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Nexus between Tax Revenue and the Financial Sector in Emerging Markets

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Abstract: This study investigated the influence of financial development on tax revenue in emerging markets using panel data (2005 – 2019). Secondly, the study explored the effect of the combination between financial development and trade openness on tax revenue during the same timeframe using econometric methods (pooled ordinary least squares, random effects, fixed effects, dynamic generalized methods of moments). Earlier empirical research on the topic produced mixed, inconclusive and contradictory results. It is against this backdrop that the author further investigated this topic to get a more definitive insight on the relationship between tax revenue and financial development in the context of emerging markets. The study noted that financial development had a significant positive impact on tax revenue under the fixed and random effects. Other factors which had a significant positive influence on tax revenue include trade openness (fixed and random effects), economic growth (fixed and random effects), urbanization (fixed and random effects), the lag of tax revenue (dynamic GMM) and the combination between trade openness and financial development (fixed and random effects). Emerging markets are encouraged therefore to formulate policies that enhances financial development, trade openness, urbanization and economic growth to stimulate tax revenue volumes. However, FDI (pooled OLS), population growth (fixed and random effects) and human capital development (dynamic GMM and pooled OLS) had a significant deleterious impact on tax revenue in emerging markets. Further research should focus on investigating the financial development threshold level beyond which tax revenue collection becomes significant in emerging markets.

Keywords: Trade Openness; Tax Revenue; Emerging Markets; Financial Development

JEL Classification: H2; D53; P2

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1. Introduction

The positive impact of the financial sector on stimulating tax revenue growth is a topic that is no longer disputed in the field of economics and finance. In other words, there is no longer any meaningful contestation in the literature as to whether financial development enhances tax revenue in an economy. It is a settled, concluded and well agreed matter in financial economics. Theoretical literature which supported the financial development-led tax revenue include arguments by Masiya et al (2015), Bose et al (2012) and Gnangnon (2019). Empirical literature which produced findings supporting the financial development-led tax revenue hypothesis were done by Basheer and Hassan (2019), Urbanovsky (2015), Nguyen et al (2019), Taha et al (2018), Loganathan et al (2020), Gnangnon (2019), Akram (2016), Gamze (2019), Nnyanzi et al (2018), Illievski (2012) and Lompo (2021).

Although these empirical studies agreed that financial development enhances tax revenue, few methodological deficiencies are observed. Firstly, none of them exclusively focused on emerging markets, a grouping of countries which deserves scrutiny given its rapid economic growth during the past one and a half decade ago. Secondly, none of them to the best knowledge of the author considered the endogeneity problem normally associated with the tax revenue function. Thirdly, they used outdated data which can no longer be used to formulate relevant policy on tax revenue in 2022. Fourthly, the dynamic nature of tax revenue data was completely ignored. Fifthly, none of them to the author's best knowledge investigated the influence of the combination between financial development and trade openness on tax revenue in emerging markets. This study attempted to fill in these gaps in the available literature on the impact of financial development on tax revenue.

The paper's contribution: The paper made several contributions in literature in several ways. Unlike previous empirical research which focused on the influence of the financial sector on the growth of tax revenue, this paper used the most recent panel data (2005-2019). Secondly, the study is the first to examine the influence of the financial sector on the growth of tax revenue in emerging markets. Thirdly, this study is embarking on a rare exploration of the effect of the combination between the financial sector and openness of trade on tax revenue in emerging markets. Fourthly, this study used four panel data analysis methods for comparison purposes. Fifthly, the dynamic aspect of the tax revenue data was also considered. Sixthly, the dynamic GMM used addressed the endogeneity problem normally common in the tax revenue function.

Paper's structure: The rest of the paper is organized into seven sections. Section 2 describes the theoretical literature. Section 3 discusses the influence of financial development on tax revenue from an empirical research viewpoint. Section 4 describes and explain the explanatory variables of the tax revenue function. Research

methodology is covered in the fifth section. The sixth section deals with analysis of data, results presentation and interpretation. The seventh section the conclusion. References are listed in Section 8.

2. Financial Sector's Effect on the Growth of Tax Revenue-Theory

A study done by Masiya et al (2015) argued that broad money, which is a measure of increased monetization in the economy enhances tax revenue. This happens because increased monetization in the economy enables many economic agents to be more active in their wealth creation seeking endeavors. Increased development of the formal financial sector enhances the development of formal financial and economic activities hence boosting the amount of tax revenue generated in the economy (Masiya et al., 2015).

