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# Taxation and Economic Growth: Theoretical and Empirical Literature Review

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## Abstract

This paper reviews the literature on the relationship between tax and economic growth from the theoretical side and the empirical side. The main aim of this paper is to add to the current debate on this relationship. The paper reveals that neither the theoretical literature nor the empirical literature provides conclusive evidence of the nature of this relationship. There are three points of view in the theoretical literature: the positive affect, negative affect, and nonlinear effect of taxation on economic growth. However, although the majority of empirical studies support the negative impact, empirical evidence for increased nonlinearity is increasing. In general, the theoretical and empirical literature gives different results due to various factors such as the selection of countries' samples, the development level of countries, the period of time, the control variables included, and the methodology used. Therefore, in order to obtain more reliable results, the most advanced methods should be used in future researches.

**Keywords:** Taxation; Economic Growth; Government; Taxation

## Introduction

The debate on government interventions on dates back to the 18th century. However, the recent global economic crisis and the wide variation in levels of economic growth across the world's economies have led to renew the debate about the government's role in the economy. The impact of government interventions on economic growth through fiscal policy instruments such as government spending, taxation, and public debt remains a significant economic policy issue in the global economy. Nevertheless, the debate on this issue still continues in both theoretical and empirical literature. This, in turn, is reflected in the increasing disparity between policy approaches across countries. This article reviews the theoretical and empirical literature on the impact of taxation, as one of the most important instruments of fiscal policy, on economic growth [1-4].

The rest of this article is divided into three sections. While the first section reviews the theoretical literature on the relationship between taxation and economic growth, the second section reviews the empirical literature on this relationship. The last section concludes the article.

## Theoretical Review of Taxation and Economic Growth

As mentioned above, the relationship between taxation and economic growth was and still is not the subject of agreement among economists. From the theoretical literature side, we can state that there are several different schools of thought as follow.

### Neutral Impact of Taxation on Economic Growth

The neoclassical growth model of Solow and Swan suggests that tax does not affect the steady-state. That is, the effect of taxation on economic growth is neutral in the long-term. In contrast, the endogenous growth theory of Romer suggests that economic growth may be affected by taxation on economic growth in the long-run [5].

### Negative Impact of Taxation on Economic Growth

One of the views states that the taxation is determinant to the investment, thereby, is harmful to economic growth, as taxation prevents individuals or businesses from creativity and deprives them of rewards. So, supporters of this view, such as Judd, Chamley, Barro, and King and Rebelo, recommend lower tax in order to encourage people to be creative [6-9].

Furthermore, Engen and Skinner, for instance, claim that taxation can affect negatively on economic growth through five channels. Namely (1) discouraging the investment, (2) affecting the labor supply, (3) decreasing the growth productivity, (4) diminishing the marginal productivity of capital, and (5) reducing the effective utilization of human capital [10].

### Positive Impact of Taxation on Economic Growth

Another view argues that we do not have to think in taxation without considering the environment and the institutions around us. The tax revenues finance public services and goods, such as infrastructure, education, health care, and so on, which innovators and businesses get the benefits from and rely on. Therefore, tax increases are desirable if they support public goods that raise the revenues of entrepreneurs. Also, this line of thought suggests that higher tax and redistribution lead to increase investment opportunities in an economy [11-14].

Moreover, Romer and Romer argue that taxation (1) sustains and the economic growth and strengthens the global competitiveness, (2) provides stable and predictable fiscal circumstances; consequently, helps to accumulate funds to finance the social and physical infrastructural needs, (3) reduces the long-run dependence on aid, and

(4) ensures good governance through strengthening the accountability of governments [5].

## Empirical Review of Taxation and Economic Growth

As mentioned before, neither the theoretical literature nor the empirical literature is conclusive about the relationship between taxation and economic growth. The empirical literature provides various results, such as the positive, negative, or non-linearity relationship between taxation and economic growth. In this section, we review the empirical studies interested in the effect of taxation on economic growth.

Andrašić, Kalaš, Mirović, Milenković, and Pjanić, Gashi, Asllani, and Boqolli, Stoilova, and Takumah and Iyke find the positive relationship between taxation and economic growth. In contrast, Baiardi, Profeta, Puglisi, and Scabrosetti, Zhao, Zhang, and Lv, and Grdinić, Drezgić, and Blažić observe the negative correlation between taxation and economic growth. On the other hand, Aydin and Esen find the non-linearity relationship between taxation and economic growth. For more details, we review these empirical studies closely as follows [15-21].

