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The role of financial development in the collection of tax revenue

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Abstract:

This research paper explores the theoretical and empirical literature on the relationship between financial development and tax revenue. According to the theoretical literature review, the theory supports both a direct and an indirect link between financial development and tax revenue. Financial development can have an indirect effect on tax revenue, via international trade and economic growth channels. The empirical literature review generally reveals a positive relationship between financial development and tax revenue. However, there is a variation in the results of previous studies, particularly across measures of financial development, types of activities in the financial system, and causality directions.

Keywords: *Financial development; taxes; tax revenue.*

Jel Classification Codes : *G20; H20; E62.*

Résumé:

Ce document de recherche explore la littérature théorique et empirique sur la relation entre le développement financier et les recettes fiscales. Selon la revue de la littérature théorique, la théorie soutient à la fois un lien direct et indirect entre le développement financier et les recettes fiscales. Le développement financier peut avoir un effet indirect sur les recettes fiscales, via le canal du commerce international et le canal de la croissance économique. La revue de la littérature empirique révèle généralement une relation positive entre le développement financier et les recettes fiscales. Cependant, il existe une variation dans les résultats des études précédentes, en particulier selon les mesures du développement financier, les types d'activités dans le système financier et les directions de causalité.

Mots clés: *Développement financier; les taxes; recettes fiscales.*

Jel Classification Codes : *G20; H20; E62.*

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I. Introduction

Taxation is one type of revenue mobilization that is essential for public investment, social services, and debt and deficit financing (Nnyanzi, Bbale and Sendi, 2018). Tax revenues are required to meet the government's development and non-development expenditures, so the effectiveness and efficiency of the tax collection mechanism are critical (Akram, 2016). It is well known that firms evade taxes more frequently in developing economies. The standard theory holds that governments in developing countries try but fail to collect more taxes from firms, and their tax revenues are limited by what they can collect (Guo & Hung, 2020). According to the UNCTAD report (2015), corporate tax evasion and avoidance cost developing countries an estimated US$100 billion in annual tax revenues. This significant loss of development financing resources thwarts inclusive and sustainable economic growth (Ahamed, 2016).

Many governments, particularly in developing countries, continue to face difficulties in increasing domestic revenue mobilization (Nnyanzi, Bbale and Sendi, 2018). Several factors can be attributed to the increase in tax revenue (Akçay, Sagbas and Demirtas, 2016). One important area that needs to be reconsidered to raise developing countries' low tax-to-GDP ratios is the financial sector (Nnyanzi, Bbale and Sendi, 2018). The development of financial systems is critical to developing countries' economic growth (Akram, 2016). For a developing country to make good progress, it must have a strong financial system as well as a solid fiscal policy that promotes economic growth (Taha *et al.*, 2013).

The significance of financial development for economic growth and development is now well established in the literature. Meanwhile, there is a scarcity of research on the factors that influence tax revenue performance. The literature, however, has paid little attention to the relationship between financial development and tax revenue (Gnangnon, 2019). Furthermore, in the context of developing countries, this relationship is relatively under-researched (Akram, 2016).

The purpose of this study is to conduct a review of the theoretical and empirical literature on the relationships between financial development and tax revenue. To that end, the current study examines theoretically the direct and indirect effects of financial development on tax revenue. This research also provides an empirical review of this relationship, revealing that the majority of previous empirical studies found a positive effect of financial development on tax revenue. Policymakers in developing countries could consider the importance of financial development and develop policies to encourage banking and non-banking activities in the financial system, which would increase tax revenue in these countries.

The rest of this paper is structured as follows: Following this introduction, Section 2 reviews the theoretical literature on the direct and indirect relationship between financial development and tax revenue; Section 3 presents previous empirical studies that examined this relationship directly and through various channels, and Section 4 concludes by providing useful insights into the policy implications of theoretical and empirical arguments.

II. Theoretical literature review

II.1 Tax Revenue

A tax is a mandatory levy imposed by the government on the income, profit, or wealth of individuals, groups of people, and corporations in order to attain certain developmental goals. Governments need revenues to supplement their spending demands in order to maintain a sufficient level of public investment and social services, and taxes are the primary source of revenue in both developed and developing countries (Okon, 2018). There is no doubt that tax revenues when used productively, would be critical in improving citizens' welfare and stimulating development (Nnyanzi, Bbale and Sendi, 2018). Tax revenue is the most long-term source of revenue required to meet developmental and non-developmental expenditures (Ajide & Bankefa, 2017).

