An Empirical Study on the Impact of Economic Policies on the Balance of Payments in Developing Countries (2000-2023)

Amel Boussouak
amel-boussouak@univ-eloued.dz
Laboratory of political economy between economic development and political challenges of Arab and African counties (PEDAA), University of El-Oued

Mansouri Hadj Larbi
Larbi0101@gmail.com
University of El-Oued

Abstract

This study seeks to analyze the impact of economic policies on the balance of payments over the period 2000–2023, utilizing Panel Data Models. To achieve the objectives of the research, annual data from a sample of 36 selected developing countries from Europe, Asia, Africa, Latin America, and Oceania—classified as lower-middle-income countries according to the World Bank—were employed. The study tested an econometric model addressing the coordination of economic policies and their resulting effects from the interaction and integration of policies on the balance of payments. The findings indicated that the fixed effects model was the most suitable for representing this relationship. The balance of payments was found to be positively influenced by public government debt, the official exchange rate, and the economic freedom index, while it was negatively affected by government spending and the tax burden index. However, the real effective exchange rate showed no significant impact on the balance of payments during the period under study.

Keywords: Fiscal policy; Monetary policy; Trade policy; Balance of payments; Developing countries; Panel Data Models.

1. Introduction

The subject of foreign trade has increasingly drawn the attention of economic policymakers worldwide, particularly in developing countries. Monetary, fiscal, and trade policies are among the most significant economic policies that impact foreign trade performance and achieve both internal and external balance. These policies remain a central focus in economic literature. Proponents of the monetarist school argue that monetary policy is the most effective in influencing economic activities and achieving balance in the balance of payments. On the other hand, fiscal policymakers emphasize the importance of fiscal policy in achieving this balance. Trade advocates, whether supporters of free trade or trade protection, highlight the significant role of trade policy in reducing the balance of payments deficit and achieving external balance using its tools.

Beyond this theoretical debate, establishing a consultative and coordinated approach between economic policies—namely, monetary, fiscal, and trade policies—is crucial for developing sound economic policies aimed at fostering development and external balance. While developing countries apply a variety of economic policy packages, this application involves multiple objectives within economic and social development programs, influencing several macroeconomic variables. Developing countries share key characteristics, such as low savings rates and low capital accumulation rates, which are structural problems illustrating the relationship between capital formation and income levels. Low savings compel these countries to resort to external financing, ultimately leading to external debt issues, which they may struggle to repay.

Economic policy serves as the instrument through which the state intervenes in and directs economic activity toward desired objectives and corrects economic imbalances. It encompasses a set of policies—monetary, fiscal, and trade policies—that work cohesively to achieve the desired goals and maintain overall macroeconomic balances, both internal and external.

Building on this, the present study seeks to examine the impact of economic policies on the balance of payments in developing countries. The study will also attempt to analyze and measure this impact. Consequently, the research problem can be formulated as follows:

What is the extent of the impact of economic policies on the balance of payments in developing countries during the period 2000–2023?

From this research problem, the following hypothesis arises:

- **Research Hypothesis**: "Coordinating economic policies can achieve simultaneous and conflicting economic goals, such as achieving a surplus in the trade balance while also achieving a surplus in the capital account through the application of expansionary fiscal policy, expansionary monetary policy, and restrictive trade policy."

- **Study Objectives**: To achieve the study's specific objectives and address the research problem, we have established the following guidelines that outline the general framework of the study:

o   This study aims to analyze and measure the impact of economic policies on the balance of payments of developing countries during the period 2000–2023.

o   To highlight the importance of external balance and its role in achieving overall macroeconomic balance.

o   To identify the factors influencing the performance of monetary, fiscal, and trade policies, as well as their impact on external balance.

o   To determine the most influential tools on the balance of payments in the developing countries under study during the aforementioned period and to highlight the impact of each policy separately through the effect of each tool.

- **Empirical Studies on the Topic**: Several previous empirical studies in this field can be addressed:

o   A study by Bukonla G. Osisanwo, Sheriffdeen A. Tella, and Bolade Abolaji Adesoye (2019), titled "The Empirical Analysis of Monetary Policy on Balance of Payments Adjustments in Nigeria: A Bound Testing Approach," investigates the effect of monetary policy on balance of payments (BP) adjustments in Nigeria during the period 1980–2015. The study demonstrates a long-term relationship between monetary policy variables (money supply, domestic credit, inflation, and exchange rate), GDP growth, and trade balance, showing that money supply and trade balance have a positive effect on BP adjustments, while domestic credit, exchange rate, inflation, and GDP growth have a negative effect on BP in Nigeria. It concludes that money supply has the most significant long-term effect on BP adjustment (1).

o   A study by Omar Shetata (2014-2015), titled "The Impact of Trade Policy on Balance of Payments in Developing Countries: A Case Study of Algeria for the Period 1990–2012," aimed to evaluate the effectiveness of trade policy tools as a mechanism for achieving balance of payments stability in developing countries, selecting Algeria as a case study. The study concluded that Algeria's efforts to liberalize foreign trade, particularly by adopting market-oriented reforms, have influenced imports more than exports. Trade liberalization weakened export capacity outside of hydrocarbons, and tariff policy mainly affected imports, reflecting Algeria's reliance on reducing tariff rates to absorb surpluses. Algeria's WTO accession was expected to reduce its balance of payments surplus in the short term due to a lack of mechanisms to boost the industrial and agricultural sectors. The study highlighted the failure of currency depreciation to attract new investments and encourage exports, weakening the national currency (2).

o   A study by Mohammad Ridwan Al-Husban (2014), titled "The Impact of Fiscal Policy on the Jordanian Trade Balance (1990-2010)," examined the effect of fiscal policy on Jordan's trade balance using a time series analysis for the period 1990–2010. It analyzed the effects of government spending, taxation, and fiscal policy on trade balance, imports, and exports using EVIEWS. The study concluded that government spending and fiscal policy had a significant impact on Jordan's trade balance and imports, but tax policy had no effect on the trade balance. Similarly, government spending and fiscal policy influenced imports, contributing to the trade balance deficit, but had no effect on exports (3).

o   A study by Patricia A. Adamu and Osi C. Itsede, titled "Balance of Payments Adjustment: The West African Monetary Zone Experience," aimed to explore the role of the monetary approach in correcting balance of payments deficits for the West African Monetary Zone (WAMZ) economies from 1975–2008. The study highlighted a negative relationship between domestic credit and net foreign assets and showed that interest rates and GDP had significant effects on the balance of payments in WAMZ countries, affirming the role of monetary approaches in addressing balance of payments imbalances (4).

o   A study by Chadhli Issa Hamad (2004), titled The Impact of Fiscal and Monetary Policies on the Sudanese Balance of Payments from 1989 to 2000 (5).

