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Impact of vat changes on consumer purchasing power: A study on Bangladesh

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ABSTRACT

Value Added Tax, commonly known as VAT, is an indirect source of government revenue, especially for developing countries. Value Added Tax (VAT) significantly contributes to a nation's economic growth, and customers' purchasing power is closely linked to economic conditions. Therefore, this study aims to demonstrate the impact of a change in VAT on customers' purchasing power in the context of Bangladesh. This empirical study employs the Mediating Effect Model to understand how VAT affects Bangladesh's economic condition and, consequently, the purchasing power of its citizens. To determine the impact of VAT on the purchasing power of Bangladesh's consumers, this study collects data on GDP, inflation, consumer prices, GDP per capita, and VAT (taxes on goods and services) from the World Bank. The study reveals that VAT significantly influences GDP and customer purchasing power in Bangladesh. Moreover, VAT significantly influences GDP, which in turn significantly alters customer purchasing power. Additionally, a robust VAT framework can contribute to a more equitable tax system, where individuals contribute to government revenues in relation to their consumption levels. This study presents a novel approach to uncovering the hidden impacts of VAT on customer purchasing power. It suggests that policymakers consider VAT as a vital determinant of customer purchasing power and exercise caution regarding changes in the VAT rate.

Contribution/ Originality: This empirical study contributes to the existing literature by assessing the influence of VAT changes on consumer buying power from the perspective of an emerging economy, Bangladesh. Moreover, this paper examines the consistency of VAT in terms of efficiency, equity, and administrative soundness in emerging and transitional nations.

1. INTRODUCTION

Domestic Resource Mobilization (DRM) refers to the process of generating revenue from a country's internal resources, primarily through taxation, savings, and investments (International Monetary Fund, 2008). In recent times, domestic resource mobilization has become a significant determinant of emerging economies' policymaking (European Parliament, 2014). DRM is a crucial strategy for developing countries, aiming to reduce dependence on foreign aid and strengthen fiscal autonomy. Through effective DRM, governments can collect sufficient funds to finance public goods, infrastructure, social services, and economic development projects that foster sustainable growth and reduce poverty.

1.1. VAT as Stable Funding towards Sustainable Development

DRM is especially important for achieving the Sustainable Development Goals (SDGs) because it ensures stable funding for long-term development priorities. A well-implemented DRM framework allows governments to tap into unexploited revenue streams, increase financial transparency, and address illicit financial flows that undermine domestic economies. By expanding tax bases, improving tax administration, and promoting financial inclusion, DRM enhances government capacity and citizen accountability, fostering a sense of ownership in national development. In the 2015 Addis Ababa Conference, organizations like the International Monetary Fund (IMF) and the World Bank emphasized DRM as a sustainable alternative to external borrowing, which often carries high interest rates and risk. Effective DRM empowers nations to build resilient economies, mitigating vulnerabilities associated with global financial instability. Therefore, first-world countries are also employing DRM in developing economic landscapes. However, the financial sectors of a significant portion of developing and underdeveloped countries are unable to assist investors in the proper multiuse domestic resources efficiently and effectively due to low levels of income, unstable banking networks, idle assets, and so on. Since low-income countries find it particularly challenging to mobilize local resources, they are forced to rely on external funds like foreign aid, foreign direct investment, and export revenues, among others. Despite foreign aid boosting revenue performance, overreliance on it may lead to bankruptcy for low-income economies in the long run (Gupta, 2007). Failure to make interest payments on its foreign debt has led Sri Lanka to bankruptcy (Danger, 2022). Therefore, there are compelling reasons to prioritize Disaster Risk Management (DRM) more heavily. The more reliance on DRM, the better the economic growth, poverty elimination, and long-term development. At a time when the developed community is struggling to manage the required funding to achieve the Sustainable Development Goals (SDGs), mobilizing nations' own domestic resources for development is garnering ever-increasing attention (Hujo & Bangura, 2020; Uddin, Islam, Sahid, & Hasan, 2022). According to the World Institute for Development Economics Research (2016), the proper mobilization of local revenues ensures the achievement of Sustainable Development Goals (SDGs).

