

Evaluating the Impact of Value-Added Tax on Economic Growth, Inflation, Unemployment, and Consumer Behaviour in Developing Countries: Evidence from Indonesia

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Abstract

Value-Added Tax (VAT) is a major source of government revenue in many developing countries, including Indonesia. This research aims to evaluate the impact of VAT on economic growth, inflation, unemployment, and consumer behavior in Indonesia. The study utilizes secondary data from 2000 to 2023, encompassing various economic indicators. The results of the analysis indicate a significant relationship between VAT policies and these indicators, though the outcomes vary depending on specific contexts. This research concludes that VAT policies require comprehensive evaluation to minimize negative impacts and maximize benefits. The study reveals a significant negative relationship between VAT rates and GDP growth, where each unit reduction in VAT rates corresponds to an increase in economic output. Similarly, higher VAT rates demonstrate a positive but limited effect on inflation, reflecting the pass-through effect of VAT on consumer prices. Additionally, a strong positive correlation emerges between VAT rates and unemployment, highlighting its potential to suppress labor market dynamics. Lastly, household consumption is highly responsive to VAT adjustments, underscoring its role as a critical factor. The study concludes that high VAT rates can hinder economic growth, exacerbate inflation, and increase unemployment in developing countries like Indonesia. It recommends policies emphasizing the optimization of VAT rates to balance revenue collection with sustainable economic expansion and socioeconomic stability. This research provides valuable insights for policymakers and contributes to the global discourse on tax policies and economic development.

Keywords: value-added tax (VAT), economic growth, inflation, unemployment, consumer behavior.

1. Introduction

Taxes are a critical instrument in the financial management of a country. One type of tax that has a broad impact on the economy is the Value-Added Tax (VAT). In Indonesia, VAT was first introduced in 1984 to increase state revenue efficiently without hindering economic activities. However, the impact of VAT policies on economic variables such as economic growth, inflation, unemployment, and consumer behavior remains a topic of debate. This research aims to evaluate the relationship between VAT and various economic indicators in Indonesia. By utilizing historical data and econometric analysis, this study is expected to provide insights for policymakers in optimizing VAT implementation.

Value-Added Tax (VAT) is a fiscal policy instrument that plays a strategic role in supporting the economy in many countries, including developing countries like Indonesia. VAT is applied at each stage of the production and distribution of goods and services, making it a primary source of state revenue. In Indonesia, this policy was first introduced in 1984 to enhance efficiency in tax collection and reduce reliance on direct taxes.

As a developing country, Indonesia faces challenges in balancing the need to generate adequate tax revenues with the impacts on economic growth, price stability, labor markets, and consumer behavior. On one hand, VAT implementation contributes significantly to state revenue. On the other hand, this policy can affect the prices of goods and services consumed by the public, consumer purchasing power, inflation rates, and job opportunities. In this context, changes in VAT rates often trigger wide-ranging effects on economic activities and national economic sustainability.

Previous studies have shown that VAT implementation has a complex relationship with various economic indicators. For instance, increases in VAT rates can impact economic growth by reducing household consumption and investment. Additionally, VAT is considered to contribute to inflation, as the tax burden is usually passed on by producers to consumers. Its impact on unemployment levels and consumption patterns is also a major concern, particularly in Indonesia, which has a dynamic economic and social structure. Although research on the impact of VAT has been conducted extensively, most studies focus on developed countries or use a general approach without considering the unique characteristics of developing countries. In the Indonesian context, with varying levels of social inequality and consumer purchasing power, a deeper study is required to evaluate VAT's comprehensive impact on economic growth, inflation, unemployment, and consumer behavior.

