Negative Impact of Income Tax on Economic Growth

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Abstract. In the intricate development of global trends, economic growth is a crucial part shaped by the factors all around from indicators like Gross Domestic Product (GDP), Gross National Income (GNI) to policies for taxation, exportation, social welfare and so on. Among them, taxation is an interesting topic discussed frequently by analysts and economists, which also contributed to wealth redistribution and inequality as important considerations. This article focuses on researching the impact of income tax on economic growth, including individual income tax and corporate income tax. The purpose of this research is to figure out whether cut in tax promotes economic growth in the United States. The results show that income tax rate indeed have a negative relationship with economic growth rate. The research's data specifically shows how GDP shift up or down with the change of consumption, investment, employment rate, and so on. Cut in taxation somewhat promotes the GDP growth, while people are more willing to consume, invest, and governments are more abundant in funding. Finally, this research suggests the policy maker to consider the lagging effect of taxation policy on economic growth and timely adjustment of taxation structure progressivity, and further research and development.

1 Introduction

At the beginning of the era of global economic growth, all nations share a commitment to harness the power of innovation to promote sustainable development and build a more inclusive and interconnected world. In this era, the pursuit of economic progress has become synonymous with a broader vision to not only lift the economy, but also improve the happiness level which indicate how people live and consume all around the world. Economists and researchers are committed to finding opportunities for countries to catch up with global trends and go even further.

Among all economic topics, taxation policy is the most interested one, which is a human reaction toward natural economic fluctuations. For centuries, human devote to perfect strategy in all fields. Similarly, making decision about reforming or creating taxation policy is like a strategic game. To make the research more precise and professional, the topic is to specify two common taxation which are individual income tax and corporate income tax. Therefore, this article explores on the topic of the how does individual income tax and corporate income tax impact on economic growth. One crucial motivation to be committed to this field is that taxation can be used as a tool of redistributing income or wealth [1]. This can help reduce income inequality by creating more opportunities for upward mobility. From another perspective, countries also used taxation to fund government service, correct market imperfection, and stimulate or press certain economic behaviors [1]. By using tax policies to stimulate investments in education, research, and economic development, governments can promote economic growth that benefits a broader segment of the population.

Existing literature investigated the rank of taxation which are the most harmful to economic growth. According to investigation provided, "corporate taxes are found to be most harmful for growth, followed by individual income taxes, and then consumption taxes" [2]. Thus, it is a good opportunity to deeply discussed how these taxation impact on economic growth, in order to give an initial enlightenment for national economists and politicians to publish helpful regulations.

2 Importance of taxation

It is important to figure out the formulation of taxation as a first step. The tax base refers to the economic activities or entities that are subject to taxation. Governments decide which types of income, transactions, or assets will be taxed. The tax structure involves determining the rates and brackets for different types of taxes including income tax, consumption tax, import and export tax and so on. To summarize governments' process, they firstly assess the overall economic conditions, including the growth rate of Gross Domestic Product (GDP), inflation, employment levels, and business cycles. Economic conditions influence the government's decisions on whether to stimulate or restrain economic activity through taxation. Thus, formulation of taxation can be a complex combination of several dilemmas.

Tax systems primarily help government with financing public expenditure [3]. To promote fairness or to address social and economic issues, the tax system

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plays an indispensable role. Efficient tax systems should be implemented to reduce the burden of compliance on taxpayers and minimize administrative costs for governments. Simultaneously, these systems should serve as deterrents to tax avoidance and evasion. Nonetheless, taxes influences households' choices related to saving, labor participation, and investment in human capital. Similarly, taxes also impact the decisions of businesses, including choices regarding production, job creation, investment, and innovation, as well as influencing investors' decisions regarding savings channels and asset allocation [2,3].

2.1 Importance of income taxation

The United States created a progressive individual income tax. Individuals who have a higher income need to pay federal a higher rate of individual income tax [4]. Figure 1 shows that individuals who have a low income like people who earn less than 50k dollars annually have negative income tax. These data indicate governments might even give low income people subsidies or other social welfare. By contrast, individuals earn a high level of income pay a large portion of individual income tax. For example, a rich person with 1-million-dollar annual pays federal 40% of the income.