Governments allocate domestically raised funds and foreign aid across several critical sectors. Governments prioritize social services such as education, healthcare, and social security to enhance citizen well-being and assist vulnerable populations (Søvold et al., 2021). Infrastructure funding targets transportation, energy, and water systems, enhancing productivity and fostering economic growth (Gupta & Tareq, 2008). Defense and public safety receive significant funding to maintain national security and order (Bush, 1991). Additionally, environmental conservation and climate initiatives, such as renewable energy and afforestation, reflect commitments to sustainability and climate adaptation, which are increasingly central to government agendas. Overall, the allocation of funds to public administration and governance ensures effective, transparent governance and supports public sector operations (World Bank, 2015). This balanced allocation across sectors allows governments to meet immediate public needs while fostering sustainable, long-term national development.

1.2. Taxation and Government Revenues

A government's revenue earnings mostly depend on the country's taxation policies. The main way the government makes money is through taxes (Hosen, 2019; Uddin, Begum, Hasan, & Sultana, 2023). The main purpose of the government's taxation is to balance the economy by transferring wealth and revenue from the wealthy to the less fortunate (McCaffery, 1994). The government can generate funds through taxes in two ways: direct tax and indirect tax. Individuals or organizations face direct taxes based on their income, assets, or specific financial activities, which they pay directly to the government (Atkinson & Stiglitz, 1976). Direct tax comes from different sources, such as income tax, corporate tax, property tax, and wealth tax. Conversely, consumers indirectly pay indirect taxes as part of the purchase price, levying them on goods and services instead of income or profits (Atkinson & Stiglitz, 1976). The sources of indirect taxes are value-added tax, sales tax, excise tax, customs duty, and service tax. People believe that VAT offers benefits over other taxes because it eliminates cascading, allows for zero-rate exports, and is difficult to evade. Various production (and distribution) phases impose VAT, a widespread tax that distinguishes itself by crediting taxes on inputs against output taxes. Since VAT makes a major contribution to any country's revenue, developing nations are seeking to increase their VAT revenues. Therefore, they have implemented value-added taxes by substituting VAT with sales taxes (Faridy & Sarker, 2011).

1.3. VAT in Bangladesh

Like many developing nations, Bangladesh implemented VAT in 1991 with the goal of boosting domestic revenue collection from customers and bringing transparency to its indirect tax system. Understanding the purchasing behavior of retail customers and the factors that influence each individual purchase is crucial for any business activity. A variety of factors, such as household revenue, the breakdown of individual expenses, supply availability and quality, individual preferences, and others, influence consumer behavior and decision-making. Bangladesh imposes a standard rate of 15% VAT on goods and services. The final consumer is ultimately responsible for paying VAT. Hence, overall changes in VAT rates in Bangladesh may have a significant impact on consumer purchasing power; thus, it's vital for both consumers and businesses to be aware of how these changes may affect them. Governments often adjust them based on economic needs, fiscal policies, or specific sectorial goals. Changes in VAT rates can either be an increase to boost government revenue or a decrease to stimulate consumer spending or reduce inflationary pressures. In times of economic crisis, for instance, some countries temporarily lower VAT to encourage consumer spending, while in periods of budget deficits, they might raise tax rates to increase revenue. The structure of VAT also allows governments to set different rates for various goods and services. Many countries apply reduced VAT rates to essentials like food, healthcare, and education to lessen the tax burden on basic needs, while standard or higher rates may apply to luxury goods and non-essential services. Countries in the European Union, for example, generally have a standard VAT rate but allow for reduced rates on specific items as needed, with annual reviews and adjustments made based on economic circumstances and policy goals.