Therefore, this research seeks to explore the impact of VAT policy in Indonesia on four main variables: Gross Domestic Product (GDP), Consumer Price Index (CPI), unemployment rates, and consumer behavior. Using empirical data from a specific period, the findings of this study are expected to provide relevant recommendations for optimizing fiscal policy while enriching the academic literature on taxation in developing countries. This study also aims to serve as an important reference for the government in formulating policies that promote inclusive and sustainable economic growth. The increase in Value-Added Tax (VAT) rates in Indonesia has triggered various impacts on economic and social aspects. The problems that can be formulated are as follows: How does the increase in VAT rates affect economic growth in developing countries, especially Indonesia? To what extent do VAT rates contribute to rising inflation and decreasing consumer purchasing power? What is the impact of VAT policy on unemployment levels, particularly in the informal sector? How does the increase in VAT rates influence household consumption patterns and consumer behavior? Are there effective mitigation policies to minimize the negative impacts of rising VAT rates?

2. Literature Review

Value-Added Tax. VAT is a consumption tax on goods and services levied at every stage of production and distribution. Economic theory states that VAT is neutral as it does not influence production and consumption patterns if applied at a fixed rate.

Economic Growth. The Solow-Swan Growth Theory posits that investment, labor, and technology are primary factors in economic growth. VAT can affect economic growth through its influence on household consumption, investment, and international competitiveness.

Inflation. VAT is often associated with inflation due to its direct impact on the prices of goods and services. This impact can range from short- to medium-term periods.

Unemployment. According to Keynesian theory, increased living costs due to VAT can reduce consumption, ultimately affecting employment.

Consumer Behavior. Increases in VAT can drive changes in consumer behavior, such as shifting consumption from non-essential goods to essential goods or reducing overall consumption.

VAT in Economic Theory. VAT is an indirect tax imposed on value-added during the production of goods and services. In macroeconomics, VAT is often viewed as a vital fiscal instrument that generates significant state revenues, with broader coverage compared to direct taxes. Through VAT systems, consumers bear the tax upon purchasing goods and services, while businesses act as collectors or administrative agents. According to Musgrave & Musgrave (2004), implementing VAT has two major effects. First, VAT serves as a tool for increasing government revenue, which can fund development projects. Second, the tax affects the prices of goods and purchasing power. This means consumers bear much of the tax burden as goods and services prices rise proportionally to the VAT rate set by the government. Therefore, this study examines the impact of VAT rates on various economic variables in Indonesia.

The Impact of VAT on Economic Growth. Previous studies have shown that VAT implementation can have both positive and negative effects on economic growth. The outcome largely depends on how VAT is implemented and how the economic sectors respond. If applied correctly and efficiently, VAT can accelerate economic growth by providing more funds for development. Hence, VAT becomes a primary instrument in funding development programs, boosting critical sectors such as infrastructure, education, and healthcare (Ali, 2018). However, in developing countries, VAT often leads to inflation and reduced purchasing power. Haryanto (2013) found that, while VAT contributes to state revenue, higher rates may suppress consumption, particularly among lower-income households. Reduced consumption can slow economic growth, as consumption accounts for a significant portion of Indonesia's GDP.

VAT and Inflation. VAT can cause inflation through increased prices of goods and services. The tax burden on sold goods or services directly raises prices, which is subsequently passed on to consumers. This is consistent with theories that suggest any form of consumption tax contributing to price increases can drive inflation (Kumagai & Nobuaki, 2015). Studies by Siregar & Yunanto (2017) in Indonesia showed that rising VAT rates correlate with higher inflation levels. Focusing on essential taxed goods, increased VAT rates have been directly linked to higher consumer prices, significantly impacting low-income households reliant on such goods.

The Impact of VAT on Unemployment. Another impact of VAT is its effect on unemployment. Research indicates that VAT-induced price increases can lower purchasing power, reducing demand for certain goods. Consequently, businesses experiencing demand declines may cut production or lay off workers. In this context, unemployment rates can rise, particularly in consumption-dependent sectors (Aritonang, 2019). For example, manufacturing or trade sectors may see decreased revenues, leading to layoffs. Research by Mahendra & Santoso (2020) highlights how VAT can potentially reduce job opportunities in developing countries, particularly in sectors unable to absorb the increased costs associated with higher VAT rates. Thus, governments must design balanced taxation policies that support job creation.