The study aimed to investigate the effects of fiscal and monetary policies on Sudan's balance of payments during the period (1989-2000). It hypothesized that these policies had a positive impact on the balance of payments during the study period and that they also influenced the gross domestic product (GDP), thus affecting the balance of payments.

The study sought to understand the literature on the effects of these policies in general, and specifically on the balance of payments. It also aimed to study their effects on the components of the balance of payments in detail. After conducting the necessary econometric analysis, the study concluded the following:

o   The increase in money supply in Sudan led to a deterioration of the balance of payments. Additionally, the results showed that the increase in GDP did not improve the balance of payments as much as expected. Furthermore, the budget deficit had a negative impact on the balance of payments because the government addressed this deficit by borrowing from the banking sector, which increased the money supply, causing inflation. This inflation, in turn, reduced the competitiveness of exports in international markets.

To answer the main research question and test the hypothesis, the study employed a descriptive and analytical approach, using quantitative analysis based on statistical data. The paper was divided into two main sections:

First Section: Theoretical Approach to the Relationship Between Economic Policy Instruments and the Balance of Payments.

Second Section: Econometric Study of the Impact of Economic Policies on the Balance of Payments in Developing Countries (Definition of Variables and Sample, Model Specification, Estimation of the Model, Results and Discussion).

2. Theoretical Approach to the Relationship between Economic Policy Instruments and the Balance of Payments

2.1 Description of the Mechanism of Impact of Fiscal Policy Instruments on the Balance of Payments

2.1.1 Theoretical Relationship between Government Spending and the Balance of Payments:

When government spending on goods and services increases, it leads to an increase in income, which raises aggregate demand for both local and imported goods, causing an increase in imports and leading to a deficit in the balance of payments. The opposite occurs when government spending decreases. This analysis follows the absorption approach discussed in the second chapter of the theoretical study, indicating that government spending has an inverse relationship with the balance of payments.

2.1.2 Theoretical Relationship between Public Debt and the Balance of Payments:

Foreign financing contributes to increasing overall investment in developing countries, thus raising GDP growth rates and improving the balance of payments, provided that the volume of incoming capital exceeds the outflow of interest payments, debt installments, and profits to foreign entities. Therefore, public debt generally has a positive relationship with the balance of payments.

However, data shows that developing countries suffer from continuous and structural deficits in their balance of payments. After external debts reached critical levels in these countries, the cost of servicing these debts (interest payments) became one of the primary factors causing current account deficits and capital account outflows (debt repayments). What was initially a temporary measure to cover balance of payments deficits has now become a key cause of these deficits due to excessive borrowing. This situation requires further borrowing, creating a cycle of increasing external debt. Thus, public debt also has an inverse relationship with the balance of payments, making it difficult to predict the expected impact of public debt.

2.1.3 Theoretical Relationship between the Tax Burden and the Balance of Payments:

Governments use taxes as a tool to manage economic activities and address macroeconomic challenges. However, there are also microeconomic considerations, such as individuals' and businesses' behavior when faced with taxes and their ability to bear the tax burden.

Several attempts have been made to measure the tax burden, including the Tax Burden Index from the Heritage Foundation, which is calculated as part of the Economic Freedom Index. This index is a weighted average of three sub-indicators: the individual income tax rate, the corporate income tax rate, and the overall tax burden (both direct and indirect taxes) as a percentage of GDP. There is an inverse relationship between the value of the index and the tax burden: a lower index value indicates a higher tax burden. This index is used to assess economic freedom for individuals and businesses.

Policy-makers aim to expand the tax base to increase available tax revenues, thereby funding infrastructure projects and supporting social safety net programs. They also strive to create a flexible tax system that imposes a reasonable and effective tax burden to ensure compliance and prevent tax evasion.

The impact of the tax burden on the balance of payments can be summarized as follows:

2.1.3.1 Impact on Aggregate Demand:

The tax burden affects domestic consumption by reducing disposable income, leading to a decrease in overall consumption and aggregate demand, which in turn affects the balance of payments through various mechanisms:

• A decrease in aggregate demand leads to a reduction in income, which in turn reduces imports, mitigating the trade balance deficit.

• A decrease in domestic consumption lowers the demand for local goods, which negatively impacts investment and leads to reduced production. This results in shrinking economies of scale, limiting the price competitiveness of local goods in foreign markets, thus reducing exports and causing a trade deficit.

• An increase in the tax burden raises government revenues, creating a budget surplus. This surplus encourages increased government spending, which raises aggregate demand, income, and consequently imports—especially with high marginal propensities to import—leading to a balance of payments deficit.

2.3.1.2. Impact on Capital Flows and Foreign Direct and Indirect Investment:

As the tax burden increases, the economic environment of the country becomes less favorable and attractive to foreign investments, which tend to prefer tax havens or regions with a lower tax burden. This has a negative effect on the capital account, potentially leading to a deficit. Additionally, a high tax burden may result in reverse capital flows and foreign investments, deepening deficits in the balance of payments due to capital account deficits. Therefore, the relationship between the tax burden index and the balance of payments is expected to be inverse.

2.2. Description of the Mechanism of the Effects of Monetary Policy Instruments on the Balance of Payments:

1.2.2. Theoretical Relationship Between Money Supply and the Balance of Payments:

Monetarists view the balance of payments as a monetary phenomenon rather than a real one. They argue that imbalances in the balance of payments are a result of disruptions in the money market within the national economy. In their view, the relationship between the supply of and demand for money determines the deficit or surplus in the balance of payments.