Bangladesh's VAT rate has changed multiple times to address economic shifts, compliance issues, and policy priorities. The Value Added Tax and Supplementary Duty Act 2012 significantly reformed the VAT system, originally introduced in 1991, with the aim of streamlining and modernizing VAT administration. Although the standard VAT rate remains at 15%, the 2019 law revision by the National Board of Revenue, Bangladesh, introduced flexibility with reduced VAT rates of 5%, 7.5%, and 10% for various goods and services, particularly to support small businesses and reduce the consumer tax burden on essentials. These adjustments aimed to broaden the tax base while ensuring consumer protection by making essential items more affordable. However, any increase in VAT rates will result in higher pricing for products and services, which may lead to a decrease in the purchasing power of consumers. This reduction in purchasing power can lead to a decline in consumer spending, which in turn negatively impacts businesses and the overall economy and vice versa. Therefore, is VAT critical to growth, stability, and advancement for emerging countries? This is a major concern for developing countries such as Bangladesh.

1.4. VAT and GDP

VAT is associated with the Gross Domestic Product (GDP), as it serves as a source of governmental revenue. Therefore, the revenue generated by the government through VAT directly influences the overall GDP. When the VAT rates are high, the prices of goods and services rise, leading to a decrease in consumer spending and ultimately a decrease in GDP. As the GDP rises, it simultaneously increases the demand for commodities, leading to inflation. The higher the GDP, the greater the per capita income. When the per capita income is greater, the purchasing power of the customer is also relatively higher. On the other hand, inflation in the Customer Price Index (CPI) results in lower purchasing power for customers.

This empirical study contributes to the existing literature by determining the impact of VAT changes on consumer purchasing power. Furthermore, this study investigates whether VAT is consistently as efficient, equitable, and administratively sound as it could be in developing and transitional countries.

2. LITERATURE REVIEW

Numerous scholars have always been interested in how governments generate funds to invest in various sectors. Choi and Park (2024) investigated the motivation of local governments in promoting social enterprises and their effectiveness. Using resource dependence theory, they validated two key hypotheses: (i) local governments' fiscal constraints serve as the primary driving force behind their promotion of social enterprises, and (ii) their efforts to support social enterprises are effective. They conducted a study on 223 South Korean local governments from 2011 to 2017 and found evidence supporting the hypothesis that fiscal constraints are the driving force behind local governments' promotion of social enterprises. Bao, Wang, and Wu (2024) developed an analytical framework to examine the relationship between local government debt issuance for infrastructure financing, land finance, state control, and development activities in the private sector in China. They conducted a study on local government financing vehicles' accounting data. Challoumis (2021) intended to determine the functionality and structure of an economy using the cycle of money. They determined indexes of the cycle of money that demonstrate an economic system's ability to withstand financial crises, as well as features that indicate the structural strength of a country's economy. Researchers compared Switzerland's cycle of money index with the global average index. Zhao, Wang, and Cai (2022) determined the impact of revenue recycling schemes and carbon pricing policies on income inequality. They also investigated the redistributive impact of individual income tax. In doing so, they employed a dynamic multi-regional CGE model. Employing an autoregressive distributed lag (ADL) model on panel data from 13 countries in 1996–2014, Shrestha, Kotani, and Kakinaka (2021) discussed the role of international trade on government revenue in resource-abundant countries. Arvin, Pradhan, and Nair (2021) intended to investigate the interactions between tax revenue, government expenditure, and economic development of lower-middle-income countries (LMICs) and low-income countries (LICs) for 2005–2019. Hensher, Wei, and Liu (2021) identified the impact of the growth in BEV ownership on government revenues and levels of CO_2 emissions. Li, Li, and Yuan (2020) investigated the impact of high-speed railways on land prices, which in turn affected local government revenue. The MetroScan modeling approach was utilized in the Greater Sydney Metropolitan Area (GSMA) from 2021 to 2056. Lin and Jia (2019) explored the association between tax rate (direct tax on labor income), governmental revenue, and economic performance using the computable general equilibrium (CGE) model. Using nonlinearities, Bandyopadhyay, Lahiri, and Younas (2015) determined the impact of foreign aid and private foreign loans on the economic growth of 131 developing nations from 1996 to 2010. Abiola and Asiweh (2012) conducted an online survey on 121 individuals to assess the Nigerian tax administration's capacity to reduce tax evasion and generate revenue for economic development. Bartle, Kriz, and Morozov (2011) conducted a study to identify trends in local government revenues and the challenges that local governments currently face in generating revenue. Ayoki, Obwona, and Ogwapus (2005) explored the sources available for policymakers' revenue mobilization in Uganda. Applying the trivariate autoregression model, Huang and Tang (1992) identified the relationships between governmental revenue, government expenditure, and Taiwan's national income.

