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THE EFFECTS OF TAX AND TAXATION ON ECONOMIC GROWTH

Submitted By

Name of the Candidate: Souvagya Ganguly

ABSTRACT

Taxation is an essential tool for governments to raise revenue and fund public goods and services. However, the effect of taxation on economic growth has been a subject of ongoing debate in the field of economics. Some argue that high tax rates can stifle economic growth by reducing incentives to work, save, and invest, while others contend that taxes are necessary to fund public investments that can spur economic growth.

In this study, a comparative analysis of tax-to-GDP ratio, number of payments of taxes, rank in ease of payments, total tax rate is done to understand the tax structure of developed, developing and underdeveloped countries. Analyzing the data to infer how a efficient tax system should function to decrease a country's government borrowing by generating enough tax revenue.

Keywords: Tax to GDP ratio, Analysis of tax structures, Efficient tax systems, Number of payments of tax.

CHAPTER 1: INTRODUCTION

1.1 Background Of the Study

The research aims at understanding the effect of tax, especially on the developing economy. The government's capability to fulfil its obligations mainly relies on the revenue it generates from different sources, both internal and external. Taxation is among the oldest and most significant means by which the government finances its expenses. It also serves as a tool to enhance the effectiveness of the public sector and to pay off public debts. Taxation plays a crucial role in any country's efforts to become self-sufficient and meet its economic regulatory requirements. The primary objective of tax is to generate revenue for the government for the welfare and development of the country, secondly to establish by levying tax to the income earners and enhancing the lives of the general people. Growth and development of business is also hampered due to complex tax systems, simple tax systems facilitates ease of business and help in the growth of the country. Despite the various ways in which taxation can contribute to a nation's economic growth, it can also impede economic activities. This is usually due to high taxation, multiple taxation, and double taxation. High taxation occurs when the government imposes excessive taxes on the earnings of individuals or businesses. Multiple taxation happens when several taxes are levied on the same income. Double taxation occurs when the same income is taxed more than once as it is transferred from one geographical region or country to another. These reasons lead to a decrease in the amount of investable funds available to taxpayers. Moreover, when taxpayers avoid paying taxes, the government may not be able to provide the necessary services. As a result, businesses have to spend more money financing their operations than they would have otherwise.

1.2 Literature Review

A vital component of any nation's economic progress is its tax policy. It establishes how a government will generate revenue to pay for its expenditures and how much tax each economic agent will pay. Due to their inadequate institutional and administrative ability, developing nations confront particular difficulties when creating and executing effective tax policies. This review of the literature looks at four studies that analyze tax laws in developing nations and point out their advantages, disadvantages, and room for development. Tanzi and Zee (2001) talk about the issues with tax systems in developing nations and offer a framework for creating a reliable tax system. They look at the benefits and drawbacks of several tax regimes, including excise taxes, value-added taxes, and income taxes. The writers stress the significance of tax administration and offer suggestions for how to make it better, including the use of technology, the simplification of tax rules, and increasing taxpayer compliance. The corporate tax rate, ease of doing business, and foreign direct investment (FDI) flow are the main comparison points used by Ravi (2016) to contrast India's tax policies with those of the other BRICS nations. According to the study's findings, India should liberalize its FDI policy, lower tax rates, raise tax incentives, grant tax vacations, and subsidize priority industries. The author also suggests making tax laws simpler. Yadav (2018) examines the tax systems of the BRICS nations, paying particular attention to India's tax structure. The study looks at different aspects of taxation, including tax administration, direct and indirect taxes, and the tax-to-GDP ratio. Despite having relatively high tax rates, the analysis shows that India has the lowest tax-to-GDP ratio among the BRICS nations. According to the report, in order to increase revenue mobilization, India needs to improve its tax administration, lessen tax evasion, and simplify tax regulations. The effect of Kosovo's tax system on economic growth is studied by Gashi, Asllani, and Boqolli (2018). To gather primary and secondary data, they employ a comparative analysis methodology. An econometric model is then used to analyze the data. The study's findings support the idea that taxes stimulate economic expansion and raise GDP. The authors suggest that, in order to increase revenue mobilization, the government create a progressive tax system, simplify tax legislation, and boost tax administration.

Research Gap

Majority of research focuses mainly on BRICS, OECD, or European Union nation. Most of the research only compare the tax structure of the subject countries and it does not cover the relationship between tax revenue and growth of a economy, to understand properly a country's tax system we need to understand the economic conditions of the country and there underlying reasons. An elaborate study of tax to GDP ratio is not done by the research works, which is this study's major focus.

1.3 Objectives of the study

Detecting the difficulties before setting up of a efficient tax scheme in a developing economy: A developing country faces formidable challenges at the time of setting up its tax system, understanding how these challenges effect the structure of tax system which in turn determines the economic growth. As the ideal tax system should generate sufficient revenue to limit Government borrowing.

Understanding the complexity of tax structure using number of payments of taxes data: One way to understand the complexity of tax structure is to analyse the number of payments of taxes data, which measures the frequency with which businesses need to pay various types of taxes and contributions to government agencies. This data can provide insights into the administrative burden and compliance costs of tax systems, which can affect the behaviour of businesses and economic growth.

A comparative study of developed economy and developing economy's tax structure: A comparative analysis of tax structures of developed and developing economies to find out the effectiveness of tax systems of a developed economy and the deficiency in a developing economy. Considering various elements of comparison and to do so by graphical representation.

Determining what level of public spending is desirable for a developing country at a given level of national income: This helps in understanding the design of tax scheme of the countries in relation to their National Income, the rationale behind the tax rates in relationship to their public spending. By understanding the tax-to-GDP ratio.

CHAPTER 2: RESEARCH METHODOLOGY

Comparison of tax structure of UAE, China, USA, Germany, India, Brazil & South Africa:

Reasons for selecting the countries:

- UAE is considered because it has no individual tax scheme.
- China being India's neighbor having similar population strength.
- USA and Germany are developed economies thus have efficient tax scheme
- Brazil has a mixed income population.
- South Africa is categorized as developing country with high unemployment and poverty rates.

Use of graphical representations to compare:

1. Tax to GDP ratio: To understand how tax is related to National income.
2. Rank in Ease of tax payment (among 189 countries): To understand the complexity level of tax systems of each country
3. Number of tax payments by businesses: How complex tax systems effect the growth and function of businesses.

And interpreting the data to understand the how developed economies deal with tax structures given their demographic and geographic factors and what does other economies lack in their tax scheme.