### Empirical Studies Observe Positive Impact of Taxation on Economic Growth

For more discussion about the empirical literature on the relationship between taxation and economic growth, we start with the studies that find a positive effect of taxation on economic growth. As mentioned before, Andrašić, Kalaš, Mirović, Milenković, and Pjanić (2018), Gashi, Asllani, and Boqolli, Stoilova, and Takumah and Iyke find the positive relationship between taxation and economic growth although they use different samples, different periods, various methods, and so on [15-17].

An example for research that finds a positive result is the study of Andrašić, Kalaš, Mirović, Milenković, and Pjanić titled "Econometric modeling of tax impact on economic growth: Panel evidence from OECD countries". It uses a sample of 35 OECD countries in the period from 1996 to 2016 and the fixed effect model. The result is that a 1 percent increase in tax revenue enhances economic growth by 0.29 percent.

Another example, Gashi, Asllani, and Boqolli study titled "The effect of tax structure in economic growth" examine the effect of the tax structure in the economic growth in Kosovo in the period 2007-2015. They find that most of the taxes have a positive influence on economic growth [15].

Also, the study of Stoilova titled "Tax structure and economic growth: Evidence from the European Union" shows that tax structure, in general, based on selective consumption taxes, taxes on personal income and property is more supportive to the economic growth. Stoilova employs pooled panel data, the Ordinary Least Squares (OLS) method, and two-stage least squares (2SLS) in the period 1996–2013 [16].

Moreover, the work of Takumah and Iyke titled "The links between economic growth and tax revenue in Ghana: An empirical investigation". They observe evidence of positive and unidirectional causal flow from tax revenue to economic growth by using the Toda-Yamamoto test and a quarterly dataset in the period 1986Q1–2014Q4 [17].

### Empirical Studies Observe Negative Impact of Taxation on Economic Growth

On the other hand, the studies that find a negative effect of taxation on economic growth such as Baiardi, Profeta, Puglisi, and Scabrosetti, Zhao, Zhang, and Lv, and Grdinić, Drezgić, and Blažić employ different samples, different periods, various methods, and so on [18-20].

For example, Baiardi, Profeta, Puglisi, and Scabrosetti work titled "Tax policy and economic growth: does it really matter?" conclude that the relationship between tax revenue and economic growth is negative and statistically significant. They study this relationship in 21 OECD countries in 1971–2004 using the PMG estimator [18].

Another example, Zhao, Zhang, and Lv using the panel (panel IV) instrumental variable method to study the effects of infrastructure and tax burden on economic growth in China's provincial in 2002-2014. They find that tax revenue has a significant negative impact on economic growth in the period after 2008 [19].

Another example is the work of Grdinić, Drezgić, and Blažić titled "An empirical analysis of the relationship between tax structures and economic growth in CEE countries". They apply the Pooled Mean Group estimator (PMG) to the sample of 20 selected countries (EU-13 and selected former Soviet Union countries and Albania) in the period from 1990 to 2010. They notice that all the tax forms have a negative impact on economic growth [20].

### Empirical Studies Observe Nonlinear Impact of Taxation on Economic Growth

Also, the studies that find a non-linearity relationship between taxation and economic growth such as Aydin and Esen utilize different samples, different periods, various methods, and so on [21].

For example, the study of Aydin and Esen titled "Optimal tax revenues and economic growth in transition economies: A threshold regression approach" confirms the non-linear relationship. It applies the dynamic panel threshold model to examine the non-linear relationship between tax revenue and economic growth in 11 central and south-eastern European and Baltic countries in 1995-2014. It shows that the optimal level of taxation is approximately 18.00 percent, 18.50 percent, 23.00 percent of GDP for full transition economies, developing economies and developed economies, respectively. These results indicate that the positive effect of taxation on economic growth below the threshold point will become to be negative beyond the threshold point [21].

## Conclusion

Taxation is one of the most important instruments of fiscal policy. However, the effect of taxation on economic growth was and still is debated. Neither the theoretical literature nor the empirical literature provides the bottom line of the relationship between taxation and economic growth. This section reviewed this relationship and found that the literature can be divided into three main groups: (1) the positive impact of taxation on economic growth, (2) the negative impact of government spending on economic growth, and (3) the nonlinear impact of taxation on economic growth.

This review finds that most of the studies support the negative effect of taxation on economic growth. However, it seems that the results of the literature on government spending on economic growth is subject to a set of various factors, including the selection of the sample of countries, the level of development of countries, the time frames, the control variables included, the methodology used, among other factors. Therefore, none of the views on the relationship between taxation and economic growth can be wholly relied upon. Thus, the most advanced methodologies should be employed in future research.

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