Economists are much more curious about the mystery of the sectors where the government distributes the accumulated funds. Employing data envelopment analysis to compute efficiency scores, Afonso and Fraga (2024) investigated the public spending efficiency of twenty Latin American countries over the period of 2000–2019. The authors utilized annual data on socio-economic indicators as a public sector performance composite factor, while, as an input measure, they considered total public spending as a percentage of GDP. Holum and Jakobsen (2024) aimed to explore the connection between prioritizing environmental protection over economic growth and the level of government expenditure on environmental protection. The study, involving over 65,000 respondents from 27 OECD countries, draws on the thermostatic model, complex belief systems, and cognitive dissonance theory. The authors suggest a connection between attitudes toward environmental protection and government spending, with trust in government serving as a moderating factor in this relationship. To test these hypotheses, they utilize OECD government spending data alongside survey responses from the World Values Survey (WVS) and European Values Survey (EVS) spanning 1995 to 2019. Bucci, Ferrara, and Resce (2023) conducted an empirical study, focusing on Italy, to examine the relationship between fiscal decentralization and municipal efficiency. They employed a cost-efficiency analysis using a stochastic frontier approach, incorporating municipality and time-fixed effects. The study modeled decentralization using a continuous variable, taxation autonomy, to capture both the extent and progression of fiscal decentralization over time. Kitole, Msoma, and Sesabo (2024) explored the complex relationship between government spending, GDP per capita, and poverty reduction in Tanzania. Using Granger causality analysis, Vector Autoregressive (VAR), and Vector Error Correction Model (VECM) on World Bank data from 1990 to 2022, the study shows how things change over time and provides policymakers with important information for making the world a poverty-free place. Falsetta, Schafer, and Tsakumis (2024) investigated the impact of taxpayer support for government spending on enhancing tax compliance. Although substantial evidence exists regarding the deterrent effect of audit likelihood on noncompliance, there is limited research on how taxpayer support might moderate compliance behavior. Additionally, the study explores how taxpayer ethics may influence compliance decisions. Hossain (2024) aimed to investigate the potential contribution of specific government spending and environmental policies to green growth, as measured by greenhouse gas productivity. We used panel data from ten Canadian provinces from 1995 to 2020 to build and estimate an empirical model based on the STIRPAT framework. We dealt with a number of econometric challenges to make sure the results were strong and consistent. Ferriere and Navarro (2025) introduced a novel Keynesian model of heterogeneous agents to investigate the impact of household tax distribution on spending multipliers. The model creates distributions in marginal propensities to consume and labor elasticity that are more reflective of the real world. This means that higher-income households are less affected by changes in taxes. Consequently, spending multipliers are larger when financed through progressive taxation, where higher-income earners bear a greater portion of the tax burden. The study of Ben Zeev, Ramey, and Zubairy (2023) examined whether government spending multipliers vary based on the direction of the shock. They used historical U.S. aggregate data and Ben-Zeev (2020) nonlinear diagnostic tests to find evidence of nonlinearities in the impulse response functions for both GDP and government spending. Kousar, Ahmed, Afzal, and Segovia (2023) investigated the effects of current health expenditure, domestic government health spending, education expenditure, social protection, population growth, and foreign direct investment (FDI) on human capital formation in Pakistan. The study measures human capital using skill and health metrics, sourcing annual data from 1990 to 2020 from the World Development Indicators and the World Bank. The auto-regressive distributed lag (ARDL) bound test is used to see how well the variables are linked over the long term, and the ARDL model provides both long-term and short-term estimates for the variables that are being examined.