Consistent with Gnangnon (2019), financial development enhances tax revenue generation through the trade openness channel. Financial development promotes international trade through different ways such as provision of information to traders, provision of financial assistance, liquidity provision through discounting of the bankers' acceptances and insurance services provision to the foreign trade participants. The provision of financial assistance to the international trade participants boosts business for the domestic participants thereby enhancing their profitability and ability to pay increased tax revenue to the authorities.

Financial development also enhances tax revenue (non-resource) through the channel of economic growth (Gnangnon, 2019). The positive effect of financial development on the economy is no longer contestable and debatable and it is a concluded matter in financial economics (Bagehot. 1873). As noted by Gnangnon (2019), higher economic growth arising from financial development expands the tax base elements in the economy hence leading to increased amount of non-resource tax revenues.

Another theoretical rationale was put forward by Bose et al (2012). They argued that financial development enhances tax revenue through its ability to facilitate tracking and collecting taxes.

3. Financial sector-led tax revenue -Empirical research

This section is a summary of similar empirical research on the relationship between tax revenue and the financial sector.

Table 1. Impact of Financial Development on Tax Revenue

Author	Unit of analysis	Period	Research methodology	Findings
Lompo (2021)	Developing countries	1995-2017	Panel data analysis	Financial development's impact on tax revenue was noted to be significant and positive
Illievski (2012)	126 countries	1990-2008	Panel data analysis	The study noted that stock market development, bank deposits and financial liberalization had a strong tax revenue enhancement power.
Nnyanzi et al (2018)	East African countries	1990-2014	System generalized methods of moments (GMM)	System GMM indicates that financial development had a significant positive influence on tax revenue in East African countries.
Gamze (2019)	137 countries	2011-2017	Logit-Transformation and descriptive statistics	Financial inclusion's effect on tax revenue was noted to be positive and significant
Akram (2016)	Pakistan	1975-2014	Time series data analysis	Number of bank branches and stock market capitalization's impact on tax revenue was found to be positive and significant in Pakistan in the long run. A bi-directional relationship between tax revenue and credit to the private sector was observed in Pakistan in the long run.
Gnangnon (2019)	Developing nations	1980-2014	Panel data methods	The financial sector's effect on tax revenue through the economic growth and trade openness channels was observed to be quite strong.
Loganathan et al (2017)	Malaysia	1970-2015	Time series methods of analysis	A uni-directional relationship from the financial sector to tax revenue characterised Malaysia
Loganathan et al (2020)	Malaysia	1970-2017	Time series data analysis	Financial development was had a deleterious effect on tax revenue in Malaysia in the long run.

Taha et al (2018)	Malaysia	1970-2015	Error Correction Model (ECM)	A U-shape defined the relationship between the growth of the financial sector and tax revenue. The study also revealed that a combination between tax revenue and economic growth enhanced the development of the financial sector in Malaysia.
Nguyen et al (2019)	Emerging markets	1961-2017	Panel data analysis	A U-shape defined the relationship between income inequality and financial sector development. This means that income inequality goes up during early stages of financial development but falls once financial development reaches a certain minimum threshold level.
Urbanovsky (2015)	United States	1971-2015 (Quarterly data)	Time series data analysis	The positive influence of stock market capitalization on tax revenue was observed.
Basheer and Hassan (2019)	Middle East countries	1990-2010	Panel data analysis	Financial development had a positive impact on the revenue related to tax collection.

Source: Author compilation

The study was undertaken to further contribute towards literature on relationship between tax revenue collection and the financial sector. This was mainly necessitated by the divergent, mixed, inconclusive results produced by existing empirically related research on the effect of the financial sector development on the growth of tax revenue (see Table 1). The absence of an agreed set of determinants (including financial development) of tax revenue in both theoretical and empirical literature also necessitated undertaking this study.