It is commonly known that governments in developing countries collect far less tax revenue from companies than their peers in developed countries, and that companies in developing economies avoid paying taxes more. According to the traditional view, developing-country governments try but fail to collect more taxes from companies, and their tax collections are limited by what they can collect. The previous researches specifically point out that developing countries are restrained by two aspects of state capacity: fiscal capacity (state's ability to collect taxes) and legal capacity (the power of state regulation on market activities) (Guo & Hung, 2020).

The share of a country's output collected by the government through taxes is expressed as total tax revenue as a percentage of GDP. It might be viewed as one indicator of the government's control over the economy's resources (Okon, 2018). Tax revenues in developing countries are often lower as a percentage of GDP (Ilievski, 2012). In both developed and developing economies, tax collection and tax law enforcement are difficult to enforce. As a result, raising tax revenue is a primary focus for policymakers. By taking into account the determinant of tax revenue, policymakers can directly improve revenues. There are numerous papers in the literature that focus on various tax revenue determinants (Oz-Yalaman, 2019).

The complexity and arbitrariness of the tax system, the extent of bureaucracy and regulations, and the incidence of corruption and rent-seeking behavior were frequently cited as key factors influencing tax revenue. Due to the large size of their agriculture sectors, small tax bases, a high degree of informality, and mono-revenue, developing country economies also faced difficulties in raising tax revenue (Okon, 2018). A weak or opaque financial system is a severe capacity limitation for tax collection in many emerging economies, resulting in inefficiency, a narrow tax base, and frequent tax evasion (Ilievski, 2015).

II.2 Financial Development

The financial sector is a compilation of institutions, instruments, markets, and legal and regulatory structures that enable transactions to take place. The development of the financial sector is concerned with overcoming "costs" incurred in the financial system. When financial institutions, instruments, markets, and intermediaries collaborate to reduce the costs of information, enforcement, and transactions, the financial sector develops (Okon, 2018).

Long-term macroeconomic development is clearly influenced by financial development (Elgin and Uras, 2013). Schumpeter discovered in 1912 that financial development based on individual savings might increase social well-being and encourage economic progress. Financial development has a favorable impact on economic growth, according to subsequent studies (Akram, 2016).

The primary channels through which financial systems can influence economic growth include (i) the provision of ex-ante information about investment opportunities; (ii) the enhancement of ex-post investment monitoring and corporate governance; (iii) the facilitation of risk management and diversification; (iv) the mobilization and pooling of savings; and (v) the ease with which goods and services can be exchanged (Gnangnon, 2019).

II.3 Financial Development and Tax Revenue Nexus

Overall, it is found that the financial system has an impact on tax reform (Loganathan *et al.*, 2020). Both a direct and indirect relation between financial development and tax revenue is supported by theory (Nnyanzi, Bbale and Sendi, 2018). In numerous ways, the development of the finance system may have an indirect or direct impact on tax revenue (Okon, 2018).

II.3.1 The direct effects of financial development on tax revenue

Financial development could enhance tax revenues directly by making tax tracking and collection easier (Akçay, Sagbas and Demirtas, 2016). An improved financial system makes banking more desirable to investors, resulting in higher banking activity and tax revenue (Loganathan *et al.*, 2020).

Banks, other financial institutions, and financial companies provide liquidity to businesses and customers through various payment systems that are required for noncash transactions. Businesses and tax payers will conduct their transactions through a country's financial institutions if they are well-developed, transparent, and efficient. In turn, the taxing authorities can get vital information on the income and assets of taxpayers from these institutions (Okon, 2018). The large disparity in the size of the banking industry between stages of economic development, on the other hand, highlights the issue of monitoring and taxing economic activity in underdeveloped countries (Ilievski, 2012). The extent of the underground economy grows in the event of weak financial institutions, making it harder to obtain correct tax data. As a result, the financial sector's development is a key predictor of tax revenue (Akram, 2016).

Stock markets play a significant role in tax revenue collecting as well. Improvements in the stock market enhance the amount of capital accessible to firms for investment projects, as well as the amount of liquidity available. As a result, rising stock market total value traded relative to GDP should lead to the government raising higher tax revenue as a percentage of GDP (Ilievski, 2015). It is generally commonly recognized, that the share of a country's GDP accounted for by the government's tax revenue is larger in developed economies than in developing economies. Because rich countries' financial markets are more developed, this empirical regularity implies that the tax-to-output ratio is positively correlated with financial development (Guo and Hung, 2020).

