the concept, we can at least focus on the characteristics and consequences of an excessively elastic tax system.

An excessively elastic tax system can lead to nominal fiscal drag, as discussed in the study. The greater the degree of elasticity, the stronger the fiscal drag will be. Furthermore, looking again at the effects of nominal fiscal drag, it distorts income distribution by increasing the tax burden on individuals and reduces investment and consumption activities in a way that benefits the public sector at the expense of the private sector. However, it can be argued that it also has positive effects in some cyclical situations. The first of these effects is that it acts as an automatic stabilizer by curbing demand during inflationary periods. Second, it can increase budget revenues by creating a similar effect during periods of need (Esener et al., 2019).

The characteristics of an excessively elastic tax system can be listed using the deductive method. Particularly in countries where personal tax revenues have a progressive rate, the existence of a rate structure that is not indexed to inflation means that even individuals with lower real incomes drag into higher tax brackets. Another feature relates to indirect taxes. While individuals' incomes increase nominally, the prices of goods and services increase even more in response to inflation in the country, leading to higher spending on indirect taxes. This situation may reduce private sector investment and consumption activities (Şanver and Saygı, 2019).

Fiscal drag and its main determinants, the elastic structure of the tax system, have been the subject of numerous studies in the literature. In light of past studies on fiscal drag and new paradigms (not only inflation but also growth, income increase, budget surplus, etc.), a literature review will be conducted in the subsequent sections of this study. Thus, it will be emphasized which of the determinants of fiscal drag carry more weight.

3. LITERATURE REVIEW

In this section, following explanations on the types of fiscal drag and the determinants causing this situation, the direction in which national and international studies have gained prominence will be explained. As explained in the previous sections, studies on nominal fiscal drag caused by the progressive personal income tax system during inflationary periods and, additionally, other determinants and indicators will be examined.

Packer (1965) examined the relationship between analytical concepts such as fully employed budgetary surplus and fiscal drag. The author emphasizes that this relationship may not be entirely logical, and that the cause-and-effect relationships with economic activities are difficult to define and measure. Policymakers who relied on this analysis were effective in decreasing unemployment and promoting economic growth between 1961 and 1964; however, the author notes that this relationship and its outcomes are questionable under other conditions and economic circumstances.

The effects of wage indexation at the macro level, particularly its influence on inflation, have been a central focus of academic research since the 1970s. Fischer (1983) analyzed the 1974 oil price shock and emphasized the potential of wage indexation to increase inflation. However, in a cross-sectional analysis of forty countries, the study found no supporting evidence that countries with wage indexation had comparatively higher inflation following the oil price crisis.

Tanzi et al. (1987) note that there are various interrelationships among inflation and fiscal aggregates. The authors suggest that the most effective mechanism is the one affecting primary public expenditures and tax revenues, stating that governments can expect an increase in tax revenues through two channels. Foremost, a greater inflation rate will automatically raise revenues from Value Added Taxes and any other indirect taxes that are linked to prices. Then secondly, when employment income and corporate profits increase in nominal terms, this leads to increased revenues on individual income and corporate income tax. Thus, the fiscal drag mechanism that emerges during periods of inflation and the automatic stabilizing effect of fiscal drag are discussed in detail.

Ball and Cecchetti (1991) developed a stepwise wage determination framework to examine the effects of increases in the proportion of index-linked wage contracts. Their results indicate that a greater prevalence of wage indexation can generate upward pressure on inflation and contribute to inflationary persistence. Taking a similar approach, Holland (1995) analyzed the relationship among inflation and wage indexation in post-conflict America, based on data concerning cost-of-living corrections in labour aggrements. The study found no evidence for indexation of wages affected inflation in the United States.