4. Explanatory Variables of the Tax Revenue Function

Table 2. Explanatory Variables' Influence on Tax Revenue

Factor	Proxy	Literature	Expected impact
Openness of trade (OPEN)	Total trade as a ratio of GDP	Baunsgaard and Keen (2010) explained that trade openness deals away with barriers to trade (tax tariffs) hence overally contributing to a reduction in tax revenue collection in the economy. However, Castro and Camarillo (2014) argued that more avenues of raising and collecting several types of taxes emerge as international trade economy formalization and domestic economy competitiveness booms.	+/-
Economic growth (GROWTH)	GDP per capita	Tax revenue collected is positively linked to the degree of economic activities of firms in that economy (Gupta. 2007).	+
Urbanizatio n (URBAN)	Urban population (% of total population)	According to Chilima (2005), urbanization transforms an economy from informal into a formal one hence giving the authorities an opportunity to raise more tax revenue. Formal economy is characterized by more formal jobs, more formal small businesses, which makes it easy to collect tax revenue.	+
Foreign direct investment (FDI)	Net foreign direct investment as a ratio of GDP	FDI inflows increase the formalization of the economy, economy's competitiveness with the global world, economic activities and growth. All this enhances tax revenue generation and collection (Amoh and Adom. 2017).	+
Population growth (POP)	Population growth (annual %)	All factors remaining constant, high population growth escalates the apetite to consume services and goods, not only thereby enhancing economic growth but also increasing the tax base size (Awasthi et al. 2020).	+
Developme nt of human capital (HCD)	Human capital development index	According to Chilima (2005), high human capital development helps allows most of the people in the economy to be able to understand tax revenue procedures, codes and rules. It also helps the people to understand the laws requiring filling of tax returns on an annual basis. Highly skilled people are more likely to begin their own small to medium scale enterprises hence overally contributing more towards the country's fiscus (Chilima. 2005).	+

Source: Author compilation

5. Research Methodology

The general model specification is shown below.

$$REV = f(FIN, OPEN, URBAN, FDI, POP, HCD, GROWTH) \quad (1)$$

These abbreviations and the proxies used to measure the independent variables are explained and shown in Table 2. On the other hand, REV (tax revenue) is measured by tax revenue (% of GDP). Empirical research done by Basheer and Hassan (2019), Urbanovsky (2015), Nguyen et al (2019), Taha et al (2018), Loganathan et al (2020), Gnangnon (2019), Akram (2016), Gamze (2019), Nnyanzi et al (2018), Illievski (2012) and Lompo (2021) influenced the independent variables included. The proxies of the variables used in this study was chosen in line with empirical research work done by Awasthi et al (2020) and Karagoz (2013).

$$REV_{it} = \beta_0 + \beta_1 FIN_{it} + \beta_2 OPEN_{it} + \beta_3 (FIN_{it}.OPEN_{it}) + \beta_4 URBAN_{it} + \beta_5 FDI_{it} + \beta_6 POP_{it} + \beta_7 HCD_{it} + \beta_8 GROWTH_{it} + \mu + \varepsilon \quad (2)$$

The econometric model structure of the tax revenue function is described in equation 2.

The intercept of the tax revenue function is denoted by β_0 whilst the co-efficients of financial development, trade openness, complementarity between the financial sector and trade openness, urbanization, population growth, foreign direct investment, human capital development and economic growth are represented by β_1 to β_8 respectively. A significant positive co-efficient β_3 means that tax revenue is significantly enhanced by the complementarity between trade openness and the financial sector, as predicted by the available theoretical literature (Gnangnon. 2019). Econometrically, equation 2 was estimated using the fixed effects, pooled OLS and the random effects.

Introducing the argument advanced by Masiya et al (2015) that tax revenue is affected by its own lag, the second equation changes to equation 3. The latter is econometrically estimated using the dynamic GMM method.

$$REV_{it} = \beta_0 + \beta_1 REV_{it-1} + \beta_2 FIN_{it} + \beta_3 OPEN_{it} + \beta_4 (FIN_{it}.OPEN_{it}) + \beta_5 URBAN_{it} + \beta_6 FDI_{it} + \beta_7 POP_{it} + \beta_8 HCD_{it} + \beta_9 GROWTH_{it} + \mu + \varepsilon \quad (3)$$

6. Analysis of Data

Panel data (2005-2019) was utilised in this paper to investigate the effect of the financial sector on the growth of tax revenue in emerging markets. The data was obtained from World Development Indicators. Argentina, China, Czech Republic, India, Malaysia, Philippines, Thailand, Singapore, Brazil, Colombia, Indonesia, Mexico, Peru, Republic of Korea, Turkey and South Africa.