Secondary Data Sources:

i. Paying Taxes – pwc data explorer
ii. World Bank website
iii. Wikipedia
iv. International Monetary Fund
v. World Economics

CHAPTER 3: CHALLENGES OF TAXATION

1. **Informal Economy:** Developing countries often have large informal economies that operate outside the formal tax system. This can make it challenging for tax authorities to collect revenue, as many businesses and individuals may not be registered for taxes or may underreport their income.

   An informal economy (informal sector or shadow economy) is the part of any economy that is neither taxed nor monitored by any form of government.

   According to World Economics data of Informal economy size as a percentage of GDP.

Countries	**Informal economy** *(% of GDP)*	**Amount at GDP PPP Level** *(in billions of dollars)*
UAE	20.40%	165
China	12.70%	4011
USA	7.30%	1677
Germany	11.20%	558
India	43.10%	6810
Brazil	33.20%	1426
South Africa	28.80%	339

Source: Quarterly Informal Economy Survey (QIES) by World Economics, London

   It is clearly evident from the data that developing countries struggle in handling their informal economy, thus causing low revenue from tax.

2. **Weak tax administration:** Developing countries may have weak tax administration systems, including inadequate staffing, training, and resources. This can result in a lack of capacity to enforce tax laws effectively and collect revenue

   UAE: In 2020, the UAE's Federal Tax Authority (FTA) reportedly fined several businesses for failing to register for VAT or for submitting inaccurate VAT returns. However, some observers have criticized the FTA for not being aggressive enough in pursuing tax evaders and for failing to adequately communicate with businesses about their tax obligations, although FTA levied penalties for such late payments. [i]

   China: China's tax administration has been weak, as evidenced by several cases of tax evasion by multinational companies, corruption among tax officials, low tax collection rates, and tax avoidance by wealthy individuals, Leaked documents known as the Panama Papers [ii] revealed that several such as members of the “red nobility” and other wealthy individuals in China had set up offshore companies to avoid taxes. These cases highlight the need for improvement in China's tax administration.

   USA: In a article in 2021 [iii], it was revealed that some of the wealthiest Americans, including Jeff Bezos and Warren Buffett, pay very little in federal income taxes. This is because the U.S. tax code allows for deductions and credits that can significantly reduce a taxpayer's liability. In some cases, these deductions and credits are only available to the wealthy, which can exacerbate income inequality.

   India: The Nirav Modi-PNB fraud case [iv]: In 2018, it was revealed that Nirav Modi, a diamond merchant, had fraudulently obtained loans from Punjab National Bank (PNB), one of India's largest banks. The loans were obtained using fake guarantees issued by PNB employees. The case highlighted weaknesses in the banking system and the tax administration, as Modi was able to evade taxes and move money out of the country.

   Brazil: The World Bank's "Doing Business" [v]report also highlights the challenges of tax compliance in Brazil, ranking the country 184th out of 190 countries in terms of the ease of paying taxes. Brazil's tax system is complex and imposes high compliance costs on businesses, which can lead to tax evasion and avoidance. The report also noted that the country's tax administration faces challenges in effectively collecting taxes, particularly from small businesses and the informal economy

In addition, Brazil has been criticized for its tax incentives and exemptions, which have been seen as a way to promote economic growth but can also lead to tax evasion and favouritism towards certain industries.

South Africa: The 2020 Medium-Term Budget Policy Statement (MTBPS) [vi]: This report, presented by the South African Minister of Finance, provided an overview of the country's economic and fiscal outlook. The report highlighted the challenges faced by SARS in collecting revenue and combatting tax evasion, including resource constraints and the impact of the COVID-19 pandemic on tax collections.

3. **Corruption:** Corruption can undermine tax collection efforts and result in the misallocation of public resources. In some developing countries, corruption can be widespread, making it challenging for tax authorities to enforce tax laws and collect revenue.
Corruption perception Index by Transparency International, 2021. The CPI score shows the corruption level, where 0 means highly corrupt and 100 means clean.

COUNTRY	*CPI SCORE (out of 100)*	*RANK (out of 180 Countries)*
United Arab Emirates	69	24
China	45	66
United States	67	27
Germany	80	10
India	40	85
Brazil	38	96
South Africa	44	70

Source: Corruption Perception Index- Transparency International- https://www.transparency.org/en/cpi/2021

One important aspect that can influence the CPI scores and ranks of a country is its tax system. Countries with weak tax systems, where tax evasion and fraud are rampant, are often associated with higher levels of corruption. This is because corruption and tax evasion are often linked, with corrupt officials taking bribes to allow individuals or companies to avoid paying taxes or to gain access to tax breaks or other favorable treatment.

In the case of the United Arab Emirates, the country has a relatively low CPI score (69) compared to other countries with similar levels of economic development. However, the UAE is known for its tax-free regime, which may limit opportunities for corruption related to tax evasion. In China, the government has been implementing reforms to strengthen its tax system and reduce corruption. However, the country still has a relatively low CPI score (45) due to ongoing corruption issues in other areas of the government.

In the United States, the CPI score (67) reflects ongoing concerns about corruption in the political system, but the country's tax system is generally considered to be robust and effective. Germany, with a CPI score of 80 and a rank of 10, is one of the top-ranked countries in the index, and its tax system is known for its transparency and efficiency.

India and Brazil, on the other hand, have low CPI scores (40 and 38, respectively) and are both known for having relatively weak tax systems that are vulnerable to corruption. In both countries, tax evasion is a major issue, with many individuals and companies avoiding paying taxes through illegal means.

4. **Limited Tax base:** Developing countries may have a limited tax base, with a small proportion of the population paying taxes. This can make it challenging to raise sufficient revenue to fund public services.

UAE: The UAE has a limited tax base, primarily due to its reliance on oil revenues. According to the World Bank [vii], the contribution of taxes to GDP in the UAE was only 1.0% in 2019. The government has been implementing measures to diversify its economy and increase its tax base. For instance, it introduced a value-added tax (VAT) of 5% in 2018[viii], which has generated additional revenue for the government.

China faces challenges in expanding its tax base to include more individuals and businesses. However, in 2019 [ix], China introduced reforms to its personal income tax system to benefit low-income groups.

the USA has a different problem: the wealthiest Americans tend to pay a lower tax rate than the rest of the population. [x] Moreover, the IRS [xi] estimates that the US government loses billions of dollars annually due to tax evasion, or the "tax gap".