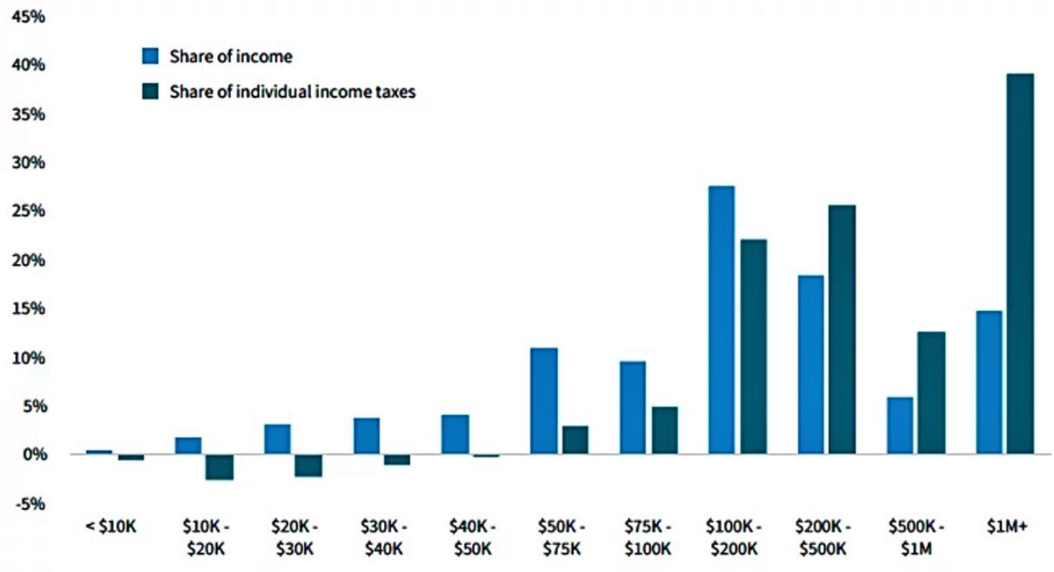

Fig. 1. Share of individual income and in different level and their taxes in 2019 [4].

The importance of income taxation mostly followed its influence on individuals, companies, and governments. Individuals observe how governments reform and adjust income taxation policies, which affect their daily income or expenditure. Then, individuals make their own economic decision on consumption, savings, investment, working, and retirement. At the same time, entrepreneurs, companies, and organizations observe income taxation policies to organize businesses, borrow capitals, invest projects.

The most important contribution of income tax is federal tax revenue. In Figure 2, a total of 57% of federal tax revenue comes from both income tax and corporate income tax. This number indicates the significance of income tax to federal, because a small change in income tax revenue transform a large proportion of the funding used by federal. Federal tax funding is crucial in promoting the investment in education, research and development and other projects.

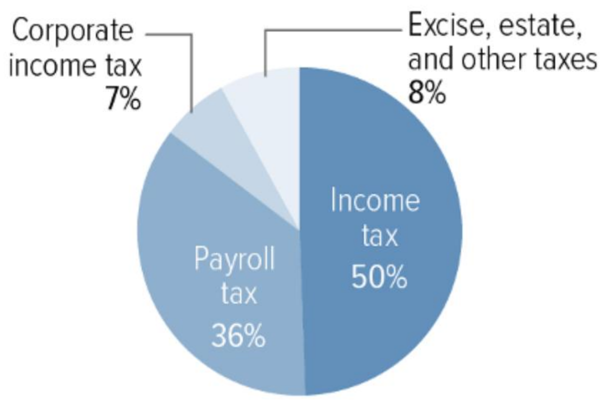

Fig. 2. Structure of federal tax revenue in 2019 [5].

3 Taxation and economic growth

US taxation reforms happened when some acts published by federal government. The Revenue Act of 1964 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 contributed to the change of individual income taxes. These cuts reduced the marginal tax rates on individual income, capital gains and dividends [6]. The alteration of income tax rates influences the actions of both individuals and businesses, primarily through income and substitution effects. Lower tax rates positively impact on the size of the economy comes from the fact that because of lower tax rates higher after-tax returns to work, savings, and investment are realized. Increased after-tax returns act as incentives, prompting greater work effort, savings, and investment, primarily driven by substitution effects. This is the anticipated impact of tax cuts on the overall size of the economy. An additional benefit of a straightforward reduction in tax rates is the diminish of existing tax distortions, leading to an efficiency-enhancing effect. However, pure tax rate cut also has a positive revenue effect, which reduces the need to work, save and invest [7].