Mean trend analysis: Looking at Table 3, several outliers exist across all the variables used in the study. This is because there is a big difference between the individual mean values and overall mean value across all the variables used. This applies in this study in all the emerging markets. Addressing the multicollinearity problem, prevalence of extreme values, abnormal data and outliers was done by transforming the data set into natural logarithms before final data analysis (Aye and Edoja. 2017).

Table 3. Trend analysis, 2005-2019

	REV	FIN	OPEN	URBAN	FDI	POP	HCD	GROWTH
Argentina	0.82	0.91	2.22	6.07	0.13	0.07	0.05	722.47
Brazil	0.92	3.52	1.72	5.65	0.21	0.06	0.05	600.76
China	0.64	8.80	3.25	3.40	0.20	0.04	0.05	379.78
Colombia	0.92	2.48	2.48	5.23	0.28	0.08	0.05	391.52
Czech Republic	0.97	2.97	9.13	4.90	0.30	0.02	0.06	1 272.19
Indonesia	0.75	2.15	3.26	3.39	0.13	0.09	0.05	194.35
India	0.72	3.21	3.08	2.10	0.12	0.09	0.04	92.27
Mexico	0.73	1.75	4.31	5.22	0.18	0.09	0.05	609.07
Malaysia	0.95	7.52	10.56	4.77	0.22	0.11	0.05	604.92
Peru	1.01	2.23	3.31	5.11	0.28	0.07	0.05	349.12
Philippines	0.85	2.32	4.51	3.06	0.11	0.11	0.05	157.64
Republic of Korea	0.93	8.74	5.58	5.44	0.06	0.03	0.06	1 654.74
Thailand	1.03	8.48	8.56	2.95	0.17	0.03	0.05	349.02
Turkey	1.18	3.36	3.45	4.77	0.12	0.10	0.05	637.14
Singapore	0.86	7.16	24.50	6.67	1.41	0.14	0.06	3 253.75
South Africa	1.58	8.32	3.64	4.20	0.09	0.09	0.04	427.70
Overall mean	**14.86**	**73.91**	**93.57**	**72.93**	**4.01**	**1.21**	**0.81**	**11 696.45**

Source: Author compilation

Correlation analysis: Such results are presented in Table 4 below.

Table 4. Correlation Analysis

	REV	FIN	OPEN	URBAN	FDI	POP	HCD	GROWTH
REV	1.00							
FIN	0.29***	1.00						
OPEN	-0.005	0.36***	1.00					
URBAN	0.10	-0.06	0.34***	1.00				
FDI	-0.09	0.14**	0.79***	0.44***	1.00			
POP	0.06	-0.17***	0.34***	0.12*	0.24***	1.00		
HCD	-0.03	0.18***	0.51***	0.74***	0.43***	-0.13**	1.00	
GROWTH	0.0002	0.33***	0.77***	0.64***	0.77***	0.06	0.74***	1.00

*Note: 1%/5%/10% level of significance is represented by ***/**/* respectively*
Source: E-Views

A positive significant relationship was observed between the financial sector and tax revenue. A non-significant negative relationship was also noted between (1) trade openness and tax revenue, (2) FDI and tax revenue and (3) human capital development and tax revenue. Table 4 show a non-significant positive relationship between (1) urbanization and tax revenue, (2) population growth and tax revenue and (3) economic growth and tax revenue. These results are mixed, divergent, inconclusive and contradictory. It is for this reason that the author further explored the impact of financial development on tax revenue in emerging markets.

Correlation between (1) economic growth and trade openness, (2) urbanization and human capital development, (3) economic growth and FDI and (4) economic growth and human capital development is greater than 70%. According to Aye and Edoja (2017), this is evidence that a multicollinearity problem exists.