India has been striving to expand its tax base since implementing the Goods and Services Tax (GST) in 2017. In May 2021, the government announced that GST collections had crossed the Rs 1 lakh crore mark for the first time. [xii]

Brazil faces challenges similar to India in expanding its tax base. According to the World Bank, Brazil's tax system is "complex and distortionary" and requires significant reforms.[xiii] Brazil's tax system has been a source of concern for businesses and policymakers alike. In 2019 [xiv], the Brazilian government approved a social security overhaul, which included a proposed overhaul of the tax system. However, the tax overhaul has yet to be implemented, and businesses continue to face high taxes and a complex tax system. In addition, Brazil's tax base is limited due to a high degree of informality in the economy. According to the World Bank [xv], only 62.3% of the labor force in Brazil is formally employed, which means that a large part of the economy is not captured by the tax system. This limits the government's ability to raise revenue and invest in public goods and services.

South Africa has a progressive tax system, with higher income earners paying a higher proportion of their income in taxes. However, the tax base in South Africa is limited due to a high degree of tax evasion and illicit financial flows. According to the South African Revenue Service, the country loses billions of rands each year to tax evasion and illicit financial flows, which erodes the government's ability to provide public goods and services. In addition, a large part of the economy is informal, with many small businesses operating outside of the tax system. This limits the government's ability to collect revenue and invest in public goods and services. The South African government has taken steps to combat tax evasion and illicit financial flows, including strengthening tax administration and increasing cooperation with international partners. However, these efforts face significant challenges, and the limited tax base remains a concern for policymakers.

CHAPTER 4: DATA DESCRIPTION

1. Tax Revenue and GDP

Table 1.1

UNITED ARAB EMIRATES

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	5266555943	1520801959422	0.3463
2015	759347331	1359836661960	0.0558
2016	570323391	1356090185601	0.0421
2017	941124351	1434172962751	0.0656
2018	919656176	1568339039568	0.0586

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.2

CHINA

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	6228801980000	64356310454380	9.6786
2015	6459368710000	68885821804930	9.3769
2016	6809299102504	74639505948350	9.1229
2017	7837210897813	83203594855990	9.4193
2018	8321963160400	91928112906660	9.0527

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.3

UNITED STATES

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	1918847600000	17550680174000	10.9332
2015	2044355600000	18206020741000	11.2290
2016	2040410100000	18695110842000	10.9141
2017	2288644900000	19477336549000	11.7503
2018	2037326900000	20533057312000	9.9222

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.4

GERMANY

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	336144000000	2927430000000	11.4826
2015	347367000000	3026180000000	11.4787
2016	354104000000	3134740000000	11.2961
2017	373081000000	3267160000000	11.4191
2018	385643000000	3365450000000	11.4589

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.5

INDIA

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	12448826200000	124679592925546	9.9847

2015	14556470000000	137718738788600	10.5697
2016	17158230000000	153916690148700	11.1477
2017	19461190000000	170900423611309	11.3874
2018	22712540000000	188996684445900	12.0174

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.6

BRAZIL

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	779585066108	5778953000000	13.4901
2015	817203545639	5995787000000	13.6296
2016	859551888451	6269328000000	13.7104
2017	895969466771	6585479000000	13.6052
2018	976384819418	7004141000000	13.9401

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

Table 1.7

SOUTH AFRICA

YEARS	TAX REVENUE (in USD)	GDP TOTAL (in USD)	TAX TO GDP
2014	1009985137716	4133873023400	24.4319
2015	1107350734680	4420792525200	25.0487
2016	1181719145824	4759554544700	24.8284
2017	1257831451521	5078189924600	24.7693
2018	1335160576642	5348608933280	24.9628

Source: The world bank data explorer, GDP Total (current LCU), Tax Revenue (current LCU), https://data.worldbank.org/

2. Number of Payment of Taxes

Table 2.1

COUNTRY	2014	2015	2016	2017	2018
United Arab Emirates	4	4	4	4	4
China	9	9	9	9	7
United States	11	11	11	11	11
Germany	9	9	9	9	9
India	41	41	33	14	12
Brazil	10	10	10	10	10
South Africa	7	7	7	7	7

Source: The world bank data explorer, TAX Payments (number), https://data.worldbank.org/

3. Overall Ranks of the countries' tax systems (out of 189 countries)

Table 3.1

COUNTRY	RANK
United Arab Emirates	30
China	105
United States	25
Germany	46
India	115
Brazil	184

South Africa	54

Source: Paying taxes- pwc explorer, *https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020/explorer-tool.html*