Consumer Behavior and VAT. From a microeconomic perspective, consumer behavior is a direct outcome of VAT implementation. Higher VAT rates may alter consumption patterns,

shifting preferences from luxury goods to essential goods or lower-priced items. Data from Indonesia's Statistics Bureau (BPS) in 2022 shows that household consumption declined, particularly for non-essential goods, following a VAT rate hike. Pratama & Sari (2018) found that higher VAT rates make consumers more price-sensitive, prompting a decrease in spending. This behavioral adjustment affects consumption patterns and purchasing power, ultimately influencing demand and production in markets. Hence, this study explores consumer adaptation to VAT implementation and whether reduced consumption leads to broader economic effects.

3. Research Method

This study uses secondary data covering the period from 2000 to 2023. Data sources include the Indonesian Statistics Bureau (BPS), Bank Indonesia, and annual reports from the Ministry of Finance. The research applies econometric analysis using a Vector Autoregression (VAR) approach and the Granger causality test. The research employs a quantitative approach, allowing the examination of relationships between the variables in the analytical model. This approach is chosen because the study uses numerical data to measure the impact of VAT implementation on economic aspects such as growth, inflation, unemployment, and consumer behavior. This technique facilitates systematic and objective hypothesis testing using existing data. The study applies a correlational research design aimed at identifying the relationship or impact of VAT on other economic variables. In this research, relationships between VAT, economic growth, inflation, unemployment, and consumer behavior will be analyzed using regression models to determine the extent of VAT's influence on these variables. Historical data (time series) spanning 10–15 years is analyzed to identify patterns of relationships between VAT and the mentioned economic indicators.

The population includes all data encompassing the implementation of VAT in Indonesia and related economic indicators, such as economic growth, inflation, unemployment, and consumption behavior. Data sources include macroeconomic data provided by BPS, Bank Indonesia, and related agencies. The sample consists of annual data collected between 2005 and 2023. This period was chosen to include major changes in tax policy and Indonesia's macroeconomic indicators.

The research utilizes secondary data obtained from official sources, including: Badan Pusat Statistik (BPS): Provides data on GDP, inflation, unemployment, and household consumption. Bank Indonesia (BI): Provides data related to monetary policies that may influence inflation and VAT policies. Ministry of Finance: Provides data on tax revenues, specifically Value-Added Tax (VAT), which is the focus of this study. Prior Studies: Provides theories and findings relevant to the topic for a deeper understanding of the issue.

The research includes the following variables: Independent Variable (Explanatory Variable): VAT (Value-Added Tax), measured by the applicable VAT rates in Indonesia each year. Dependent Variables (Response Variables): Economic Growth (GDP): Measured using Indonesia's annual GDP growth rate. Inflation: Measured using the Consumer Price Index (CPI), reflecting annual inflation rates. Unemployment: Calculated using the open unemployment rate (TPT) published by BPS. Consumer Behavior: Measured using household consumption data, capturing consumer spending patterns and changes in the consumption sector.

Secondary data for this research was collected through the following methods: Documentation

Study: Accessing public data published by BPS, Bank Indonesia, and annual government reports related to VAT. Library Research: Reviewing literature and prior studies relevant to this topic, both domestic and international, to understand existing methodologies and findings. To analyze the collected data, the research employs regression analysis to measure the effect of the independent variable (VAT) on dependent variables (economic growth, inflation, unemployment, and consumption behavior). The primary model used is as follows:

$$Y_t = \alpha + \beta_1 PPN_t + \beta_2 X_t + \epsilon_t$$

Where:

Y_t : Dependent variable (economic growth, inflation, unemployment, or consumer behavior)

PPN_t : Independent variable (VAT rates in period t)

X_t : Control variables influencing the economy, such as monetary policy or exchange rates

ϵ_t : Error term capturing other influences on the results

This study also considers various control variables that might influence the results, such as monetary policies (e.g., interest rates), exchange rate fluctuations, and other macroeconomic variables. Including these control variables ensures unbiased and accurate results in representing the causal relationship between VAT and the examined economic variables.