Value Added Tax (VAT) is a significant source of governmental funding, as evidenced by numerous studies. Considering the ease of financial constraints, Liu, Zhou, Chen, Wan, and He (2021) determined the evolution of how the Chinese stock market impacts corporate technological innovation through a reduced corporate tax burden. Employing a time-varying coefficient approach, Hondroyiannis and Papaoikonomou (2017) determined the impact of card payments on value-added tax revenue in Greece. Using variations that were similar to experiments in the rollout of VAT e-invoicing in Peru, Bellon, Dabla-Norris, Khalid, and Lima (2020) looked into what happened to firms' tax performance and compliance after they switched to an electronic invoicing system. Keen and Lockwood (2010) explored the reasons and consequences of the rise in the value-added tax (VAT). Applying a quantitative empirical analysis approach, Owolabi and Okwu (2011) evaluated the contribution of VAT to the evolution of the Lagos State economy. Employing the ARIMA model, Mgammal, Al-Matari, and Alruwaili (2023) determined the effect of the VAT on non-financial companies in Saudi Arabia. Cuceu, Florescu, and Văidean (2024) examined the key factors contributing to the compliance gap in value-added tax (VAT), representing the estimated unpaid VAT within the economy. They employed panel data analysis methods utilizing both simple and multiple regression models, along with a combinatorial approach and fixed and random effects models.

Bangladesh, a developing nation, manages funds from numerous sources, such as foreign aid, loans, customs duties, personal taxes, VAT, royalties, corporate taxes, etc. The study of Lalarukh and Salahuddin (2013) aimed to leapfrog the revenue base of the government and generate funds for economic growth. Faridy and Sarker (2011) attempted to determine the income from Value Added Tax (VAT) in Bangladesh. Smith, Islam, and Moniruzzaman (2011) examined the structure of VAT in Bangladesh and attempted to determine its contribution. Rahman and Sarkar (2021) examined the role of VAT on Bangladesh's economic growth. Siddiquee and Saleheen (2020) determined the governance of VAT around issues of accountability, transparency, and participation. Nargis, Hussain, Goodchild, Quah, and Fong (2020) examined the industry's pricing strategy by price segment of the cigarette market in Bangladesh, focusing on the discrepancy between the market retail prices (MRP) of cigarettes that consumers pay and the government-recommended retail prices (RRP) that serve as the tax base in a four-tiered ad valorem tax structure.

Drawing from the previously mentioned literature, this study identifies a few areas that require further research. Firstly, several studies have demonstrated the influence of VAT revenue on the economy (Jewel, 2022), but none of them demonstrated the impact of VAT revenue on the customer's purchasing power in Bangladesh. Secondly, while there are a few studies in the existing literature that illustrate the impact of VAT revenue on both the economy and customer purchasing power, there is a lack of evidence indicating whether the VAT change has any impact on GDP, which in turn affects customer purchasing power.

Therefore, the purpose of this study is to illustrate the effects of a change in VAT on the purchasing power of customers. Furthermore, this study examines the influence of VAT on GDP and the purchasing power of customers in Bangladesh.

3. METHODOLOGY

3.1. Data Description

This study collects datasets from secondary sources. To determine the impact of VAT on the purchasing power of Bangladesh's customers, this study gathers GDP, inflation, customer prices, GDP per capita, and VAT (taxes on goods and services) from the relevant sources World Bank (2015). The dataset covers annual data from 2001–2020.