4. Corporate Tax rates

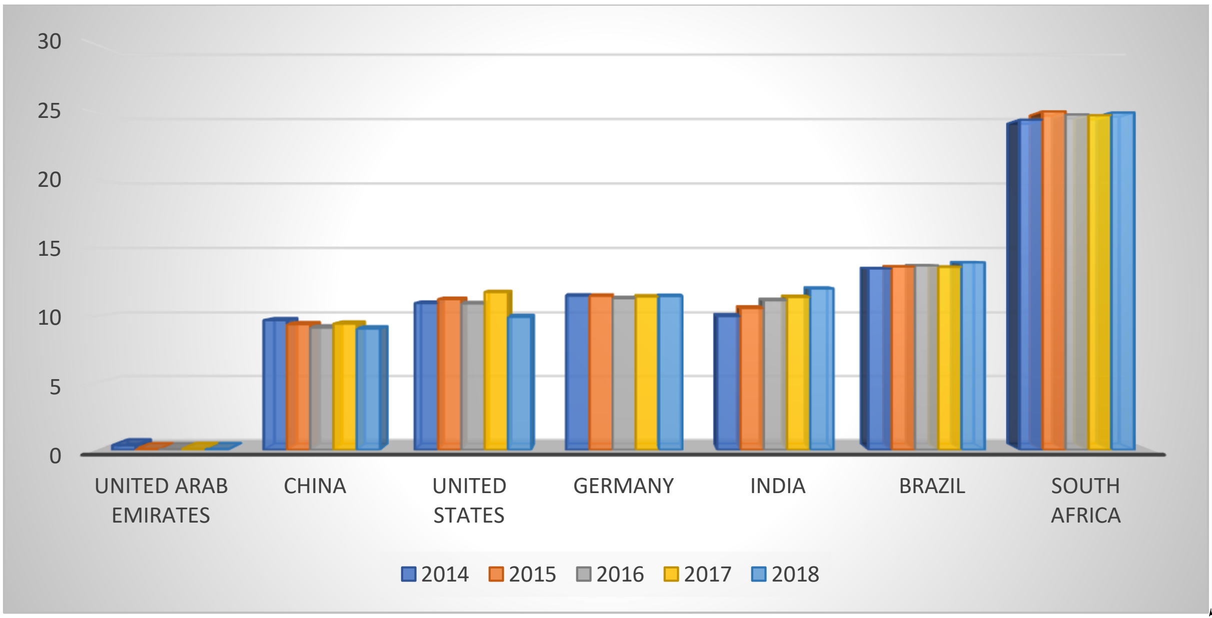
Table 4.1

COUNTRY	CORPORATE TAXES (EXCLUDING DIVIDEND TAXES)
United Arab Emirates	0% (free zone companies, may need to fill out a tax return) 0% (until 1 June 2023, for mainland companies may need to still fill out tax return) 9% (from 1 June 2023 for mainland companies with a net profit over AED 375,000 with taxation paid to other countries credited towards UAE taxation, tax return required)
China	25% (standard rate) 15% (concession rate for high-tech companies)
United States	21% (federal)
Germany	29.65%
India	22% (highest) 15% (lowest) [inclusive of surcharge & cess]
Brazil	40% (highest rate for financial institutions, insurance and capitalisation companies) 34% (highest rate) 24% (lowest rate) 15% (+10% in profits exceeding BR$ 20.000 + 9% Social Contribution Tax or 15% for financial institutions, insurance and capitalisation companies
South Africa	28%

Source: List of countries by tax rates, Wikipedia, *https://en.wikipedia.org/wiki/List_of_countries_by_tax_rates*

CHAPTER 5: ANALYSIS OF DATA

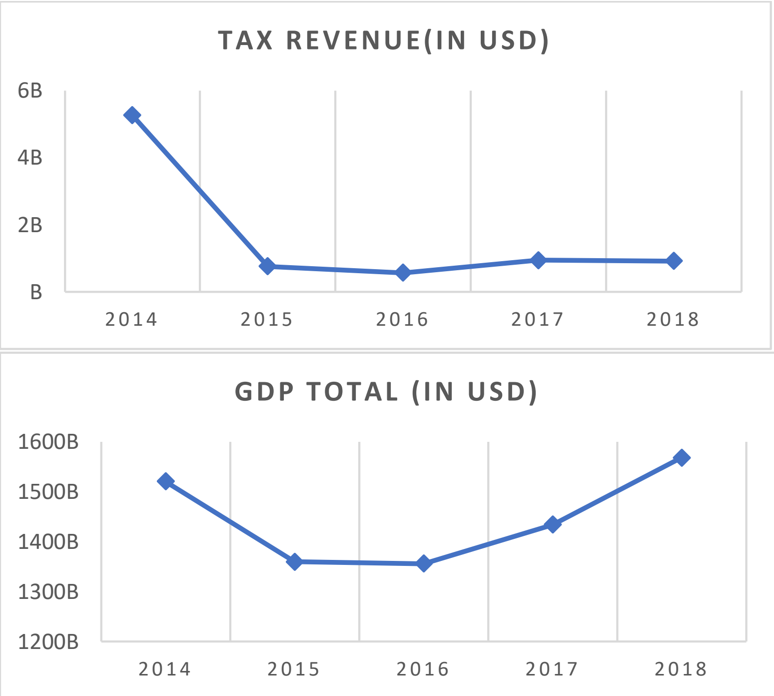
a) Tax to GDP Ratio



Source: Author's Compilation

The above graphical representation of the Tax to GDP ratio from Tables 1.1 to 1.7, shows that UAE has the lowest contribution of tax revenue in the economy whereas South Africa has the highest. Detailed analysis of each country are as follows:

i) United Arab Emirates



Source: Author's Compilation

According to data in Table 1.1 provided by the World Bank, the United Arab Emirates (UAE) had a tax revenue of USD 5.3 billion in 2014, which accounted for 0.35% of its GDP. However, in 2015 and 2016, the tax revenue declined significantly to USD 759 million and USD 570 million, respectively. This decline can be attributed to the drop in oil prices during that period, which negatively impacted the country's oil-dependent economy.

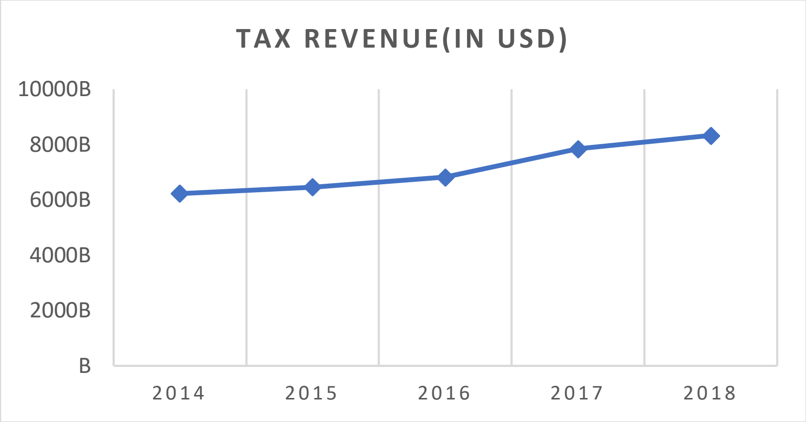
The UAE's tax system is primarily based on indirect taxes such as customs duties, excise taxes, and VAT, as the country has no corporate or personal income tax, the government has also introduced new excise taxes on tobacco and sugary drinks to raise more revenue [xvi]. The government's strategy of relying on indirect taxes has helped to maintain a low tax burden for businesses and residents. However, this has also resulted in a low tax-to-GDP ratio, which ranged from 0.04% to 0.07% between 2015 and 2018, according to the same World Bank data.

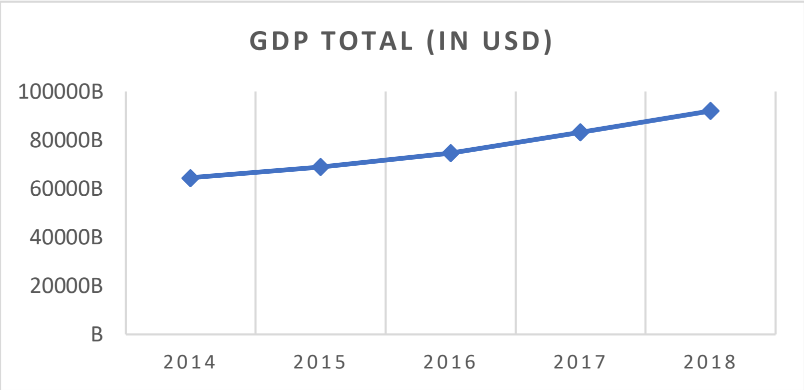
Despite the decline in tax revenue, the UAE's GDP has remained relatively stable over the years. In 2014, the country had a total GDP of USD 1.52 trillion, which increased to USD 1.57 trillion in 2018, as reported by the International Monetary Fund.