Several studies have demonstrated a negative correlation between taxation and economic growth. The study of US federal income tax changes between 1947 and 2006 shows that a 1% of GDP tax increase resulted in an estimated 3% decline in GDP after 3 years [8].

3.1 Effect of individual income tax on GDP

Gross domestic product (GDP) composted with four normal factors, which are consumption, investment, government expenditure, and net export. Individual income tax can have a direct and indirect impact on GDP, depending on how it is implemented and the overall economic environment.

The study of US federal income tax changes between 1947 and 2006 shows that a 1% of GDP tax increase resulted in an estimated 3% decline in GDP after 3 years [8]. The possible reasons are various.

Raising individual income tax reduces disposable individual income. When people have less money after taxes, their tendency to spend less on goods and services may result in a decrease in consumer spending, thereby exerting a negative impact on businesses and subsequently affecting GDP [1].

Some tax policies may facilitate saving and investment by offering deductions or exemptions on certain savings instruments. This can lead to increased capital formation, positively impacting GDP in the long run. With the same tax rate and equal income, an expenditure tax is more conducive to saving than an income tax, because under an expenditure tax, savers can defer paying tax on their savings. The gains came from the opportunity to earn interest on deferred taxes and other benefits of holding wealth. If temporary taxes are compared, or more generally, if tax rates are expected to fall in the future, then spending taxes are particularly beneficial to those who postpone consumption [6]. According to the theory of permanent income, people's consumption patterns reflect not only their current income, but also their expected income in the future. Thus, this is a permanent change. Temporary income taxes encourage people to defer income, but not necessarily to defer consumption [9].

Another reason related to GDP is employment rate. A one percentage point reduction in marginal tax rate increased probability of employed head of household moving to better job by 0.158 percentage points [8]. Better jobs encourage people to work and participate in employment rate. Employment is a significant component of economic activity, which means that more labor with more production. Meanwhile, when GDP is increasing, it often implies that businesses are expanding their operations. As businesses produce more goods and services, they often need to hire more workers to meet demand.

Individual income tax is a part of government revenue. Governments can use these revenues for public spending, which can have a directly positive impact on GDP through investments in infrastructure, education, health care, and other public goods. The efficiency of government spending also plays an indirect role. If government spending is productive and contributes to long-term economic growth, the overall impact on GDP can be positive.

3.2 Effect of corporate income tax on GDP

Corporate income tax affects the factor of investment in GDP. When companies calculate their returns on investment, they take into account the cost of capital. A higher corporate tax rate means a higher cost of capital, potentially reducing the incentive for companies to invest. Corporate income tax also directly affects a company's profitability. After-tax profits determine the amount of cash available for investment. Higher tax rates can reduce after-tax profits, limiting the funds available for investment in new projects, research and development, or expansion.

The burden of corporate income tax also falls on capital owners such as shareholders, which affects investment decisions and thus economic growth. Workers and consumers may share the burden through lower wages and higher prices. That, in turn, limits business expansion and impedes economic growth.

Figure 3 shows the how corporate tax rates change and how real GDP grow from 1982 to 2019. The reduction in corporate income tax might cause GDP to grow. By compiling and analyzing a novel data set consisting of 441 estimates from 42 primary studies, the results indicate that the positive impact of corporate tax cuts on growth is about 2.7 to 3 times greater than the negative results [10].