Monetary policy affects the balance of payments in three ways:

• A rise in the general price level reduces foreign demand for exports while increasing domestic demand for imports, as imports become relatively cheaper than local alternatives. This generates a deficit in the current account.

• The demand for money for transactions increases due to the rise in the value of purchases of goods and services due to rising prices. Moreover, continuous price increases will lead to an increase in the amount of money held for precautionary purposes. Thus, overall demand for money increases, reducing the gap between the supply and demand for money, and the impact of expansionary monetary policy on the national economy and the balance of payments diminishes.

• A rise in the general price level means that real interest rates decline, affecting the balance of payments as previously explained.

In the case of expansionary monetary policy, these effects are observed, while in the case of restrictive monetary policy (reducing money supply), the results will be the opposite.

To understand the effect of one of the monetary policy tools on the balance of payments of developing countries during the study period, an increase in money supply leads to a rise in the general price level and a decline in interest rates, encouraging increased investment. This, in turn, increases income, leading to a rise in aggregate demand and an increase in imports, resulting in a deterioration of the balance of payments. Therefore, the money supply is inversely related to the balance of payments.

2.2.2. Theoretical Relationship Between the Official Exchange Rate and the Balance of Payments:

The relationship between the exchange rate and the balance of payments is not unidirectional. The balance of payments affects the exchange rate, and the exchange rate can also influence the balance of payments. When a country experiences a balance of payments deficit, the demand for foreign currencies rises to cover the deficit, while foreign demand for the local currency decreases, leading to a depreciation of the local currency. Conversely, when there is a surplus, the currency appreciates.

Thus, the balance of payments is closely linked to the supply and demand for the currency and its exchange rate. When the supply of the currency exceeds demand, its value decreases relative to other currencies. This reduction in value encourages exports (due to the lower cost of local goods) and reduces imports, ultimately helping to correct the balance of payments. However, capital flows may also influence the demand for and supply of the national currency, making it difficult to attribute changes solely to trade in goods and services. Therefore, the relationship between the official exchange rate and the balance of payments is expected to be positive.

2.2.3. Theoretical Relationship Between Net Domestic Credit and the Balance of Payments:

When domestic credit provided by commercial banks increases, investment rises, which in turn boosts income and aggregate demand, leading to a rise in imports. This worsens the balance of payments. Therefore, the relationship between net domestic credit and the balance of payments is expected to be inverse.

2.3. Description of the Mechanism of the Effects of Trade Policy Instruments on the Balance of Payments:

1.2.3. Theoretical Relationship Between the Average Tariff Rate and the Balance of Payments:

The impact of imposing tariffs on the balance of payments mainly results from a contraction in imports, which improves the balance of payments. However, the direct reduction in payments may not be the final change in the balance of payments, as a country's imports are another country's exports, and vice versa.

In the event of a balance of payments deficit caused by excessive imports, a country may impose tariffs to raise the price of these products, thus reducing imports and contributing to lowering the deficit. Tariffs can also help maintain the balance of payments by absorbing surpluses from increased exports through higher imports as tariff rates decrease.

However, tariffs may reduce exports through two channels:

1.   Reciprocal treatment of national goods by foreign countries.

2.   Increased costs of national goods due to the higher prices of intermediate goods used in production, especially if the economy is integrated into regional and global production chains.

Thus, lowering tariff rates increases imports by allowing greater international trade freedom. Therefore, the relationship between the average tariff rate and the balance of payments is expected to be positive.

2.2.3. Theoretical Relationship Between the Real Effective Exchange Rate and the Balance of Payments:

Foreign exchange supply comes from various transactions, whether current or capital, that appear on the credit side of the balance of payments and represent non-residents' demand for the national currency. Similarly, the demand for foreign currency represents the supply of the national currency by residents, sourced from various transactions on the debit side of the balance of payments. Therefore, equilibrium in the free exchange market is tied to the balance of payments equilibrium according to the market equilibrium theory.

Changes in the exchange rate correct imbalances in the balance of payments automatically, without the need for holding international reserves. A deficit reflects an excess supply of the local currency in the exchange market, leading to depreciation, which in turn provides a competitive advantage to local goods and services, encouraging exports and reducing imports. This process continues until the deficit is corrected. Similarly, a surplus reflects an excess demand for the national currency, leading to its appreciation. Therefore, the relationship between the real effective exchange rate and the balance of payments is expected to be positive.

3.2.3. Theoretical Relationship Between the Economic Freedom Index and the Balance of Payments:

1.3.2.3. How to Measure the Economic Freedom Index:

The Heritage Foundation, a top Washington research center, has been publishing an annual report on the Economic Freedom Index in collaboration with The Wall Street Journal since 1995. This index provides an overall picture of the economic situation in different countries and is one of the most widely used indicators to measure economic freedom. The index covers over fifty criteria aggregated into twelve quantitative and qualitative sub-indices, used to rank 184 countries: property rights, government integrity, judicial efficiency, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, and financial freedom. The index is scored on a scale from 0 to 100, and countries are classified into five categories in descending order of economic freedom: free, mostly free, moderately free, mostly unfree, and repressed.

2.3.2.3. The Relationship Between Economic Freedom and the Balance of Payments:

Freedom, whether economic, political, or civil, is what economists call "economic institutions." Good institutions are a precondition for economic growth and development. Increased economic freedom generally indicates the presence of "good institutions," which leads to economic growth. In fact, institutions influence macroeconomic activity indirectly by affecting investment or directly by influencing overall labor productivity.

Professor Hall (2011) demonstrated how increased economic freedom leads to higher incomes and economic development over time. When governments allow citizens the freedom to trade, own property, start businesses, and enter contracts, average incomes rise. This trend can be observed globally when comparing countries. Economic freedom is expected to have a positive impact on the balance of payments because it creates an environment where individuals and companies can allocate their resources most efficiently. However, this relationship is empirical.

One of the earliest studies by Easton and Walker (1997) found that changes in economic freedom significantly impact steady-state income levels, even after considering technological levels, workforce education, and investment levels. Another study by de Haan and Sturm (2000) confirmed that positive (or negative) changes in economic freedom lead to positive (or negative) changes in economic growth rates.