In 2017 and 2018, the UAE's tax revenue increased to USD 941 million and USD 919 million, respectively, according to the same World Bank data. However, the tax-to-GDP ratio remained low during this period, indicating that the government may need to implement reforms to increase tax revenue and reduce its reliance on oil revenues.

In conclusion, the UAE's tax system is heavily reliant on indirect taxes, and the country's tax-to-GDP ratio has been relatively low compared to other countries. The government may need to consider implementing measures to diversify its economy and increase tax revenue from other sources to maintain its financial stability.

ii) China





Source: Author's Compilation

In Table 1.2, China has seen a steady increase in tax revenue and GDP over the years from 2014 to 2018. In 2014, the tax revenue was USD 6.2 trillion, while the total GDP was USD 64.4 trillion, resulting in a tax-to-GDP ratio of 9.7%. In the following years, China's tax revenue continued to increase, reaching USD 8.3 trillion in 2018. However, the tax-to-GDP ratio decreased to 9.1% in 2018, indicating that the country's economy was growing faster than its tax revenue.

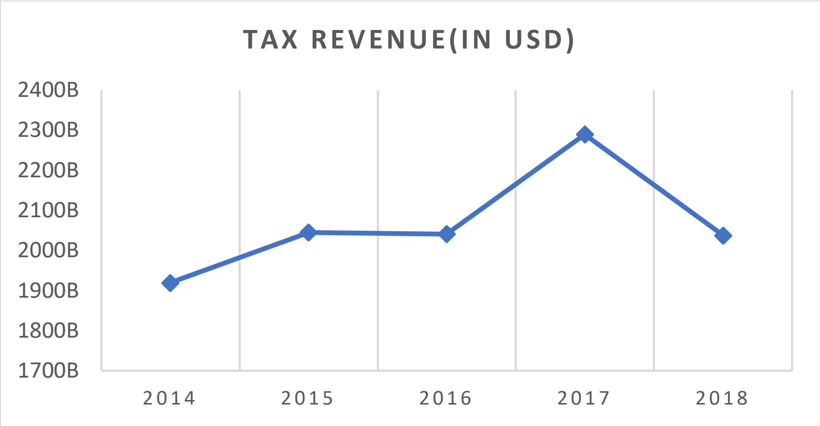
China's tax revenue comes primarily from its value-added tax (VAT) system, which was implemented in 1994. The VAT system covers a wide range of goods and services, and the tax rate varies depending on the type of product or service. In addition to VAT, China also has other taxes such as corporate income tax, personal income tax, and consumption tax.

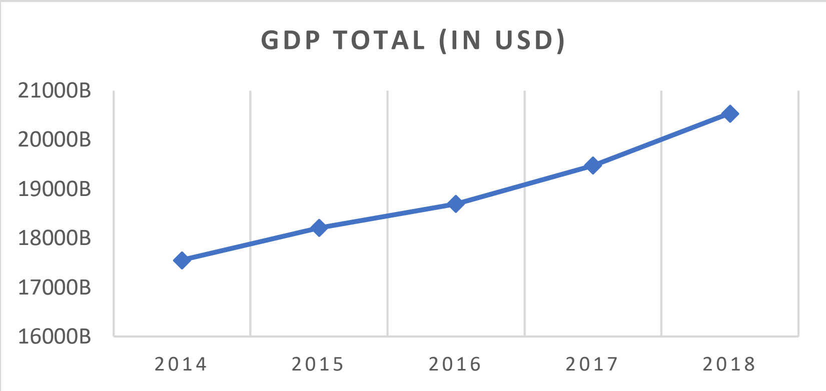
The increase in tax revenue can be attributed to China's economic growth. The country has been one of the fastest-growing economies in the world for several decades, and its GDP has been steadily increasing. In 2018, China's GDP was USD 91.9 trillion, making it the second-largest economy in the world.

The Chinese government has been implementing various policies to promote economic growth, such as investing in infrastructure, supporting small and medium-sized enterprises, and implementing market-oriented reforms. These policies have contributed to the country's economic growth and, subsequently, its tax revenue.

In conclusion, China's tax revenue and GDP have been increasing steadily over the years, indicating the country's economic growth. The government's policies have played a significant role in promoting economic growth and increasing tax revenue. However, the tax-to-GDP ratio has been decreasing, indicating that the economy is growing faster than its tax revenue.

iii) <u>United States of America</u>





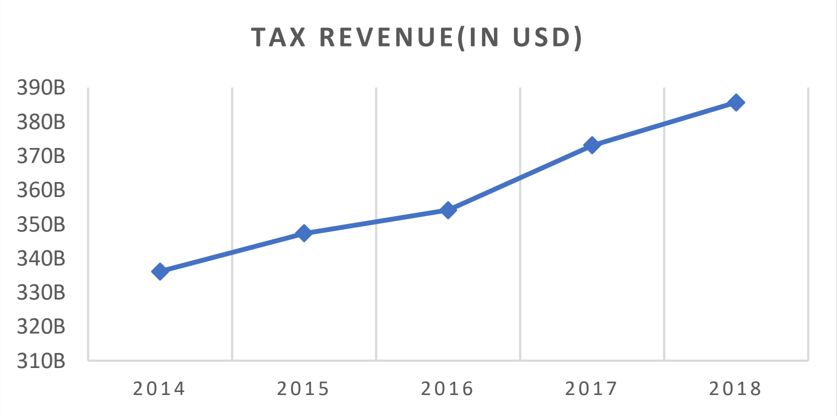
Source: Author's Compilation

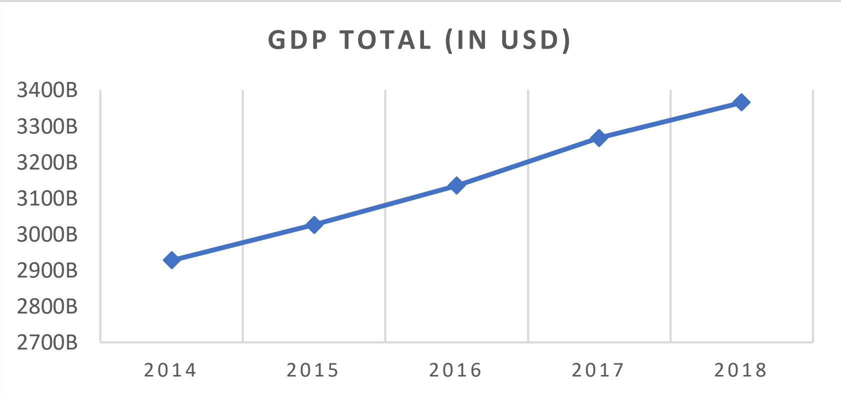
Looking at the data in Table 1.3, it appears that the US tax revenue has been fluctuating between 2014 and 2018, with a peak in 2017. However, the tax-to-GDP ratio has been somewhat steady, ranging from 9.9% to 11.7%.