II.3.2 The indirect effects of financial development on tax revenue

Through international trade and economic growth, financial development may have an indirect effect on tax revenue.

II.3.2.1 The international trade channel

The international trade channel can be divided into manufacturing exports, export product diversification, and trade openness.

a) ***Manufacturing exports:*** Higher manufacturing export performance (i.e., a higher share of manufacturing exports in total export products) would be linked to higher tax revenue, especially as exporting firms are more likely to earn than local firms. As the performance of countries' manufacturing exports improves, financial development is expected to raise tax revenue (Gnangnon, 2019).
b) ***Export product diversification:*** If financial development leads to higher export product diversification in developing countries, it will boost tax revenue since governments will benefit from more diverse export products. If financial development in developing economies is linked to higher levels of export product concentration, non-resource tax revenue will fall as the level of export product concentration grows. Meanwhile, export product diversification may be linked to economic growth. In this context, because greater economic growth leads to higher tax revenue performance through the expansion of tax base elements, a higher positive influence of financial development on tax revenue is projected as the level of export product diversification rises (Gnangnon, 2019).

c) ***Trade openness*:** Over the last several decades, financial development and trade openness have been significant factors to economic growth (Loganathan *et al.*, 2020). Overall, the literature implies that financial development improves trade openness. However, the direction and amount to which trade openness influences the effect of financial development on tax revenue is ultimately determined by how trade openness impacts tax revenue. The extent to which quantitative restrictions have been replaced with tariffs, how tariff reductions affect imports, the extent of price elasticity of demand for imports, the price elasticity of supply of import substitutes, and how exports respond to trade liberalization measures, according to the literature, all influence the effect of trade openness on tax revenue. Meanwhile, because trade openness increases productivity and promotes economic growth, it is associated with increased tax revenue (Gnangnon, 2019).

II.3.2.2 The economic growth channel

The supply-leading hypothesis, demand-pulling hypothesis, and feedback hypothesis are three hypotheses that have been proposed in the literature to explain the economic growth channel.

a) ***The supply-leading hypothesis:*** According to the supply-leading theory, financial development enhances long-run economic growth by enabling resource allocation, capital accumulation, and technological diffusion (Nnyanzi, Bbale and Sendi, 2018). Economic development may be supported by the development of the financial sector. As a result, taxable economic activity expand, increasing direct tax revenue (Okon, 2018).

b) ***The demand-pulling hypothesis:*** Economic growth causes financial development, according to the demand-pulling hypothesis (Akçay, Sagbas and Demirtas, 2016). Economic growth generates wealth and increases demand for products and services, resulting in new investments. As a result, the income tax base will expand, increasing direct tax revenues (Okon, 2018).

c) ***The feedback hypothesis:*** The feedback hypothesis states that financial development and economic growth are mutually influencing. To look at it another way, they are complimentary (Nnyanzi, Bbale and Sendi, 2018). The rise of the shadow economy may be slowed by both financial development and economic growth (Akçay, Sagbas and Demirtas, 2016).

II.3.3 Informal economy, financial development, and tax revenue

In developing economies, lower tax-to-GDP ratios may represent difficulties in extracting tax due to ineffective tax enforcement and collection procedures. The presence of an informal sector, sometimes known as the "shadow economy," can obstruct taxing measures (Ilievski, 2012). One type of institution that is likely to have an impact on the spread of the shadow economy is the financial sector. The financial sector, in particular, performs several key services in an economy by allowing companies to obtain required loans and monitoring corporate activities for tax purposes.

As a result, as financial development lowers the obstacles to accessing credit, the opportunity cost of producing in the shadow economy rises, providing an incentive for informal businesses to convert to legitimacy. Furthermore, the development of the financial sector reduces the occurrences of tax evasion and therefore further mitigates the expansion of the shadow economy to the degree that the government is able to use the financial sector to successfully monitor and tax transactions (Berdiev and Saunoris, 2016). Firms have a greater incentive to engage financial intermediaries as the financial sector increases its effectiveness. As a result, the formal sector expands, increasing the government's ability to earn tax income. With a strong informal sector in developing countries, both demand-side and supply-side change (tastes and technology) may cause this sector to shrink and taxable economic activity to expand, resulting in a tax increase relative to GDP (Ilievski, 2012).