According to The Heritage Foundation (2019), countries with higher levels of economic freedom achieve higher rates of economic prosperity, lower poverty rates, cleaner environments, and higher per capita incomes. Therefore, the relationship between the Economic Freedom Index and the balance of payments is expected to be positive.

Expected Sign	Theoretical Relationship	Variable
(-)	Inverse Relationship	Government Spending
Sign is Difficult to	Direct Relationship / Inverse Relationship	Public Debt
(-)	Inverse Relationship	Tax Burden
(-)	Inverse Relationship	Money Supply
(+)	Direct Relationship	Official Exchange Rate
(-)	Inverse Relationship	Net Domestic Credit
(+)	Direct Relationship	Average Customs Tariff Rate
(+)	Direct Relationship	Real Effective Exchange Rate
(+)	Direct Relationship	Economic Freedom Index

Source: Prepared by the researchers based on the aforementioned information.

3. Econometric Study of the Impact of Economic Policies on the Balance of Payments in Developing Countries

3.1 Study Variables (Definition, Data Sources, Sample Definition, and Models Used)

The research methodology involves employing econometric methods to test the validity of the study's hypothesis, which posits that economic policies affect the balance of payments in developing countries. This is achieved through the use of panel data, which has gained significant attention in recent economic studies as it accounts for both time variations and differences between cross-sectional units.

3.1.1 Definition of Study Variables and Data Sources:

The following table outlines the definitions of the study variables and their data sources:

Table (2): Study Variables and Data Sources

Variable	Symbol	Definition and Data Source
Balance of Payments	BP	A statistical statement for a specified period that summarizes in a systematic and organized manner the economic transactions taking place between a given economy and the rest of the world, including: ... (Source: United Nations Conference on Trade and Development (UNCTAD) data: http://unctadstat.unctad.org)
Total government expenditure	G	Includes final consumption expenditure of government (equipment expenditures), as well as all current government expenditures on purchases of goods and services, including employee compensation. It also includes defense and national security expenditures, but excludes military government expenditure that is part of the formation of government capital. It also consists of all government payments with or without consideration that are not repayable, whether for current or capital purposes. (Source: World Bank data: https://databank.albankaldawli.org)
Total public government debt	GGD	Consists of long-term government debt and government-guaranteed debt, long-term private debt that is not guaranteed, and the use of IMF facilities, and includes only reported figures. (Source: IMF data: http://www.imf.org/external/datamapper/datasets/WEO)
Tax burden	TB	An important indicator that reflects the performance of the tax system, which shows the total amount paid or borne by society in taxes during a certain period to finance public activity. Or it is the total taxes actually paid by society, attributed to one of the indicators that indicates the income of society such as: gross domestic product or gross national product, and is calculated: $TB = TR/GDP$. (Source: Economic Freedom Index: https://www.heritage.org/index/visualize)
Broad money supply	MS	Includes money and quasi-money, i.e. the total currency outside banks, demand deposits other than central government deposits, time deposits, savings, foreign currency deposits of resident sectors other than the central government. It is also demand deposits and current public balances with commercial banks, in addition to short-term savings deposits and savings deposits, as well as the total currency circulating outside the banking system. (Source: World Bank data: https://databank.albankaldawli.org)
Official exchange rate	ER	This variable represents the official exchange rate and represents the exchange rate determined by national authorities or the rate determined in the legally permitted exchange market. It is calculated as an annual average based on monthly averages of domestic currency units against the US dollar. (Source: World Bank data: https://databank.albankaldawli.org)

Variable	Symbol	Definition and Data Source
Net domestic credit	NDC	The net credit provided by the banking system to the government, in addition to the credit provided by the banking system to government institutions and agencies and the private sector, including specialized banks. (Source: World Bank data: https://databank.albankaldawli.org)
Economic freedom index	IFE	This variable represents a comparison and measurement of the extent of economic freedom in 184 countries around the world, through four different economic dimensions: enforcement of contracts, size of government, efficiency of regulations and controls, and degree of market openness. This report is issued semi-annually by the Heritage Foundation since 1995 in cooperation with the Wall Street Journal. The aim of this index is to measure economic freedom based on the foundation's definition of it as "the freedom of individuals in a particular region to work, produce, consume, and invest in the way they see fit to make them more productive." From this definition, it is clear that the environment that allows individuals and investors the freedom to choose the activities they can engage in expresses its attractiveness to them and represents an environment of opportunities to achieve their ambitions (a land of opportunity). The 2022 index - the twenty-eighth edition - includes: updated economic freedom scores and macroeconomic data for 184 economies; easy-to-read cross-country comparisons highlighting the importance of economic freedom; online tools such as custom comparison charts and an interactive heat map. (Source: Economic Freedom Index: https://www.heritage.org/index/visualize)
Average tariff rate	TAX	Customs duties are considered one of the most important pricing tools used to regulate foreign trade. They are a tax imposed on goods upon their crossing of the country's national borders, inward in the case of imports and outward in the case of exports. It is generally the case that customs duties are imposed on imports while exports are exempt from all duties. (Source: World Bank data: https://databank.albankaldawli.org)
Real effective exchange rate	ERRE	The real exchange rate expresses the number of units of foreign goods and services required to purchase one unit of domestic goods and services. It is the relative price of goods from different countries when measured in a common currency with the countries concerned. This indicator is considered an indicator for understanding the country's international competitiveness in terms of foreign exchange rates that cannot be understood by examining individual exchange rates between the country's currency and other currencies alone. The term "effective" means that changes in exchange rates are not measured against a specific currency, but rather a weighted average index of a basket of currencies, each weighted according to the importance of the exporting countries as a trading partner. Movements in real effective exchange rates give an indication of the evolution of the overall competitiveness of the country's external prices. (Source: United Nations Conference on Trade and Development (UNCTAD) data: http://unctadstat.unctad.org)

Source: Prepared by the researchers.

3.1.2 Definition of the Study Sample:

The sample for this econometric study consists of 36 selected developing countries from Europe, Asia, Africa, the Americas, and Oceania. These countries are classified in the lower-middle-income group according to the World Bank classification. They were chosen based on the availability of data for the relevant variables throughout the study period. The countries are as follows:

- **17 countries from Africa:** Algeria, Morocco, Tunisia, Egypt, Nigeria, Côte d'Ivoire, Benin, Senegal, Ghana, Tanzania, Cameroon, Kenya, Angola, Eswatini, Comoros, Republic of Congo, Lesotho.