3.2. Mediating Effect Model

This study considers a mediating effect model to determine the indirect impact of the VAT change on the customer's purchasing power. As the GDP has an impact on GDP per capita and the Consumer Price Index, a change in VAT contains an indirect impact on customer purchasing power. Mediation analysis is the process of understanding the connection between the independent variable and the dependent variable with a third (mediating) indicator (Nho et al., 2019). This study uses Sobel's test, which is based on Sobel (1982) research, to identify the mediating effect of VAT on customer purchasing power.

$$t = {(\tau - \tau')}/{SE} \qquad OR \qquad t = {(\alpha\beta)}/{SE}$$

Where SE is the pooled standard error term and $SE = \sqrt{\alpha^2\sigma^2{}_\beta + \beta^2\sigma^2{}_\alpha}$ and $\sigma^2{}_\beta$ is the variance of β and $\sigma^2{}_\alpha$ is the variance of α.

Figure 1 depicts the conceptual diagram of the Mediating Effect Model. The diagram indicates that there is a direct relation between the independent variable (VAT) and the dependent variable (customer purchasing power). On the other hand, VAT also influences GDP, and GDP, in turn, influences CPP. Therefore, VAT has an indirect influence on CPP.

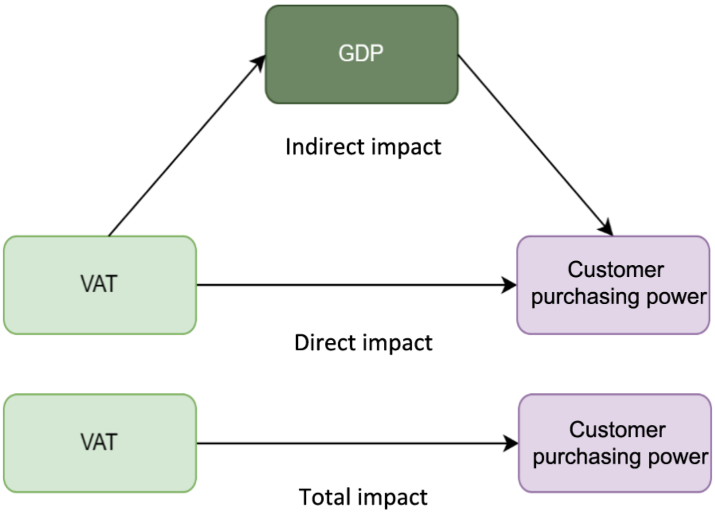

Figure 1. Mediating Effect.

Based on the above discussion, this study adopted a mediating effect model to determine the direct and indirect effects of VAT on customer purchasing power. We develop three equations to demonstrate the mediation analysis, as shown in Equation 1–3.

$$CPPI_i = \alpha_0 + \alpha_1 VAT + \epsilon_i \quad (1)$$
$$GDP_i = \beta_0 + \beta_1 VAT + \epsilon_i \quad (2)$$
$$CPPI_i = \gamma_0 + \gamma_1 VAT + \gamma_2 GDP + \epsilon_i \quad (3)$$

Where $CPPI_i$ denotes Customer Purchasing Power Index, while *VAT* represents Value Added Tax. Moreover, GDP_i deals with Gross Domestic Product. ϵ_i is the error term.

3.3. Variables

3.3.1. Independent Variable

This study considers VAT an independent variable. Value Added Tax (VAT) has an identical impact on the development of an economy. Consequently, the capacity of inhabitants to purchase goods and services also increases. Mu, Fentaw, and Zhang (2022) employed electronic VAT as an independent variable to demonstrate the mediating impact of audits on tax revenue performance. How the economic growth in advanced countries is affected by various types of tax revenue was examined by Shaqiri, Elshani, and Ahmeti (2024).

3.3.2. Mediating Variable

GDP is one of the major determinants of an economy's development. GDP is the primary factor that determines per capita income. Furthermore, a nation's inflation correlates with changes in GDP. Therefore, this empirical study employs GDP as a mediating variable for examining the impact of VAT on customer purchasing power in Bangladesh.