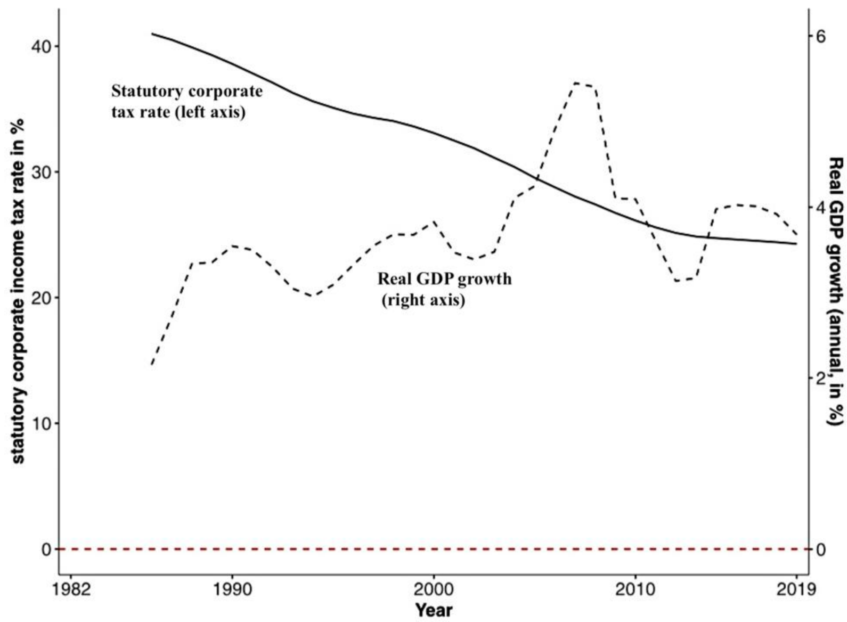

Fig. 3. Five-year world average corporate tax rates and real GDP growth rates from 1982 to 2019 [10].

However, reform corporate tax is not a simple and straight idea, because it cannot be declined too much. As mentioned, corporate income tax is a part of government revenue. It is levied on the profits earned by corporations, and the amount collected depends on the prevailing tax rate and the profitability of businesses within the jurisdiction. The impact of corporate income tax on government revenue is about fiscal policy and public finance. The level of corporate income tax influence governments' investment decisions. Governments rely on corporate income tax revenue to fund various public expenditures, including infrastructure, social programs, and public services. Change in corporate tax revenue affect the ability of governments to achieve their budgetary commitments.

Figure 4 indicates that from 2000 to 2019, governments' revenue from corporate income tax lowered about 200 billion dollars [11]. A reduction in the corporate income tax rate would have a significant impact on government revenues that posts challenges to fiscal sustainability and the ability to fund essential public services. Corporate income tax is a fundamental source of revenue for the government, and any reduction in the tax rate will directly affect the funds available for public spending. In long term, a continued decline in corporate tax rates would undermine the government's fiscal health. This leads to budget constraints that lead to cuts in education, health care and social welfare programs, negatively impacting the overall well-being of the population.

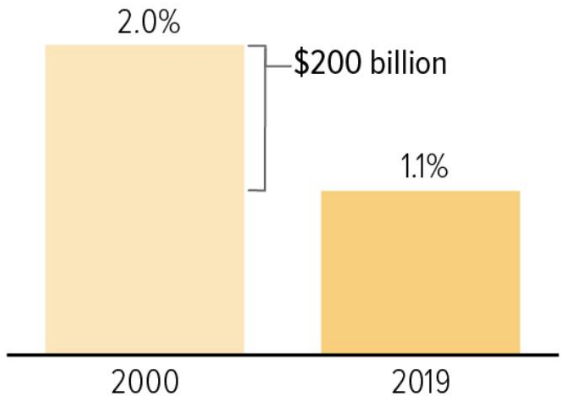

Fig. 4. The proportion of corporate tax revenue in GDP [11].

4 Policy recommendations

Policy making is crucial for a country's economic growth and development. Government should Carefully consider the implementation details to avoid unintended consequences. For example, some researchers can assess the possibility of introducing or adjusting wealth taxes to address wealth inequality. This may involve taxing assets such as property, investments, or other forms of wealth. Before making major changes to income tax policy, a comprehensive economic impact assessment is necessary. Analysts examine how changes affect economic growth, investment, and job creation, ensuring a balanced approach that benefits both individuals and the economy as a whole.

By researching the data, it is understandable that the effects of tax policy changes are not immediate. It takes time for businesses, investors, and consumers to fully comprehend the implications of new tax regulations and to adjust their decisions accordingly. Thus, there are some suggestion for reducing the lagging effect of tax policy on economic growth. Related institutions and organizations should regularly monitor economic indicators to assess the effects of tax policy changes. If the expected outcomes are not materializing, policymakers may need to consider adjustments or additional measures. Meanwhile, businesses often plan their investments and spending over the medium to long term.