- **11 countries from Asia:** Bangladesh, Bhutan, Cambodia, India, Kyrgyzstan, Mongolia, Myanmar, Nepal, the Philippines, Sri Lanka, Vietnam.

- **4 countries from the Americas:** Bolivia, El Salvador, Honduras, Nicaragua.

- **2 countries from Europe:** Moldova, Ukraine.

- **2 countries from Oceania:** Vanuatu, Solomon Islands.

3.2 Study Model:

The general formula for the model is as follows:

$$BP_{it} = \alpha_i + \beta_1\, G_{i,t} + \beta_2\, GGD_{i,t} + \beta_3\, TB_{i,t} + \beta_4\, MS_{i,t} + \beta_5\, ER_{i,t} + \beta_6\, NDC_{i,t} + \beta_7\, IFE_{i,t} + \beta_8\, TAX_{i,t} + \beta_9\, ERRE_{i,t} + \varepsilon_{it}$$

The following is a description of the mechanism by which the explanatory variables in the model impact the balance of payments, as illustrated in the following figure:

Figure (1): Study Model.
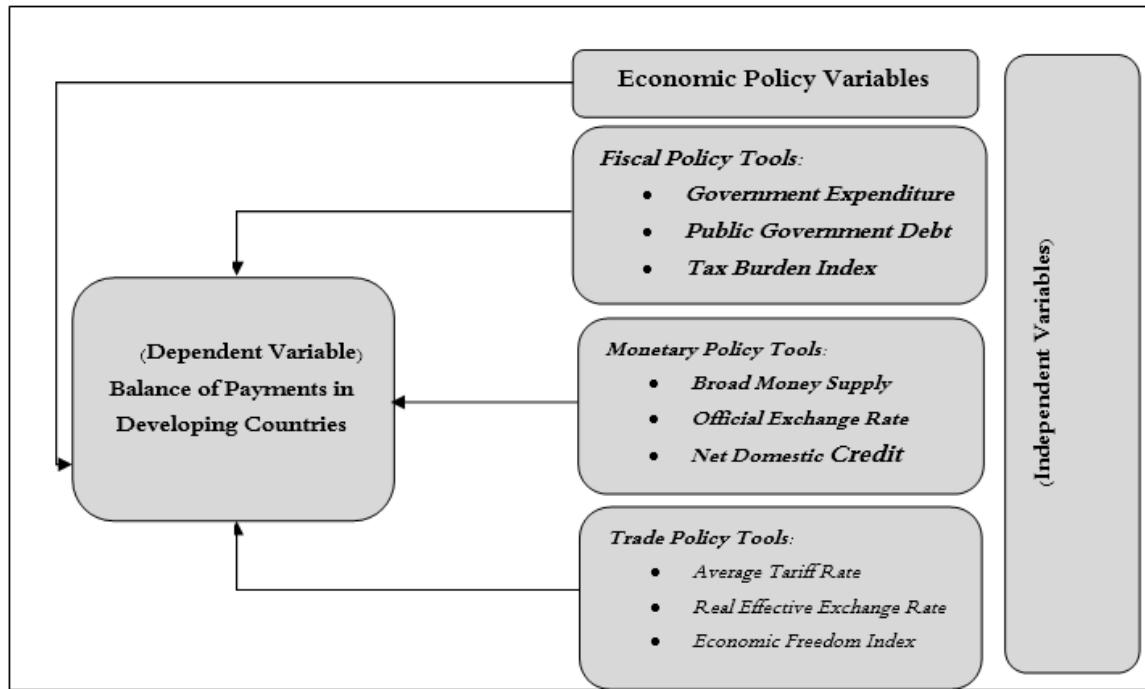
Source: Prepared by the researchers.

3.3. Model Estimation

1.3.3. Descriptive Analysis and Correlation Matrix Between Variables

Before conducting the estimation process, we will introduce tests that are essential and prioritized to validate the study model. These include descriptive statistical tests, which involve a statistical analysis of the sample data specific to the model. Following this, the correlation between the explanatory variables will be examined through an analysis of the correlation matrix.

1.1.3.3. Descriptive Analysis of the Study Variables

Before using any dataset, particularly time series and cross-sectional data, in any study, it must be properly processed (data validation) by subjecting it to various graphical and statistical tests. These tests help uncover its key features and essential statistical properties, providing a clear view of how the behavior of the variables evolves over time.

To build an econometric model that describes and determines the relationship between economic policy tools and the balance of payments in developing countries during the period 2000-2023, we start by analyzing the properties of the study variables. A descriptive analysis of the model variables is conducted to give a general overview of the variables used in the model.

The characteristics of the study variables are recorded in Table (3) below, and the following was observed:

- The dependent variable series (BP) for the balance of payments recorded the highest value of 3.65e+10 USD in Nigeria in 2005, while the lowest value was -9.15e+10 USD in India in 2012.

- The government expenditure series (G) recorded the highest value of 2.77e+12 USD in India in 2018, and the lowest value was 2.80e+08 USD in Vanuatu in 2002.

- The public government debt series (GGD) recorded the highest value of 1.82e+12 USD in India in 2017, and the lowest value was 7.40e+07 USD in Eswatini in 2001.

- The tax burden index series (TB) recorded the highest rate of 97.3% in Vanuatu in 2013 and 2014, while the lowest rate was 48.2% in Lesotho in the years 2011, 2013, and 2017.

- The money supply series (MS) recorded the highest value of 2.25e+12 USD in Moldova in 2007, while the lowest value was 0.9454122 in the Philippines in 2005.

- The official exchange rate series (ER) recorded the highest value of 22602.05 local currency units per USD in Vietnam in 2018, while the lowest value was 0.5449192 local currency units per USD in Ghana in 2000.

- The net domestic credit series (NDC) recorded the highest value of 2.35e+12 USD in Myanmar in 2011, while the lowest value was -2.33e+09 USD in the Democratic Republic of Congo in 2011.