In terms of the GDP, it has been increasing steadily over the years, with a significant jump from 2014 to 2015, and a more gradual growth from 2015 to 2018.

One possible reason for the fluctuations in tax revenue could be changes in tax policies or economic conditions. For instance, the tax cuts implemented by the Trump administration in 2017 were aimed at spurring economic growth by putting more money into the hands of consumers and businesses For example, the Tax Cuts and Jobs Act of 2017, which lowered corporate and individual tax rates, could have contributed to the increase in tax revenue in that year. On the other hand, a decrease in tax revenue in 2018 could be attributed to the tax cuts, as well as other factors such as the trade war with China and a slowdown in global economic growth.

iv) Germany





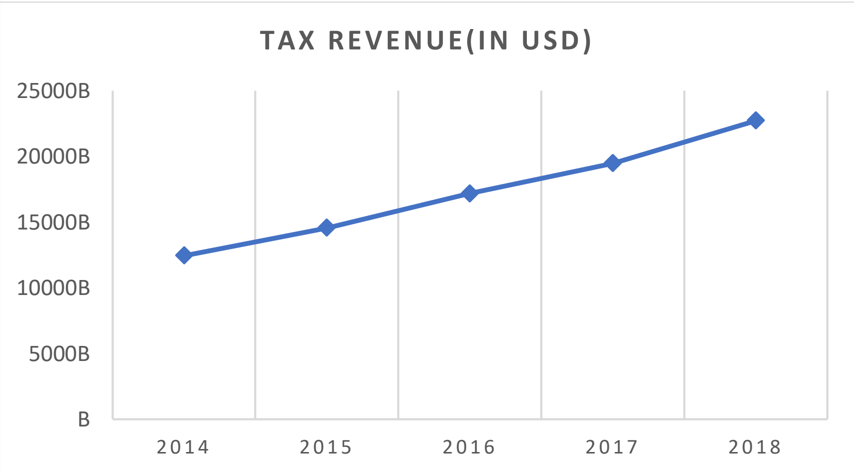
Source: Author's Compilation

From the data in Table 1.4, we can see that Germany's tax revenue has been steadily increasing from 2014 to 2018, with a total increase of approximately $49 billion USD over the period. At the same time, the country's GDP has also been increasing, with a total increase of approximately $439 billion USD over the period. However, the tax-to-GDP ratio has remained relatively stable, fluctuating between 11.2961 and 11.4589.

The increase in tax revenue and GDP is likely due to a number of factors, including a growing population, a strong manufacturing sector, and a stable political environment. Germany is known for its highly skilled workforce and innovative technology, which has helped to drive economic growth in recent years. The country's strong export market and robust tourism industry have also contributed to its economic success.

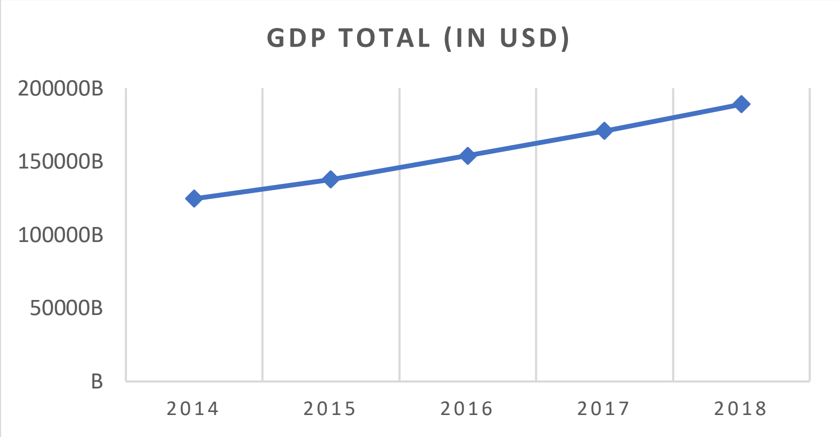
Despite the overall growth in tax revenue and GDP, there may be concerns about the stability of the German economy. In recent years, there have been concerns about the impact of Brexit on the country's export market, as well as the effects of a global economic slowdown. Additionally, there have been concerns about the impact of the ongoing refugee crisis on the country's social welfare system.

v) India



Source: Author's Compilation

From Table 1.5, we can see that both tax revenue and GDP have increased from 2014 to 2018. This indicates that the Indian economy has grown during this period. However, it's important to note that the growth rate of tax revenue is higher than the growth rate of GDP, which has resulted in an increase in the tax-to-GDP ratio.



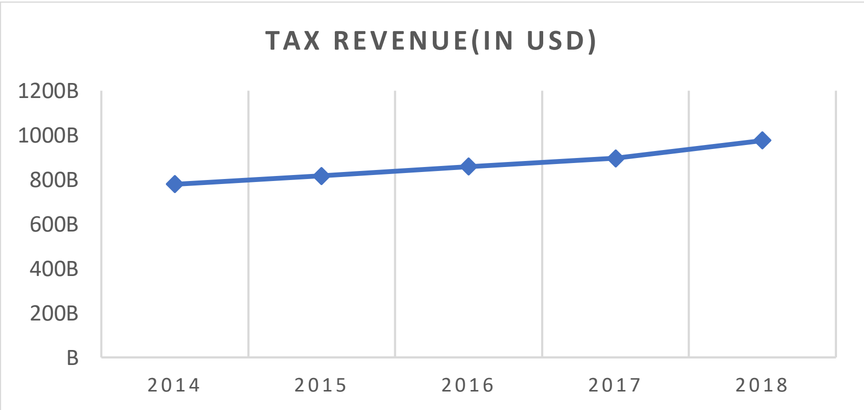
Source: Author's Compilation

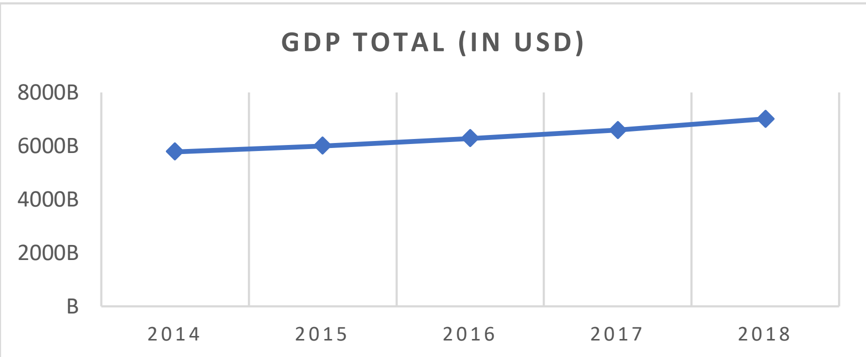
In 2014, India's tax revenue was $124.48 billion, and its GDP was $1246.8 billion. The tax-to-GDP ratio was 9.98%. Over the next four years, India's tax revenue and GDP both increased, with tax revenue reaching $227.12 billion and GDP reaching $1890.0 billion in 2018. The tax-to-GDP ratio also increased steadily over the years, reaching 12.02% in 2018.