Leibfritz et al. (1997) reviewed the theoretical and empirical literature on the impact of taxing on economic outcomes and attempted to draw lessons from the tax policies of OECD countries in order to contribute to the empirical literature. The main topics addressed focused on how taxes in open OECD economies might have affected economic performance through their impact on capital and labor markets and human capital. The major policy implications that emerged at this point were that the rising integration of OECD capital markets limited the range of tax incentives that could be used to boost domestic savings and investment. This indicates that in the future, the tax burden will increasingly fall on labor, which is a less mobile factor of production. In other words, without clearly pointing to a fiscal drag situation, it has been concluded that the increasing and future tax burden will reduce the consumption-savings-investment triangle.

Heinemann (2001) stated that falling inflation rates can have negative outcomes on tax revenues, arguing that event like inflationary tax bracket shifts are no longer valid in a progressive tax system in individual income. The study examines the size of fiscal drag in OECD countries starting 1965. In this context, the examination of the role of money illusion and indexation forms the theoretical basis. The study provides a model that enables the categorization of fiscal structures based on the nature of the fiscal drag. Subsequently, an empirical panel data analysis is conducted for total and disaggregated government revenues. The results support theoretical assessments of the impact of inflation on different types of taxes. This impact be liable to be positive on individual income taxes and social security contributions, solely, negative impact on corporate taxes. The study finds that a combination of falling inflation and changes in tax structures constrains the future fiscal burden potential.

Widmalm (2001) used cross-sectional data collected from 23 OECD countries between 1965 and 1990 to find arise that the tax structure affects economic growth. In particular, he concluded that there is a negative correlation between the ratio of tax revenues obtained from personal income tax and economic growth.

Creedy and Gemmel (2007) conducted an analysis on the elasticity of tax revenues (the size to which revenues increase in reply to income growth without changes in the tax structure) as part of personal income and consumption taxes. The study, which contributes a framework for comparing and combining analytical verbalization for the income elasticity of different taxes, used a series of empirical determines for the United Kingdom and New Zealand. As a result, it was found that the magnitude of income elasticities can vary significantly between alternative types of income and consumption taxes and over time for the same tax, for instance, when income changes according to tax brackets. Based on this, it was stated that fiscal drag would result in public tax revenues rising faster than individuals' incomes.

In another study, Creedy (2014) investigates the scale to which the total level of alter of tax revenue projected over 50 years in New Zealand due to population aging will be sufficient to finance the assumed extend in social welfare spending. The study uses estimates from two separate models that address social spending and income tax and goods and services tax revenues. The results show that the limited increase in the projected overall average tax rate over the next 50 years could be

achieved automatically by adjusting income tax brackets using a price index rather than wages. A comparative analysis of average and marginal tax rates based on New Zealand tax system data from the past 50 years indicates that such a rise would be feasible and acceptable. The study examined the factors that should be considered when determining whether this automatic increase in the overall average tax rate, through the actual fiscal drag of personal income taxes, is preferable to alternative fiscal policy changes.

Immervoll (2015) presents an analysis that combines the results of existing studies on the effects of tax changes on wages in imperfect labor markets. The results show that inflation can exert a moderate upward pressure on wages in an unindexed tax system. However, since existing studies ignore the significant heterogeneity of workers and the tax rates they face, it is argued that more detailed empirical studies on the role of taxes in the wage-setting process are needed. Immervoll emphasized that, contrary to the additional tax burden that the nominal fiscal drag situation, which has gained prominence in the literature, would create on individuals, this situation could also cause wages to move upward due to inflation. The analysis conducted in four European countries (the Netherlands, Ireland, the United Kingdom, and Finland) provides empirical results on the tendency of wage levels to respond to changes in average and marginal tax rates for the three countries examined. The studies conducted for the three countries confirm the theoretical predictions that average tax rates have a positive effect on wages and marginal tax rates have a balancing effect on wages.

Attinasi et al. (2016) stated that, in addition to the mechanism presented by Tanzi et al. (1987), public spending also tends to increase during periods of expansion. They revealed that this situation stems not only from the increase in the prices of goods and services purchased by the state, but also from the fact that public employees' wages and pensions are generally indexed to inflation.