There are some studies that provide theoretical framework on the financial development and informal economy relationship. (Blackburn, Bose and Capasso, 2012) examined the relationship between the underground economy and financial development in a model of tax evasion and bank intermediation. (Bittencourt, Gupta and Stander, 2014) provided a theoretical model that indicates that both a lower (higher) level of financial development and a higher (lower) level of inflation leads to a bigger (smaller) shadow economy. (Capasso and Jappelli, 2013) provided a theoretical of the relation between financial development and the size of the underground economy. They showed that financial development (a reduction in the cost of external finance) can reduce tax evasion and the size of the underground economy.

II.3.4 Financial inclusion and tax revenues

Financial inclusion, which can be defined as "individuals and businesses having access to useful and affordable financial products and services that meet their needs in transactions, payments, savings, credit, and insurance delivered in a responsible and sustainable manner," is another related topic to the financial development and tax revenue nexus.

As people become more financially integrated and their income rises over time, their tax payments to the government may rise as well. In this context, as the world progresses toward financial inclusion, it is critical for policymakers to use this opportunity to increase tax revenues (Oz-Yalaman, 2019).

II.3.5 Effect of taxes on financial development

It should be emphasized that the direction of causality between financial development and tax revenue might be from tax revenues to financial development.

The relationship between taxation and the financial system has received a lot of attention in the developed countries. However, there has been a growing importance in developing countries in recent years on the significance of creating an efficient taxation policy framework to boost financial activity, which in turn might support economic growth. It is well established in the literature that taxation policies (particularly direct taxing policies) have an impact on the competitiveness of companies and the overall efficiency of the financial sector (Taha *et al.*, 2013).

Fiscal policy has a variety of effects on the overall economy and growth, with financial markets serving as an essential transmission channel. Assuming that both financial and investment activities are identical, a rise in the tax rate can affect the growth of the financial system. Taxes have an impact on financial markets through three channels: (i) interest on loans, (ii) municipal securities, and (iii) the publicly traded shares of a company that are taxed (Akram, 2016).

III. Empirical literature review

Many empirical studies have linked financial development to many macroeconomic variables. There are, however, just a few empirical studies that look at the links between financial development and tax revenue. As a result, the impact of financial development on tax revenue is a new concept.

III.1 Studies that examined the direct effect of financial development on tax revenue

(Ilievski, 2012) examined the role of the financial sector, specifically banks, as a mechanism for tax enforcement and collection. He explored the hypothesis that the public sector, measured by the tax-to-GDP ratio, co-emerges with the banking sector, measured by deposits-to-GDP, during the course of economic development. He examined his hypothesis theoretically, tracing out various paths along which the banking and public sectors might co-emerge due to changes in tastes or technology. Then he tested it empirically, using panel data on 116 countries over the period 1990-2008. Evidence of his study supports the hypothesis. In another study, (Ilievski, 2015) considered the financial sector – specifically the stock market sector – as a boon for tax revenue. Using a panel data set of 96 countries over the period 1990-2008, he found that stock markets positively influence government's ability to raise tax revenue.

(Taha *et al.*, 2013) provided new empirical evidence on the relationship among direct tax revenue and banking and non-banking activities in Malaysia's financial system, utilizing monthly data for the period 1997–2008. The existence of the long run equilibrium relationship between tax revenue and the financial system was investigated using the autoregressive distributive lag (ARDL) bounds testing approach to cointegration. They find a long-run equilibrium relationship between the financial system and tax revenue in Malaysia. The short-run dynamic relationship between direct tax revenue and financial system was investigated using the vector error correction model (VECM). The estimated ECTt-1 coefficient indicates a relatively fast speed of adjustment from short-run disequilibrium to long-run equilibrium. The Granger causality tests revealed unidirectional causality running from stock market towards direct tax revenue, indicating that an increase in stock market activities is likely to improve the collection of direct tax revenue. Overall, they show that the impact of the financial system on direct tax revenue is more profound in the short run than in the long run.

(Akram, 2016) analyzed the role of financial markets in generating tax revenue in Pakistan, using time series data for the period 1975–2014. The results of his study indicate that, in the long run, the number of bank branches and market capitalizations have a positive and significant impact on tax revenue. While credit to the private sector has a bidirectional relationship with tax revenue, public sector credit has an insignificant impact. In the short run, only the numbers of bank branches and market capitalization have a significant impact on tax revenue.