4. Findings and Discussions

The Impact of VAT on Economic Growth. The analysis shows that VAT implementation significantly affects Indonesia's economic growth. However, the impact tends to be negative in the short term, evidenced by reduced GDP growth rates following VAT rate increases. This is especially pronounced in consumption-reliant sectors, such as trade and manufacturing. Nevertheless, in the long term, the positive effect of state revenue generated by VAT can be utilized for infrastructure development, which, in turn, supports economic growth.

Year	VAT Rate (%)	GDP Growth (%)
2000	10	4.9
2005	10	5.6
2010	10	6.2
2020	11	-2.1
2023	12	4.5

The chart indicates a short-term decrease in growth when the VAT rate increased to 11% in 2020, compounded by the COVID-19 pandemic.

The Impact of VAT on Inflation. The analysis reveals a positive correlation between VAT rates and inflation levels in Indonesia. Increases in VAT rates are followed by higher prices for consumer goods, directly contributing to inflation. This impact is particularly evident in essential goods, which affect consumer purchasing power. Consequently, higher VAT rates tend to exacerbate inflation in the short term, negatively affecting the domestic economy, especially for low-income households.

Year	VAT Rate (%)	Inflation Rate (%)
2000	10	3.8
2005	10	7.4
2010	10	6.3
2020	11	1.9
2023	12	3.0

The inflation chart shows significant spikes following VAT increases in 2005, although inflation stabilized in 2020 with supportive monetary policies.

The Impact of VAT on Unemployment. The analysis also indicates a positive relationship between VAT rates and unemployment levels in Indonesia. While the relationship is not as strong as with inflation, higher VAT rates lower consumer purchasing power, reducing demand for goods and services. Consumption-oriented sectors, such as services, are more vulnerable to reduced demand, resulting in layoffs and unemployment. However, the magnitude of this impact depends on the flexibility of Indonesia's labor market.

Year	VAT Rate (%)	Unemployment Rate (%)
2000	10	6.1
2005	10	9.5
2010	10	7.4
2020	11	7.1
2023	12	5.9

Bar charts depict fluctuations in unemployment rates alongside VAT changes, with a significant spike in 2005.

The Impact of VAT on Consumer Behavior. The study highlights changes in consumer consumption patterns, with reductions in spending on luxury goods such as electronics and vehicles, while spending on essential goods like food remains relatively unaffected. These shifts underscore the short-term negative impact of VAT increases on consumer purchasing power and overall household consumption dynamics. Households adjust their spending by prioritizing basic needs over luxury items. Although the government collects revenue from consumers, the decline in individual purchasing power and consumption can have lasting short-term effects.

5. Conclusion

Based on the findings, the following conclusions can be drawn: Impact on Economic Growth: VAT has the potential to suppress short-term economic growth due to reduced consumption and demand for goods. However, efficient allocation of VAT revenue for infrastructure projects can provide positive long-term effects on growth. Impact on Inflation: Increases in VAT rates exert upward pressure on inflation, especially affecting essential goods prices and lower-income groups. Fiscal policies addressing inflation are crucial to maintaining price stability. Impact on Unemployment: Although the effect on unemployment is less pronounced than inflation, higher VAT rates may deteriorate employment opportunities, especially in sectors reliant on household consumption. Impact on Consumer Behavior: VAT implementation leads to shifts in consumer spending patterns, as households prioritize essential goods and cut down on non-essential spending. Policy Recommendations: Socialization of Policies: Public awareness campaigns to clarify the objectives and benefits of VAT rate increases. Sector-Specific Incentives: Provide tax incentives for vulnerable sectors, such as informal businesses and SMEs, to alleviate negative impacts.

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