Leventi et al. (2024) looks at wage indexation, a policy option that hasn't been studied much in the relevant literature. The goal of the study is to analyze the fiscal and distributional impacts of wage indexation and its two major consequences: fiscal drag and social assistance erasure. Using EUROMOD system, a tax-benefit microsimulation model for the EU, the author developed three theoretical scenarios with and without compensation programs for income losses due to uniform/diversified inflation shocks and social assistance erasure. This revealed that the budgetary effects of wage indexation vary significantly across European countries. Curiously, it was also observed that in most countries, the relative magnitude of fiscal friction and social assistance erosion was not affected by the size of wage increases. The estimates included in the study show that in nearly 50% of countries, fiscal friction and social assistance erosion generate a hidden rise in government revenue large enough to finance the indexation of social assistance and pensions to that year's inflation. This may be linked to a significant reduction in income inequality in the large majority of EU member countries. Ultimately, how the current automatic indexation settings in EU countries' individual income tax rates affect the magnitude and distribution of fiscal drag is a topic discussed in the study.

Theoretically, the fiscal drag impact can be explicated as the relationship among changes in the individual income tax base and changes in income excluding tax measures. Nevertheless, this perspective necessitates accurately estimating the effects of various fiscal measures applied and cannot be utilized to investigate heterogeneity in the fiscal drag impact between taxpayers or underpinning mechanisms. While some of the literature documents this heterogeneity using summary information on income and income distribution by income group (Creedy and Gemell, 2004; Price, Dang, and Botev, 2015; and Süssmuth and Wieschemeyer, 2022), these approaches generally involve making assumption about the distribution.

Balladeres and García-Miralles (2024) use a different approach based on micro-simulation to simulate the impact of the rise in the taxable persons income on tax liabilities, estimating each taxpayer's ERTI (Elasticity of revenue to changes in taxable income) through a comparative study, with other conditions held constant. This methodology has been frequently used in previous literature (Immervoll, 2005; Sutherland et al., 2008; Paulus et al., 2020; Waters and Wernham, 2022; Leventi et al., 2024; and Moriana-Armendariz, 2023). Nevertheless, while most of these to use survey data-based simulation instruments, this study uses administrative tax data, which lets for the modeling of nearly all parametric factors that make up the individual income tax law, enables more exact estimates, and offers opportunities to discover mechanisms and simulate counter-scenarios. Balladeres and García-Miralles conducted a micro-simulation study to examine the impact of fiscal drag on tax revenues in last years, noted by inflation and precise increases in taxpayers' incomes. In all scenarios created, it was observed that indexation based on any of the specified indices would lead to a significant decline in tax revenues, the ratio of tax revenues to GDP, and average effective rates.

Taraktaş and Hacıköylü (2017) examine the extent to which fiscal drag can fulfill its expected automatic stabilizer function in Turkey under a new price-based regulation of the Special Consumption Tax (SCT) levied on the automotive sector, as well as its potential side effects on economic balances and income distribution. The analysis conducted on the automotive sector in Turkey reveals that individual consumers are exposed to fiscal drag due to fluctuations in motor vehicle prices and exchange rates. As a result, this leads to a significant decline in automobile demand and causes economic contraction.

In their work, Esener et al. (2019) analyzed the relationship between income tax, inflation, and growth variables in analyses covering the period 1988-2017. The study evaluated income tax rate interventions as an automatic stabilizer. The years following the interventions and experiencing fiscal drag effects were found to be 1988, 1994, 1999, 2009, and 2012. A notable point here is that the fiscal drag effect (except for 2012) emerged after significant economic, social, or political disruptions.

Similarly, in the national literature, the fiscal drag effect based on one of the specific tax types is the subject of studies. In their work, Şanver and Saygı (2019) used two different indices to prevent the fiscal drag effect from occurring and calculated the rate at which income tax brackets should change each year. In this regard, it has been concluded that in order to prevent the fiscal drag effect from emerging in the Turkish economy, which has been growing with inflation in recent years, income tax brackets need to be readjusted by a certain percentage each year.