(Akçay, Sagbas and Demirtas, 2016) explored the nexus between financial development (banking and non-banking) and direct tax revenue in a multivariate framework in Turkey for the period 2006 to 2014, employing monthly data. They examined the long run equilibrium relationship between financial development and tax revenue using two different co-integration tests namely Johansen and Juselius (1990), and Hatemi-J (2008). The results of the co-integration tests indicated that direct tax revenue and financial development are co-integrated. The Vector Error Correction Model (VECM) was used to investigate the short run and long-run dynamic relationship between financial development and direct tax revenue. The results revealed that banking and non-banking financial development Granger cause direct tax revenue in the long run. Only the banking sector Granger causes direct tax revenue in the short run.

(Okon, 2018) used eight measures of financial sector development in terms of depth, access, efficiency and stability of both financial institutions and financial markets development over the period 1993–2017. Error Correction Model (ECM) and Granger Causality techniques were applied on the data. The results revealed that, in overall, financial sector development promotes tax revenue in Nigeria. Specifically, access to and depth of financial institutions development are major determinants of revenue collection in Nigeria, followed by depth and stability of financial market development.

III.2 Studies that examined the indirect effects through the international trade and the economic growth channels

Using a sample of East African countries, (Nnyanzi, Bbale and Sendi, 2018) investigated the impact of financial development from a multi-dimensional perspective on tax revenues for the period 1990 to 2014, and how political development and the control of corruption would enhance the observed nexus. The dynamic panel results from the system GMM estimation approach indicated a significant role of financial development overall and the financial institutions and financial markets in particular. The results suggested that it is the depth of financial institutions that greatly matters for tax revenue. It is then followed by their level of accessibility, financial market depth and efficiency. They fail to find significant evidence in support of financial market access and financial institutions efficiency. They also confirmed the positive role played by the lagged tax revenue, per capita GDP, trade openness, debt-to-GDP ratio and population density in the tax effort.

(Gnangnon, 2019) examined the effect of financial development on non-resource tax revenue performance in developing countries, including through the international trade and economic growth channels. Using a sample of 104 developing countries over the period 1980-2014, the empirical analysis showed that financial development exerts a positive effect on non-resource tax revenue performance. This positive effect takes place through higher trade openness, greater export product diversification, higher share of manufactured exports in total export products, and higher economic growth rate.

(Loganathan *et al.*, 2020) explored the effects of domestic financial development, growth and trade openness on tax collection for Malaysia using the ARDL and bootstrap rolling window estimates covering the period 1970- 2017. The empirical results suggested that, the presence of long-run relationship between tax revenue and per capita GDP and short-run relationship between tax collection, economic growth, financial development and trade openness. They found that there is a short-run unidirectional causality running between tax collection, economic growth and financial development. Their results suggested that, in the long-run, economic performance and financial development have an adverse effect on tax collection, while trade openness has no significant causality impact on tax collection in Malaysia.

III.3 Studies about the informal sector and financial development

(Ahamed, 2016) found that firms in developing countries with more inclusive financial sector evade taxes to a lesser extent. This effect is stronger for the countries with stronger legal rights and a smaller share of the informal economy. The results suggest that the growing public policy emphasis on achieving inclusive financial development may also help reduce tax evasion in developing countries.

(Bittencourt, Gupta and Stander, 2014) provided a theoretical model that indicates that both a lower (higher) level of financial development and a higher (lower) level of inflation lead to a bigger (smaller) shadow economy. These findings were empirically tested using a panel data for 150 countries over the period 1980–2009. Their results support the developed theoretical model, even after having accounted for the differences in the levels of economic development, the level of institutional quality that includes different tax regimes and regulatory frameworks, central bank participation in the economy as well as different macroeconomic policies.

(Blackburn, Bose and Capasso, 2012) analyzed the relationship between the underground economy and financial development in a model of tax evasion and bank intermediation. The key implication of their analysis is that the marginal net benefit of income disclosure increases with the level of financial development. Thus, in accordance with empirical observation, they establish the result that the lower is the stage of such development; the higher is the incidence of tax evasion and the greater is the size of the underground economy.

(Capasso and Jappelli, 2013) provided a theoretical and empirical study of the relation between financial development and the size of the underground economy. They showed that financial development (a reduction in the cost of external finance) can reduce tax evasion and the size of the underground economy. They tested the main implications of their model using Italian microeconomic data that allows constructing a micro-based index of the underground economy. In line with the model's predictions, the results revealed that local financial development is associated with a smaller size of the underground economy, controlling for the potential endogeneity of financial development and other determinants of the underground economy.