With the impact of employment rate on GDP, one of the most important suggestion for making taxation policy is to consider the tax structure progressivity. Current study shows each percentage point decrease in measure of tax structure progressivity increased probability of moving to a better job by 0.277 percentage points [12]. People's willingness to find a job creates more labor participation. Besides, those who find a better job increase a country's productivity, which is also helpful to the economy.

Ultimately, it is advisable for governments to promote increased corporate research and development endeavors along with encouraging venture capital investment within the state. One strategy to stimulate research and development involves augmenting tax credits for businesses. Perhaps the most helpful approach would be to decrease or eliminate the prevailing capital gains tax rate, which effectively serves as a tax on initiating business ventures. Moreover, state policymakers might contemplate permitting state governments to invest in venture capital firms located outside the state, with the stipulation that these firms establish a presence within the state [12].

5 Conclusion

By combining all the current researches and data, the question of how income tax impact on economic growth should be answered. The results show that income tax cut brings more help to economic growth rather than harms the economy, by encouraging consumption, investment, participation in employment rate, government expenditure and so on. Although decrease in corporate tax might bring some negative influence on government revenue, the corporate tax counted as only 7% of government revenue. Therefore, the positive consequences are still greater than negative ones. The Then, there are some suggestions provided in this article. Firstly, government need to be cautious when making decision on reforming income taxation policies. Secondly, the lagging effect of policy on country's economy is an indispensable consideration. Then, income taxation will change the tax structure progressivity. Finally, investment as a large portion of economic growth greatly affect by income tax change. Thus, government should care about and promote nation investment. Researching on taxation is an important thing to do with the global trend of paying more attention on economic development of every country. Making decision on income tax should consider from all aspects from wealth distribution, inequality to consumption, investment, and government expenditure.

This research is limited from the perspective of time and methodology. Observing economic development takes time from month-long to year-long, which is not available for current writing situation. From the perspective of methodology, more up-to-date and valid data and resources should be gathered from national statistic or economic organization. Besides, analyzing in this research paper is relatively simple by comparing the income tax rate and economic growth rate. A more advanced research should use model like regression, empirical, or other complex models which take various factors into consideration and control the interaction between each other to reduce the errors and deviations. Moreover, it seems that the relationship between corporate income tax and economic growth is more complicated than the obvious negative relationship between individual income tax and economic growth. Corporate income tax brings negative influence on government revenue, but increase the investment in businesses. Thus, this article's conclusion is draw under the condition of comparing both positive and negative influence rather than absolute results. Therefore, further studies might suggest to conduct a more deeply research on the negative or positive relationship between corporate income tax and economic growth. Meanwhile, another perspective is to research on how to design a helpful taxation policy for a country's economy.

References

1. R. Bird, E. Zolt, UCLA L. Rev., **52**(6), 1627-1695, (2005)
2. A. Johansson, C. Heady, J. M. Arnold, B. Brys, L. Vartia, ECO/WKP, **28**, (2008)
3. R. Macek, REP, **14**(4), 309-328, (2014)
4. J. L. Streeter, How Do Tax Policies Affect Individuals and Businesses?, https://siepr.stanford.edu/publications/policy-brief/how-do-tax-policies-affect-individuals-and-businesses#3
5. Center on Budget and Policy Priorities, Policy Basics: Where Do Federal Tax Revenues Come From?, https://www.cbpp.org/research/policy-basics-where-do-federal-tax-revenues-come-from
6. K. Mertens, M. O. Ravn, Am Econ Rev, **109**(7), 2679-91, (2019)
7. W. Gale, W. G., A. Samwick, The Economics of Tax Policy, 13-39, (2017)
8. C. D. Romer, D. H. Romer, Am Econ Rev, **100**(3), 763-801, (2010)
9. R. Goode, Am Econ, Rev, 327-334, (1962)
10. S. Gechert, P. Heimberger, Eur. Econ. Rev., **147**, (2022)
11. C. Marr, S. Jacoby, G. Fenton, S. Washington, Corporate Rate Increase Would Make Taxes Fairer, Help Fund Equitable Recovery, https://www.cbpp.org/research/federal-tax/corporate-rate-increase-would-make-taxes-fairer-help-fund-equitable-recovery
12. W. M. Gentry, R. G. Hubbard, J. Public Econ., **88**(9), 2301-2322, (2002)