- The average tariff rate series (TAX) recorded the highest rate of 40.91% in Egypt in 2002, while the lowest rate was 0.55% in Eswatini in 2001.

- The real effective exchange rate series (ERRE) recorded the highest value of 854.5046 local currency units per USD in the Democratic Republic of Congo in 2000, while the lowest value was 68.19556 local currency units per USD in Lesotho in 2002.

- The economic freedom index series (IEF) recorded the highest rate of 76.3% in El Salvador in 2002, while the lowest rate was 24.3% in Angola in 2001.

As for the standard deviation (Std.Dev), the table shows that the variables average tariff rate, economic freedom index, tax burden index, and real effective exchange rate have the following values: 5.71, 6.71, 10.18, and 34.31, respectively. This indicates that they have the lowest standard deviation, meaning they are the least dispersed, suggesting that the data for these variables is the most stable in the studied model. On the other hand, the variables balance of payments in developing countries, government expenditure, public government debt, money supply, official exchange rate, and net domestic credit have the largest standard deviation, with values of 8.11e+09, 2.77e+11, 1.85e+11, 2.38e+11, 3080.534, and 2.37e+11,

respectively. This means they are the most dispersed and that their data is highly unstable, varying greatly from one country to another compared to the other model variables.

Additionally, the average tariff rate is responsible for the concentration of the studied population, as this variable has a small standard deviation (5.71) compared to the other variables. Conversely, the variable responsible for the dispersion of the studied population is government expenditure, which has a very large standard deviation (2.77e+11).

Table (3): Descriptive Analysis of the Variables in the Model

Var	Obs	Mean	Std.Dev	Max	Min
BP	864	-8.79e+08	8.11e+09	365e+10	-9.15e+10
G	864	9.19e+10	2.77e+11	2.77e+12	2.80e+08
GGD	864	4.95e+10	1.85e+11	1.82e+12	7.40e+07
TB	864	76.77646	10.18232	97.3	48.2
MS	864	6.33e+10	2.38e+11	2.25e+12	0.9454122
ER	864	831.7027	3080.534	22602.05	0.5449192
NDC	864	6.26e+10	2.37e+11	2.35e+12	-2.33e+09
TAX	864	11.01716	5.719232	40.91	0.55
ERRE	864	111.9352	34.31027	854.5046	68.19556
IEF	864	54.65532	6.719511	76.3	24.3

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

2.1.3.3. Analysis of the Correlation Matrix for the Model Variables

Correlation analysis between the explanatory (independent) variables and the dependent variable was conducted using the Pearson test, as shown in Table (4), which indicates the linear correlation coefficients between the independent variables and the dependent variable:

Table (4): Correlation Matrix Results for the Model Variables.

Correlation Coefficient	BP	G	GGD	TB	MS	ER	NDC	TAX	ERRE	IEF
BP	**1.000**									
G	-0.603	**1.000**								
GGD	-0.634	0.981	**1.000**							
TB	-0.003	0.045	0.02	**1.000**						
MS	-0.552	0.824	0.831	0.045	**1.000**					
ER	0.023	0.008	-0.004	-0.033	-0.065	**1.000**				
NDC	-0.542	0.803	0.81	0.047	0.991	-0.065	**1.000**			
TAX	0.072	0.010	0.028	-0.204	0.045	-0.041	-0.077	**1.000**		
ERRE	0.001	0.117	-0.007	0.127	0.033	0.068	0.043	-0.05	**1.000**	
IEF	-0.029	-0.011	-0.012	0.277	-0.137	-0.095	-0.128	-0.125	-0.119	**1.000**

Source: Prepared by the student based on the outputs of the STATA 15 statistical software.

This test allows us to identify possible pairs of correlations between variables and ensures that the model used is free from issues that might arise during estimation. The correlation coefficient, known as the Pearson Correlation Coefficient, is a measure that ranges from -1 to +1, indicating the presence and direction of a linear relationship between two variables as follows:

- (+1) indicates a perfect positive relationship;

- (-1) indicates a perfect negative relationship;

- A value closer to 1 signifies a stronger correlation, while a value closer to 0 indicates a weaker correlation. A value of 0 means no relationship, and a value of 1 indicates a perfect positive relationship.

From this table, we observe the following results for the correlation matrix between the explanatory variables listed in the study models:

- The dependent variable, Balance of Payments, has a very weak positive correlation with the following variables: Official Exchange Rate, Average Tariff Rate, and Real Effective Exchange Rate, with correlation coefficients of 0.0231, 0.0727, and 0.0018, respectively.

- The dependent variable, Balance of Payments, shows a strong negative correlation with the following variables: Government Expenditure, Public Government Debt, Money Supply, and Net Domestic Credit, with correlation coefficients of -0.6038, -0.6347, -0.5524, and -0.5427, respectively. Conversely, the Balance of Payments shows a very weak negative correlation with the Tax Burden Index and the Economic Freedom Index, with correlation coefficients of -0.0038 and -0.0291, respectively.

Additionally:

- Public Government Debt has a very strong positive correlation with Government Expenditure, with a correlation coefficient of 0.9819, indicating a problem of endogeneity.

- The Tax Burden Index has a very weak positive correlation with Government Expenditure and Public Government Debt, with correlation coefficients of 0.0457 and 0.0237, respectively.

- Money Supply has a very strong positive correlation with Government Expenditure and Public Government Debt, with correlation coefficients of 0.8242 and 0.8314, respectively, while it has a very weak positive correlation with the Tax Burden Index, with a coefficient of 0.0457.

- The Official Exchange Rate has a very weak positive correlation with Government Expenditure (0.0008) and a very weak negative correlation with Public Government Debt, Tax Burden Index, and Money Supply, with coefficients of -0.0047, -0.0335, and -0.0656, respectively.

- Net Domestic Credit has a very strong positive correlation with Government Expenditure, Public Government Debt, and Money Supply, with correlation coefficients of 0.8034, 0.8109, and 0.9916, respectively. It also has a very weak positive correlation with the Tax Burden Index (0.0474) and a very weak negative correlation with the Official Exchange Rate (-0.0658).