Finally, in their study, Yurttagüler and Kutlu-Horvath (2022) examined the direction of the relationship between indirect tax revenues and inflation. In this regard, the relationship between indirect tax revenues and the CPI in Turkey was analyzed using cointegration and causality analysis. As a result, it was found that while the CPI (consumer price index) causes tax revenues in Turkey, there is no evidence that tax revenues cause the CPI.

4. CONCLUSION AND RECOMMENDATIONS

This study is a compilation of how and to what extent the excessively elastic tax system, one of the determinants of fiscal drag, has been addressed in the literature. In this context, numerous studies on fiscal drag have been examined. Regardless of the analysis and scope of the studies, it is clear that the concept of fiscal drag is defined in the literature specifically to refer to nominal fiscal drag. Furthermore, many studies have established that fiscal drag generally occurs during periods of economic expansion. However, this situation is mostly discussed in terms of its impact on personal income tax. A review of the literature reveals that there are also studies analyzing other types of taxes besides personal income tax. With a few exceptions, all studies conclude that an excessively elastic tax system causes bracket creep in tax rates during inflationary periods. However, some studies emphasize that fiscal drag can also occur in different economic conditions and scenarios.

A review of national and international literature reveals that the relationship between inflation and tax revenues is frequently analyzed. Studies not only point to fiscal drag but also treat the inflation-tax revenue relationship as a separate subject of research. In the literature, fiscal drag is mostly examined in nominal terms, but real fiscal drag can also be the subject of studies. In this regard, the phenomenon of fiscal drag, which can arise from inflation and an excessively elastic tax system, can also occur with growth and real income increases. It is noteworthy that there are also studies analyzing real wage increases that lead to real fiscal drag. In conclusion, the phenomenon of fiscal drag does not only point to a situation reinforced by the existence of an excessively elastic tax system during inflationary periods (expansionary periods); literature research also shows that fiscal drag can occur depending on different circumstances and factors.

Some of the studies examined in this context have focused on wage indexation and real wage increases, apart from nominal fiscal drag. Accordingly, Creedy (2014) examined the phenomenon of real fiscal drag, which analyzed potential tax revenues that could finance pensions and social support expenditures. Furthermore, Ball and Cecchetti (1991), Holland (1995), and Fischer (1983) analyzed fiscal drag from a different perspective by examining the relationship between wage indexation and its inflationary effect. Consequently, studies have emerged that conclude that real wage increases (referred to as real growth in the fiscal drag literature and indicating real increases in wages) and wage indexation can trigger inflation.

When the studies are examined, the bracket creep that occurs, particularly in personal income tax, increases the tax burden on individuals. This situation, referred to as fiscal drag, has been proven by numerous studies. Therefore, fiscal drag can be eliminated with a tax rate that is perfectly indexed to inflation. Specifically, having a multi-tiered personal income tax schedule and indexing it to inflation at specific intervals would minimize the negative impact that fiscal drag could create. In this context, in the case of Turkey, it is necessary to eliminate fiscal drag as soon as possible in order to alleviate the additional tax burden on individuals caused by the inflationary pressure that emerged after the Covid-19 pandemic and continues to have an impact. Concrete policy implementations include the inflation adjustment or inflation accounting applied in Turkey in 2023. Although this serves as an example of partial inflation indexation, it can also mitigate the side effects of inflation in some respects. Similarly, in order to mitigate the side effects of the inflationary period that emerged worldwide after the Covid-19 pandemic, it is important to adjust various tax brackets, particularly the personal income tax rate, to inflation at regular intervals.

However, it would be a narrow and overly generalizing approach to assume that fiscal drag only occurs during inflationary periods as a result of bracket creep in certain types of taxes. Although there are some studies in the literature that analyze tax types during periods of growth, budget surpluses, and full employment, they are insufficient. The concept of fiscal drag

now implies more than just the situation resulting from bracket creep in tax rates. Consequently, based on the previous literature reviewed, the issue of fiscal drag should be analyzed in relation to different economic conditions and types of taxes. In this context, a more accurate approach would be to conduct a multifaceted assessment at the country level, based on different types of taxes and different economic conditions.

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