The increase in tax revenue can be attributed to several factors, such as the introduction of the Goods and Services Tax (GST) in 2017, which led to a more efficient tax collection system, and the government's efforts to widen the tax base by bringing more people and businesses into the tax net. Additionally, economic growth has also contributed to the increase in tax revenue, as businesses and individuals have higher incomes and thus pay more taxes.

The increase in GDP can also be attributed to various factors, such as the government's efforts to promote foreign investment, the growth of the manufacturing and service sectors, and the increase in consumer spending. The introduction of economic reforms, such as the Make in India initiative, has also contributed to the growth of the Indian economy.

vi) <u>Brazil</u>





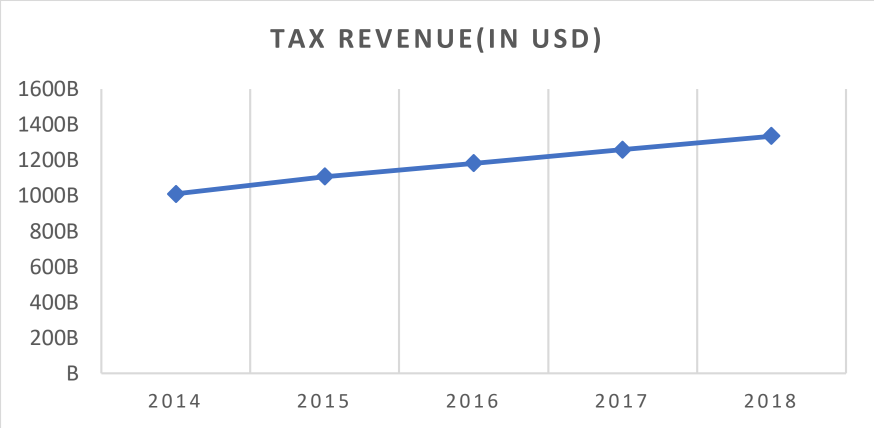
Source: Author's Compilation

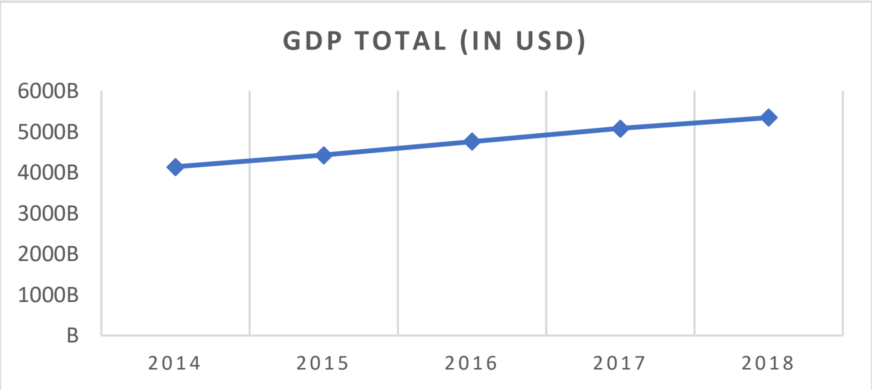
Table 1.6 shows that both tax revenue and GDP in Brazil increased from 2014 to 2018. However, the growth rate of tax revenue is higher than that of GDP during this period. This means that the government is collecting more taxes as a proportion of the overall economy.

In terms of economic growth, Brazil experienced a recession in 2015 and 2016, as the country faced a combination of low commodity prices, political instability, and a corruption scandal that affected both government and private sectors. Despite this, tax revenue continued to increase during these years, albeit at a slower pace than before. In 2017 and 2018, Brazil's economy started to recover, and both tax revenue and GDP growth rates increased significantly. This recovery was driven by an increase in commodity prices, particularly soybeans and iron ore, which are major exports for Brazil. Additionally, the government implemented some structural reforms and austerity measures to address the country's fiscal imbalances, which also contributed to the recovery.

Overall, the data suggests that tax revenue in Brazil is responsive to changes in the overall economy but may not be as volatile as GDP. While tax revenue continued to grow during the recession, the slower rate of growth reflects the reduced economic activity in the country. As the economy recovered, both tax revenue and GDP grew at a faster rate, reflecting the improved economic conditions. The tax-to-GDP ratio remained stable over the years, suggesting that the government's tax policy has remained consistent.

vii) South Africa





Source: Author's Compilation

In Table 1.7 we can see that South Africa's tax revenue has been consistently increasing from 2014 to 2018. In 2014, the tax revenue was USD 1009.9 billion, and it increased to USD 1335.2 billion in 2018. This represents a growth rate of approximately 32.2% over the period.

The high tax-to-GDP ratio in South Africa can be attributed to several factors. Firstly, South Africa has a well-developed tax system that is able to efficiently collect taxes. The country has a well-established tax collection agency, the South African Revenue Service (SARS), which uses technology and data analytics to identify potential tax evaders and improve compliance.

South Africa has a relatively large formal sector, which means that a higher proportion of the economy is subject to taxation. Additionally, the country has a relatively large middle class, which generates a significant amount of tax revenue.

South Africa has a relatively high level of income inequality, which means that a small proportion of the population generates a significant amount of income. The government relies on progressive income tax policies to redistribute income and reduce inequality, which contributes to the high tax-to-GDP ratio.

In conclusion, South Africa's relatively high tax-to-GDP ratio can be attributed to a well-developed tax system, a large formal sector, a significant middle class, a social welfare system, and progressive income tax policies. Despite some challenges in the economy, South Africa has been able to maintain a relatively stable tax-to-GDP ratio over the years.

b) Number of tax payments.

The number of tax payments required by a country's tax system can be an indication of its complexity. A high number of tax payments typically suggests that the tax system is intricate and convoluted, with numerous taxes and regulations that businesses must navigate. In contrast, a lower number of tax payments may indicate a more streamlined and efficient tax system. However, it's important to note that the number of tax payments alone may not fully capture the complexity of a tax system, as other factors such as tax rates, deductions, and compliance requirements can also contribute to the overall complexity.