- The Average Tariff Rate has a very weak positive correlation with Government Expenditure and Public Government Debt, with correlation coefficients of 0.0104 and 0.0283, respectively. It has a very weak negative correlation with Money Supply, Official Exchange Rate, and Net Domestic Credit, with coefficients of -0.0455, -0.0412, and -0.0772, respectively, and a weak negative correlation with the Tax Burden Index (-0.2045).

- The Real Effective Exchange Rate has a very weak positive correlation with Government Expenditure, Tax Burden Index, Money Supply, Official Exchange Rate, and Net Domestic Credit, with coefficients of 0.0117, 0.1297, 0.033, 0.0685, and 0.0431, respectively. It has a very weak negative correlation with Public Government Debt and Average Tariff Rate, with coefficients of -0.0017 and -0.0507, respectively.

- The Economic Freedom Index has a weak positive correlation with the Tax Burden Index (0.2779) and a very weak negative correlation with Government Expenditure, Public Government Debt, Money Supply, Official Exchange Rate, Net Domestic Credit, Average Tariff Rate, and Real Effective Exchange Rate, with coefficients of -0.0114, -0.0129, -0.1370, -0.0953, -0.1288, -0.1252, and -0.1198, respectively.

From the correlation matrix study between the independent study variables and the dependent variable, it is evident that there is no perfect correlation between the variables, as the correlation coefficients do not equal -1 or +1, suggesting the absence of a perfect correlation.

2.3.3. Estimating the Impact of Economic Policy Tools on the Balance of Payments

To achieve the objective of estimating the study model and thus understand the impact of economic policies on the Balance of Payments in developing countries during the period 2000-2023, panel data methodology was used by applying three models: Pooled Regression Model, Fixed Effects Model, and Random Effects Model.

1.2.3.3. Estimation of Panel Models

STATA 15 was used to estimate these models to model the impact of economic policy tools on the Balance of Payments. The results of estimating the three panel data models are as follows:

- **Pooled Regression Model Estimation**: Table (5) shows the results of estimating the Pooled Regression Model for the panel data of the study model as follows:

Table (5): Results of Estimating the Impact of Economic Policies on the Balance of Payments Using the Pooled Regression Model.

Period: N=36N = 36N=36	Observations: 864=36×24864	T=24T = 36 \times 24T=24,	2000-2023 observations
Total Panel		= 36	864=36×24
			Degrees of Freedom (df): (11,672)(11,672)(11,672)

Probability	t-Statistic	Coefficient	Study Variables
0.965	0.04	1.21e+08	• Constant (C)
0.000	3.80	0.174176	• Government Spending (G)
0.000	-7.13	-0.0499664	• General Government Debt (GGD)
0.242	1.17	2.95e+07	• Tax Burden Index (TB)
0.452	-0.75	-0.0064176	• Money Supply (MS)
0.667	0.43	33723.64	• Official Exchange Rate (ER)
0.695	0.39	0.0031854	• Net Domestic Credit (NDC)
0.002	3.16	1.40e+08	• Average Tariff Rate (TAX)
0.556	-0.59	-4192068	• Real Effective Exchange Rate (ERRE)
0.124	-1.54	-6.00e+07	• Economic Freedom Index (IEF)
Statistical Results:			
0.0000	F Statistic	56.00	• Overall Statistics
0.4202	Adjusted Coefficient of Determination	0.4278	• Coefficient of Determination

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

b. Estimation of the Fixed Effects Model: The impact of economic policies on the Balance of Payments in developing countries for the period 2000-2023 was estimated using the Fixed Effects Model, as shown in Table (6):

Table (6): Results of Estimating the Impact of Economic Policies on the Balance of Payments Using the Fixed Effects Model.

			☐ Period: N = 36, T = 24, 2000–2023
			☐ Total Panel Observations: 864 = 36 × 24 observations
			☐ Degrees of Freedom (df): (11,672)

Prob	t-Statistic	Coefficients	Study Variables
0.494	-0.69	-2.92e+09	• Constant (C)
0.000	-6.77	-0.0462531	• Government Spending (G)
0.004	2.91	0.314669	• General Government Debt (GGD)
0.076	-1.78	-6.97e+07	• Tax Burden Index (TB)
0.516	-0.65	-0.0092963	• Money Supply (MS)
0.004	2.87	1233004	• Official Exchange Rate (ER)

0.491	0.69	0.0092731	•	Net Domestic Credit (NDC)
0.664	0.44	2.99e+07	•	Average Customs Tariff Rate (TAX)
0.505	0.67	4445662	•	Real Effective Exchange Rate (ERRE)
0.017	2.39	1.51e+08	•	Economic Freedom Index (IEF)
Statistical Results:				
0.0000	F statistics	34.79	•	Overall Statistic
0.58240077	Ratio of the variance of uuu to the total variance of the residuals (roh) $Roh= \sigma_u^2/(\sigma_u^2+\sigma_v^2)$	Within= 0.3289 Between= 0.2957 Overall= 0.2522	•	Coefficient of Determination (R-squared)
5.382e+09	Standard deviation v ﻠــ (sigma_e)	6.356e+09	•	Standard Deviation of uuu (sigma_u)
0.0000	Prob>F	7.12		(Poolability) Poolability test F(35,639)

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

c. Random Effects Model: The impact of economic policies on the Balance of Payments in developing countries was estimated using the Random Effects Model, as shown in Table (7):

Table (7): Results of Estimating the Impact of Economic Policies on the Balance of Payments Using the Random Effects Model.