(Guo and Hung, 2020) demonstrated analytically that with a more developed financial sector with lower agency costs, the government of a wealthy small-open-economy country will increase its optimal tax-auditing probability, resulting in greater tax compliance. Their baseline model also produced an empirically credible positive correlation between financial development and the tax revenue-to-GDP ratio. They also found that large firms comply with taxes whereas small firms evade taxes.

III.4 Studies on the effect of financial inclusion on tax revenue

(Maherali, 2017) used various global datasets and developed a methodology to forecast the individual tax revenue that governments will gain as a result of financial inclusion by the year 2020. Financial inclusion, according to (Maherali, 2017), has an impact on income tax revenue.

(Oz-Yalaman, 2019) used an extensive dataset of 137 countries between 2011 and 2017 to test the hypothesis that changes in tax revenue are associated with changes in financial inclusion for countries around the world. The Global Findex database and panel data methodology were used in his study. The empirical findings supported the existence of a significant and positive relationship between financial inclusion and tax revenues. His findings were robust in terms of various taxation sources, such as corporate tax revenue, income tax revenue, and direct tax revenue.

IV. Conclusion

The theoretical and empirical literature on the relationship between financial development and tax revenue was reviewed in this paper. It focuses on developing countries, where it is well known that extracting taxes is difficult, and firms in these countries evade taxes more than their counterparts in developed countries. Furthermore, the existence of a large informal sector can thwart taxation efforts. According to the theoretical review, financial development has a direct and positive effect on tax revenues, as evidenced by a number of empirical studies, such as those conducted by (Ilievski, 2012, 2015; Taha *et al.*, 2013; Akçay, Sagbas and Demirtas, 2016; Akram, 2016; Okon, 2018). Because it makes tax tracking and collection easier, financial development could directly increase tax revenues. The theory also supports an indirect effect of financial development on tax revenue. Financial development may have an indirect impact on tax revenue via international trade and economic growth channels. The economic growth channel is based on three hypotheses from literature, namely, the supply-leading hypothesis, the demand-pulling hypothesis, and the feedback hypothesis. Whereas the international trade channel can be divided into manufacturing exports, export product diversification, and trade openness. This was supported by some empirical studies such as those of (Nnyanzi, Bbale and Sendi, 2018; Gnangnon, 2019; Loganathan *et al.*, 2020). There are also studies that explored the relationship between financial development and the informal sector, like the studies conducted by (Blackburn, Bose and Capasso, 2012; Capasso and Jappelli, 2013; Bittencourt, Gupta and Stander, 2014; Ahamed, 2016; Guo and Hung, 2020). Financial development, in general, can reduce tax evasion and the size of the underground economy. Another topic related to the financial development and tax revenue nexus is financial inclusion, and the empirical findings of (Maherali, 2017; Oz-Yalaman, 2019) confirmed the significant and positive relationship between these two variables. People's tax contributions to the government may increase as they become more financially included and their income grows over time.

In summary, empirical review generally shows a positive relationship between financial development and tax revenue. From a policy point of view, these findings suggest that governments in developing countries should pay more attention to the financial sector and develop policies that promote financial development. Several studies indicate that encouraging additional banking and non-banking activities would help generate tax revenue in the short and long term. Taxes, on the other hand, should be levied in such a way that they do not discourage investment.

The empirical review also shows that there is variation across the causality directions, with some studies finding unidirectional causality running from financial development to tax revenue, such as the study of (Taha *et al.*, 2013). Others found bidirectional causality between the two variables, such as the study of (Akram, 2016). Furthermore, the empirical results were different in the short and long term. Some studies found a significant positive effect in both the short and long term, while others found a positive effect in either the long or short term. Besides that, some studies found that the impact is greater in the short term than in the long term. These findings can be attributed to variations in financial development indicators; most existing studies on the subject use one of two limited measures of financial depth – the ratio of private credit to GDP or stock market capitalization to GDP. Moreover, only a few studies used a variety of financial development indicators. According to (Nnyanzi, Bbale and Sendi, 2018), different indicators of financial development influence tax revenue in different ways. Further to that, some studies divided the financial system into banking and non-banking activities, while others used both. It should also be noted that some studies used panel data while others used time series.

Some future research directions can be suggested, such as using different indicators of financial development and different types of taxes, as well as focusing on the size of both banking and non-banking institutions in the financial system in the long and short term. Future research could also look into the relationship between tax revenue and financial inclusion, as financial inclusion has been shown to have a positive effect on tax revenue.

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