The data provided in Table 2.1 shows the number of tax payments made by different countries over the years 2014-2018. Here is a critical analysis of this data:

United Arab Emirates (UAE): The number of tax payments has remained constant at 4 from 2014 to 2018. The UAE has a tax-free system for individuals and most corporations, with the exception of oil companies and foreign banks, which are subject to corporate income tax. Therefore, the constant number of tax payments may reflect the limited number of entities subject to taxation in the country.

China: The number of tax payments remained constant at 9 from 2014 to 2017 but dropped to 7 in 2018. This decrease is likely due to the Chinese government's efforts to simplify the tax system and reduce the compliance burden on businesses, which may have led to the elimination of some taxes.

United States: The number of tax payments has remained constant at 11 from 2014 to 2018. The complexity of the US tax system, which includes multiple federal, state, and local taxes, as well as various tax laws and regulations, may contribute to the constant number of tax payments.

Germany: The number of tax payments has remained constant at 9 from 2014 to 2018. This may reflect the efficiency of Germany's tax system and tax administration, which allows for a relatively streamlined process.

India: The number of tax payments decreased from 41 in 2014 to 12 in 2018, likely due to the implementation of the Goods and Services Tax (GST) in 2017. The GST replaced multiple indirect taxes, such as excise duty and value-added tax, with a single, unified tax, which simplified the tax system and reduced the number of tax payments required.

Brazil: The number of tax payments has remained constant at 10 from 2014 to 2018. Brazil's tax system is known for its complexity and multiple taxes, which may account for the constant number of tax payments.

South Africa: The number of tax payments has remained constant at 7 from 2014 to 2018. The efficiency of South Africa's tax administration and tax system may contribute to the consistent number of tax payments required.

c) Overall ranking of the countries' tax systems:

Table 3.1 shows the ranks of the countries as determined by paying taxes- pwc data, among 189 countries.

The overall tax systems of the countries in the given list vary significantly based on their tax policies, rates, and revenue collection mechanisms. Here is a brief analysis of the countries' tax systems based on their ranks:

United States (ranked 25th): The US has a complex tax system, with federal, state, and local taxes. The federal income tax is progressive, with higher earners paying a higher percentage of their income. The US also has a corporate income tax, sales tax, and property tax. The Tax Cuts and Jobs Act of 2017 lowered the corporate tax rate to 21% from 35% and increased the standard deduction for individuals.

United Arab Emirates (ranked 30th): The UAE has no federal income tax or personal income tax, but there is a corporate tax of 5% on oil and gas companies and 0% tax on other industries. The UAE also has a value-added tax (VAT) of 5% on most goods and services. The tax system in the UAE is designed to attract foreign investment and stimulate economic growth.

Germany (ranked 46th): Germany has a progressive income tax system, with rates ranging from 14% to 42%. There is also a solidarity surcharge of 5.5% for higher earners. Germany also has a value-added tax of 19%, which is one of the highest in the world. The tax system in Germany is aimed at funding social welfare programs and ensuring a fair distribution of wealth.

South Africa (ranked 54th): South Africa has a progressive income tax system, with rates ranging from 18% to 45%. There is also a value-added tax of 15% on most goods and services. South Africa has been implementing tax reforms aimed at increasing revenue collection and reducing inequality.

China (ranked 105th): China has a complex tax system, with different tax rates for different types of income and industries. The income tax rates range from 3% to 45%. China also has a value-added tax of 13% on most goods and services. The tax system in China is aimed at promoting economic growth and funding social welfare programs.

India (ranked 115th): India has a progressive income tax system, with rates ranging from 5% to 30%. There is also a surcharge for higher earners. India also has a goods and services tax (GST) of 18% on most goods and services. The tax system in India is aimed at promoting economic growth and funding social welfare programs.

Brazil (ranked 184th): Brazil has a complex tax system, with different taxes at the federal, state, and local levels. The federal income tax rate ranges from 7.5% to 27.5%. Brazil also has a value-added tax of 17% on most goods and services. The tax system in Brazil is aimed at reducing inequality and promoting economic growth.

CHAPTER 6: CONCLUSION AND FUTURE SCOPE

Based on the data presented, it can be concluded that the effects of tax on economic growth are complex and vary depending on several factors. One of the significant problems faced in taxing is the informal economy, which is prevalent in most of the countries considered. In countries with a large informal economy, such as India and Brazil, tax revenue as a percentage of GDP is lower, indicating a weaker tax base. Another issue affecting the efficiency of taxation is weak tax administration and corruption. Corruption can reduce the amount of revenue collected and weaken public trust in the government's ability to administer taxes fairly. This may be a contributing factor to the lower tax-to-GDP ratio in countries like the United Arab Emirates.

Looking at the data, the tax-to-GDP ratio of the United States, Germany, and China has been consistently above 9%, indicating a higher tax collection capacity. However, it is essential to note that there is no significant correlation between higher tax revenue and economic growth. The South African tax-to-GDP ratio has been consistently high over the years, averaging at 24.7%. However, this has not translated into high economic growth rates. It is essential to consider the limited tax base in South Africa, given that a large portion of the population is unemployed or earning below the tax threshold.

Furthermore, it is interesting to note that countries with higher rates of informal economies have lower corruption perception indexes. This may be since citizens in countries with more informal economies have fewer expectations of their governments and may be less likely to report corruption. In conclusion, while taxation is essential for government revenue, the effects of tax on economic growth are complex and depend on various factors. Taxation needs to be administered efficiently, and corruption needs to be tackled to increase the revenue collected. There is also a need to address the informal economy, which can reduce the tax base and limit revenue collection. Countries need to find the right balance between taxation and economic growth to ensure sustainable development.

Future Scope

The research paper on the effect of tax and taxation on economic growth has opened up new avenues for future research. Some potential areas of exploration could be:

a) ***Long-term effects of tax policies***: Future research could explore the long-term effects of tax policies on economic growth. This could involve analysing data over a longer time period, and examining how different tax policies have affected economic growth in the long run.
b) ***Impact of tax on different industries:*** The research paper has looked at the impact of tax policies on the overall economy. Future research could examine how tax policies affect specific industries. For example, how do tax policies affect the growth of the manufacturing sector, the service sector, or the technology sector?
c) ***Impact of tax policies on income inequality:*** The research paper has not examined the impact of tax policies on income inequality. Future research could examine how tax policies affect income inequality, and whether certain tax policies can be used to reduce income inequality.

These areas of exploration could help to deepen our understanding of the complex relationship between tax policies and economic growth and inform the development of more effective tax

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