Table 5. Descriptive Statistics

	REV	FIN	OPEN	URBAN	FDI	POP	HCD	GROWTH
Mean	13.97	70.20	87.47	68.59	3.78	1.13	0.76	11286.98
Median	13.57	50.33	55.84	73.58	2.57	1.17	0.76	7619.92
Maximum	25.05	165.39	437.33	100.00	32.17	5.32	0.94	66679.05
Minimum	8.57	10.65	22.11	29.24	0.06	0.03	0.52	729.00
Std. Dev.	3.35	44.13	82.26	18.37	4.96	0.61	0.08	12214.71
Skewness	1.42	0.48	2.55	-0.37	3.63	1.98	0.04	2.57
Kurtosis	5.55	1.70	9.38	2.28	16.48	14.10	2.64	9.91
Jarque-Bera	145.65	26.07	667.01	10.85	2343.17	1389.57	1.39	740.15
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00
Observations	240	240	240	240	240	240	240	240

Source: E-Views

Range for variables such as financial sector development, economic growth and trade openness is greater than 100, an indication that extreme data existed. Standard deviation for financial development, urbanization, trade openness and economic growth was found to be greater than 10%, further evidence to support the existence

of extreme data among these variables. Apart from urbanization, all the variables used in this study shows that the data is skewed to the right. This is evidence that the data for these factors are not normally distributed. Apart from human capital development, the probabilities of the Jarque-Bera criteria is zero across the other variables. This is an indication that the data for these variables (except human capital development) is not normally distributed.

Panel unit root tests: Following Lompo (2021), Augmented Dick Fuller Fisher Chi Square (ADF), Levin et al, 2002 (LLC), Im et al, 2003 (IPS) and Phillip Peron (PP) Chi square tests were the four methods used.

Table 6. Panel Stationarity Tests (Individual Intercept)

Level				
	LLC	IPS	ADF	PP
LREV	-0.84	-0.38	35.54	35.93
LFIN	-3.70***	-0.95	39.96	77.72***
LOPEN	-2.91***	-0.34	31.83	45.22*
LURBAN	-4.72***	1.61	23.57	63.99***
LFDI	-4.76***	-3.29***	61.91***	110.92***
LPOP	-4.27***	-1.87**	66.48***	24.47
LHCD	-8.72***	-4.53***	76.74***	76.76***
LGROWTH	-6.98***	-3.46***	62.67***	135.94***
First difference				
LREV	-4.82***	-4.56***	76.37***	135.95***
LFIN	-5.22***	-4.34***	75.70***	115.37***
LOPEN	-7.96***	-5.46***	88.15***	202.89***
LURBAN	-5.63***	-5.68***	81.71***	172.67***
LFDI	-10.70***	-9.72***	146.06***	336.01***
LPOP	-3.13***	-2.83***	60.77***	85.20***
LHCD	-19.74***	-16.64***	236.19***	175.02***
LGROWTH	-8.51***	-4.92***	82.01***	100.55***

Source: E-Views

In Table 6, all the variables studied are integrated of order 1. Such results necessitated the next stage of data analysis (panel co-integration tests), consistent with Tsaurai and Odhiambo (2012).

Panel co-integration tests: The study used the Kao (1999) approach to investigate whether between and among the variables used in this study, there is a long run relationship.

Table 7. Kao's (1999) Results

Series	ADF t-statistic
REV FIN OPEN URBAN FDI POP HCD GROWTH	-2.0322***

Source: Author Compilation

The results in Table 7 show that the null hypothesis (existence of a long run relationship) cannot not rejected, hence paving way for final analysis (Guisan. 2014).

Data analysis, discussion of results and interpretation: Table 8 presents the panel data analysis results.

Table 8. Panel Data Analysis

	Dynamic GMM	Fixed effects	Random effects	Pooled OLS
REV_{it-1}	0.96***	-	-	-
FIN	0.12	0.29**	0.30**	0.08
OPEN	0.02	0.49***	0.44***	0.05
FIN.OPEN	0.003	0.06*	0.06*	0.01
URBAN	0.02	-0.40***	-0.22*	0.59***
FDI	-0.002	-0.004	-0.001	-0.07***
POP	-0.001	-0.03***	-0.03**	-0.02
HCD	-0.004***	0.13	0.09	-0.75***
GROWTH	-0.01	0.08***	0.05*	-0.07
Adjusted R-squared	0.70	0.69	0.57	0.60
J-statistic	104.25	45.82	31.58	47.11
Prob(J/F-statistic)	0.00	0.00	0.00	0.00

Source: E-Views

The dynamic GMM produced results which shows that tax revenue growth was significantly enhanced by its own lag, consistent with Masiya et al (2015). The pooled OLS and dynamic GMM shows that financial development's influence on tax revenue was positively significant. Whilst random and fixed effects noted a significant positive relationship running from financial development towards the growth of tax revenue. The results are in line with Bose et al (2012) whose studies argued that the growth of financial sector development increases tax revenue through its ability to facilitate tracking and collecting taxes.