3.3.3. Dependent Variable

Customer purchasing power for a nation is a valuable question of all time. Customer purchasing power refers to a customer's ability to purchase goods and services. This study adopts the customer purchasing power index (CPPI) as a dependent variable, drawing on the research of Khatoon, Zhengliang, and Hussain (2020). We have calculated the CPPI using the GDP per capita and inflation-customer price dataset.

$$CPPI_i = (100 - INF) \times GDP\ per\ Capita \quad (4)$$

Where, $CPPI_i$ denotes Customer Purchasing Power Index, INF refers to Inflation- customer price.

4. RESULT ANALYSIS

Table 1 tabulates the regression result of the mediating effect model. Therefore, Table 1 summarizes the regression results of three equations.

Table 1. Regression results of the mediating effect model.

Equation	Y	X	M	Coeff.	SE	t	P	LLCI	ULCI
Equation 1	CPPI	VAT	---	69283.40	13999.86	4.95	0.0001	39868.69	98698.15
Equation 2	GDP	VAT	---	735.27	146.67	5.01	0.0001	427.11	1043.43
Equation 3	CPPI	VAT	---	-857.44	775.92	-1.11	0.2845	-2494.63	779.75
		---	GDP	95.39	0.81	118.42	0.0000	93.70	97.10

Note: Y deals with the dependent variable, X represents the independent variable, and M equals the mediating variable. SE indicates the standard error, LLCI refers to the lower limit of the confidence interval, ULCI indicates the upper limit of the confidence interval, and CPPI stands for the customer purchasing power index.

Equation 1 deals with the direct impact of VAT on CPPI, which shows a positive relationship between both variables and indicates that a change in VAT by one unit results in a change in CPPI by 69,283.40 units. Moreover, the *p-value* is statistically significant ($p<0.01$). Equation 2 of Table 1 depicts that the t-value is 5.01, which indicates VAT has a statistically significant impact on the mediating variable, GDP. The indirect impact of VAT on CPPI is insignificant (p-value > 0.05) and has a negative impact. The impact of the mediating variable on CPPI is evident (p-value = 0.000 < 0.05), and the difference between confidence intervals is 3.3994.

Table 2. Model Summary.

Equations	R	R^2	MSE	F	P
Equation 1	0.7592	0.5764	1.51782	24.4912	0.0001
Equation 2	0.7633	0.5827	166587.9	25.1316	0.0001
Equation 3	0.9997	0.9995	1945766	16564.52	0.0000

Table 2 is the complete arrangement of the model summary. The R^2 of all three models is 0.5764, 0.7633, and 0.9997, respectively. Out of the three models, the third model, the mediating effect model, explained the dependent variable most, while the MSE is lowest on Equation 1 at 1.517828. All the models are statistically significant (p-value < 0.05).

Table 3. Correlations.

	VAT	GDP	CPPI
VAT	1		
GDP	0.763**	1	
CPPI	0.759**	1.000**	1

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Table 3 displays the correlation between variables, revealing significant correlations among all variables. Most notably, the correlation between CPPI and GDP is 1.000, whereas the correlation between CPPI and VAT is 0.759.

5. DISCUSSION

Arvin et al. (2021) found a connection between government expenditure, institutional quality, economic growth, and tax revenue in the short run. Zhao et al. (2022) identify that the determination of the price of carbon not only increases income inequality but also recycles the revenue. Keen and Lockwood (2010) identified the determinants of VAT adoption, which have a significant yet complex impact on the revenue ratio. The result of Huang and Tang (1992) indicates that there is a two-way connection between GNP and government revenue and expenditure. Lin and Jia (2019) found that the government should bring about change in the taxation system entirely rather than changing the direct tax rate. Lui et al. (2021) determined that seasoned equity offerings have a detrimental impact on firms' technological innovation efficiency after the pilot VAT reform. Owolabi and Okwu (2011) inform that a positive contribution of VAT revenue exists in the development of the respective sectors. However, the beneficial contribution was significant only in agricultural sector development.