Trade openness's influence on the growth of tax revenue was also found to be positive but non-significant under the pooled OLS and dynamic GMM. On the other hand, a significant positive relationship of trade openness on tax revenue growth was noted under the fixed and random effects. The results are in line with Castro and Camarillo (2014)'s view that more avenues of raising and collecting several types of taxes emerge as international trade economy formalization and domestic economy competitiveness booms.

The combination between financial development and trade openness had a significant positive effect on the growth of tax revenue under the random and fixed effects. On the other hand, the combination between trade openness and financial sector development's influence on the growth of tax revenue was noted to be non-significantly positive under the dynamic GMM and pooled OLS. These results are an indication that the complementarity/combination between trade openness and financial development significantly enhances tax revenue, in line with Gnangnon (2019) whose study observed that financial development increases tax revenue generation through the trade openness channel.

Urbanization had a non-significant positive effect on tax revenue regarding the dynamic GMM whilst pooled OLS indicates a positive significant relationship running from urbanization towards tax revenue growth. The results are in line with Chilima (2005) whose study noted that urbanization transforms an economy from informal into a formal one hence giving the authorities an opportunity to raise more tax revenue. The impact of urbanization on tax revenue was significantly deleterious (fixed and random effects), a finding which contradicts the available and popular literature.

Across all the four econometric estimation approaches used, FDI had a negative effect on tax revenue growth, in line with Tsaurai and Odhiambo (2012) whose paper study observed that FDI negatively affects growth. However, the results are in contradiction to Amoh and Adom (2017) whose paper observed that FDI increase the formalization of the economy, economy's competitiveness with the global world, economic activities and growth, all of which enhances tax revenue generation and collection.

The results also show population growth had a significant negative effect on tax revenue growth under the fixed and random effects. On the other hand, population growth's influence on tax revenue was found to be negative but non-negative under the dynamic GMM and the pooled OLS. These results support the theoretical view that high population growth slows economic growth as authorities bare forced to channel more financial resources away from developmental towards consumption linked projects. They are also in contrast with Awasthi et al (2020) whose study noted that high population growth escalates the demand services and goods, not only thereby enhancing economic growth but also expanding the tax base in the economy.

A non-significant positive correlation from development of human capital towards tax revenue (random and fixed effects), in line with Chilima (2005) whose study observed that high development of human capital helps allows most of the people in the economy to be able to understand tax revenue procedures, codes and rules. Contradicting the available literature, the negative influence of human capital development was noted to be significant (pooled OLS and dynamic GMM).

Fixed and random effects indicate that economic growth had a significant positive enhancing effect on tax revenue growth, consistent with Gupta (2007) whose paper observed that higher economic growth promotes more economic activities in the economy hence increasing the probability of generating and collecting more tax revenue. The pooled OLS and dynamic GMM however show that the growth of the economy had a non-significant negative impact on tax revenue, results which are at odds with available literature.

7. Conclusion

This study investigated the influence of financial development on tax revenue in emerging markets using panel data (2005 – 2019). Secondly, the study explored the effect of the combination between financial development and trade openness on tax revenue during the same timeframe using econometric methods (pooled ordinary least squares, random effects, fixed effects, dynamic generalized methods of moments). Earlier empirical research on the topic produced mixed, inconclusive and contradictory results. It is against this backdrop that the author further investigated this topic to get a more definitive insight on the relationship between tax revenue and financial development in the context of emerging markets. The study noted that financial development had a significant positive impact on tax revenue under the fixed and random effects. Other factors which had a significant positive influence on tax revenue include trade openness (fixed and random effects), economic growth (fixed and random effects), urbanization (fixed and random effects), the lag of tax revenue (dynamic GMM) and the combination between trade openness and financial development (fixed and random effects).

The relevant authorities are therefore encouraged to formulate policies which enhances financial development, urbanization, trade openness and economic growth to enhance tax revenue. However, FDI (pooled OLS), population growth (fixed and random effects) and human capital development (dynamic GMM and pooled OLS) had a significant deleterious impact on tax revenue in emerging markets. Further research should focus on investigating the financial development threshold level beyond which tax revenue collection becomes significant in emerging markets.

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