Shrestha et al. (2021) found a negative correlation between non-resource revenues and government resources in the long run. The study conducted by Li et al. (2020) reveals that high-speed railways can significantly contribute to government revenue sources and infrastructure financing. Abiola and Asiweh (2012) found that an organized tax administration increases tax revenue. Hondroyiannis and Papaoikonomou (2017) found that an increase in card payments results in higher revenue; decreasing the VAT rate may increase revenue gains. Lalarukh and Salahuddin (2013) reveal that VAT contains a positive impact on GDP and thereby contributes to the economic development of Bangladesh. Cuceu et al. (2024) identified a direct impact of the shadow economy and a mediating impact of economic prosperity, VAT revenues, and press freedom on VAT compliance gaps. When comparing the old and new EU member states, the finding indicates that the shadow economy has a more substantial positive effect on the older member states than on the newer ones. Faridy and Sarker (2011) argued that the higher income groups are taking advantage of fewer burdens than the lower. Comparing the results with and without VAT exemptions, they found that overall, the VAT in Bangladesh is regressive.

This study reveals that the change in VAT has a significant impact on both GDP and customer purchasing power. However, in terms of the mediating effect, VAT impacts significantly on the mediating variable (GDP) but not on customer purchasing power.

6. CONCLUSION

For the sustainable development of a nation, governments allocate funds across various sectors, including social welfare, defense and national security, infrastructural development, law enforcement, and education, among others. Each of these areas is crucial for fostering economic stability and improving the quality of life for citizens. To meet these diverse financial needs, governments utilize multiple funding sources, which may include domestic revenue mobilization, foreign aid, and borrowing from both domestic and international financial institutions. These funding mechanisms play a pivotal role in enabling governments to implement policies and programs that drive growth and development.

One significant source of revenue, particularly in developing countries like Bangladesh, is the value-added tax (VAT). This consumption tax is levied on the value added to goods and services at each stage of production or distribution, making it a critical component of the government's revenue-generating framework. The design of the VAT system ensures relatively efficient and difficult-to-evade tax collection, significantly contributing to the national exchequer. Changes in VAT rates can have profound implications for the economy, as they directly influence consumer behavior and spending patterns.

Specifically, adjustments in the VAT rate can interact with economic development and the country's Gross Domestic Product (GDP). When the GDP rises, it often leads to an increase in per capita income, which enhances the purchasing power of the populace. As the financial capacity of individuals improves, there is typically a corresponding change in consumer purchasing behavior and intentions. For instance, with greater disposable income, households are likely to increase their expenditure on goods and services, thereby stimulating demand within the economy. Moreover, a robust VAT framework can contribute to a more equitable tax system, where individuals contribute to government revenues in relation to their consumption levels. This is especially important in a developing context, where disparities in income and wealth can lead to social tensions. By ensuring that all segments of the population contribute to the tax base, governments can better fund essential services and infrastructure projects, promoting broader economic growth and social stability. Consequently, understanding the dynamics of VAT, its rates, and its interaction with economic indicators like GDP is crucial for policymakers aiming to enhance national development and achieve sustainable economic growth.

6.1. Policy Implications

This empirical study contains several implications for stakeholders, policymakers, economists, and scholars. This paper suggests that policymakers should consider changes in the VAT rate when making fiscal policy decisions. This study also recommends that stakeholders consider VAT, given that changes in its volume determine customer purchasing power.

6.2. Limitations and Future Direction

This study only considers Bangladesh as a study area. Therefore, the study is unable to accurately represent the perspectives of other developing or underdeveloped nations. Moreover, customer purchasing intention (CPI) is another vital issue related to VAT, but this study misses covering the impact of the VAT change on the CPI. Therefore, in the future, the authors aim to investigate the impact of VAT on the purchasing power of developing countries. Additionally, this study directs other scholars to consider customer purchasing intentions as a valuable factor in detecting the impact of VAT.

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