Period: N=36N = 36N=36, T=24T = 24T=24, 2023–2000 Total panel observations: 864=36×24864 = 36 \times 24864=36×24 observations Degrees of freedom (df): (11,672)			
Prob	**t-Statistic**	**Coefficients**	Study Variables
0.844	-0.20	-5.84e+08	• Constant (C)
0.094	1.68	0.0083542	• Government
0.000	-4.96	-0.0378025	• General
0.410	0.82	2.26e+07	• Tax Burden Index
0.515	-0.65	-0.0061236	• Money Supply
0.552	0.60	54186.24	• Official Exchange
0.717	0.36	0.0032298	• Net Domestic
0.001	3.22	1.53e+08	• Average Customs
0.748	-0.32	-2263991	• Real Effective
0.340	-0.95	-4.07e+07	• Economic
Statistical Results:			
0.0000	F statistics	34.79	• Overall Statistic
0.02295837	Ratio of the variance of uuu to the total variance of the residuals (roh) $Roh= \sigma_u^2/(\sigma_u^2+\sigma_v^2)$	Within= 0.2354 Between= 0.7412 Overall= 0.4239	Coefficient of Determination (R-squared)
5.382e+09	الانحراف المعياري v ﻠــ (sigma_e)	8.250e+08	Standard Deviation for u (sigma_u)

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

2.2.3.3. Model Selection Tests for the Study Panel Models: After estimating the three panel data models, the following section will compare them and select the most appropriate one.

a. Comparison Test Between the Pooled Regression Model and the Random Effects Model:
To determine the suitable model for analyzing the data of this study, the Poolability Test and the Lagrange Multiplier (LM) Test were used to compare the Pooled Regression Model with the Random Effects Model. The results of the test are shown in Table (8), where we observe that the value $[V(u) \neq 0]$ is 48.71, as indicated in the table under [chi-square], with a probability (prob=0.0000). This result leads to rejecting the null hypothesis (the Pooled Regression Model is suitable) and accepting the alternative hypothesis (the Random Effects Model is suitable).

Table (8): Results of Estimating the Breusch and Pagan Lagrangian Multiplier Test for Random Effects.

	Lagrangian Multiplier Test for Random Effects.	
p-) Test porobablity (value	Value of the test [chi-square]	Test
0.0000[*]	**48.71**	**Breusch and Pagan**

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

(*) Significance of the test at the 5% level.

b. Results of the Hausman Test for Comparing the Fixed Effects Model and the Random Effects Model:
When considering individual effects in the model, the nature of these effects must be examined to determine whether they are random (Random Effects Model) or fixed (Fixed Effects Model). The first step in this analysis is to identify the type of effects used for the parameter. Although standard texts suggest that Fixed Effects are more appropriate for cross-sectional data across countries, this must be verified using the Hausman Test.

This test is used to choose the appropriate model between Fixed Effects and Random Effects. The results of the test, as shown in Table (9), indicate the rejection of the null hypothesis and acceptance of the alternative hypothesis that the Fixed Effects Model is appropriate for the study model. This is based on the test's p-value of 0.0363, which is less than the specified significance level of 0.05. Thus, the Random Effects Model is not suitable for estimating the impact of economic policies on the Balance of Payments in developing countries under study.

Rejecting the Random Effects Model means rejecting the hypotheses it was based on. In other words, the hypothesis of random intercepts being added to each segment's random effect is rejected, while the hypothesis of varying intercepts from one segment to another or from year to year is accepted. This indicates a correlation between country-specific effects and explanatory variables, making Fixed Effects the more appropriate and better model for the study of the impact of economic policies on the Balance of Payments in developing countries.

Table (9): Results of the Hausman Test for Comparing the Fixed Effects and Random Effects Models.

p-) Probability test (value	**[chi-square] Value of the test (b-v)' [(v_b-v_B) ^ (-1)](b-B)**	**test**
0.0363[*]	**11.89**	**H-Test**

Source: Prepared by the researchers based on the outputs of the STATA 15 statistical software.

(*) Significance of the test at the 5% level.

c. Estimation of Model Parameters Using the Fixed Effects Model:

By performing the standard analysis of the Fixed Effects Model using the Least Squares Dummy Variable (LSDV) method, and considering the full sample of 36 countries over the period 2000-2023, the results presented in Table (6) reveal a relationship between economic policy tools and the Balance of Payments of developing countries. Despite the existence of this relationship, its strength is limited due to the insignificance of some tools representing the nature of the economic

policies pursued by policymakers across the entire sample. We will estimate the model parameters using the Fixed Effects Model:

The mathematical formulation of the model can be written as follows:

$$= \beta_1 + \beta_2\ G_{i,t} + \beta_3\ GGD_{i,t} + \beta_4\ TB_{i,t} + \beta_5\ MS_{i,t} + \beta_6\ ER_{i,t} + \beta_7\ NDC_{i,t} + \beta_8\ TAX_{i,t} + \beta_9\ ERRE_{i,t} + \beta_{10}\ IFE_{i,t} + \varepsilon_{it}$$

$$t = 1,2\ldots\ldots\ldots, 24 \qquad , \qquad i = 1,2\ldots\ldots\ldots, 36$$

By substituting the parameter values indicated in Table (6) into the previous equation, we obtain the following equation for the model estimating the impact of economic policies on the Balance of Payments in developing countries using Fixed Effects for panel data:

-0.0462531 + 0.314669 - 6.97e+07 - 0.0092963 + 1233004 + 0.0092731 + 2.99e+07 + 4445662 + 1.51e+08

271717171717171717171717171717171717171717171717171717171717171717

17171717171717171717171717171717171717171717171717171717171717171717

17171717171717171717171717171717171717171717171717171717171717171717

$$1717171717171717171717171717171717171717 + \varepsilon_{it}\ldots\ldots\ldots(00)$$

$$t = 1,2\ldots\ldots\ldots, 24 \qquad , \qquad i = 1,2\ldots\ldots\ldots, 36$$

4. Results and Discussion:

1.4. Statistical Analysis:

Analyzing the estimated coefficients from Table (6), we summarize the following:

1.1.4. Significance of the Coefficients:

- Government spending (G) has a negative impact on the dependent variable, Balance of Payments (BP), with statistical significance, as the coefficient probability (prob=0.0000) is less than the specified significance level of 0.05. This indicates an inverse relationship between the two variables, where an increase in government spending by one unit results in a decrease in the Balance of Payments for developing countries under study by 0.0462531.

- Public debt (GGD) has a positive impact on the dependent variable, Balance of Payments (BP), with statistical significance, as the coefficient probability (prob=0.004) is less than the specified significance level of 0.05. This indicates a direct relationship between the two variables, where an increase in public debt by one unit results in an increase in the Balance of Payments for developing countries under study by 0.0314669.

- The tax burden index (TB) has a negative impact on the dependent variable, Balance of Payments (BP), with statistical significance, as the coefficient probability (prob=0.076) is less than the 0.1 significance level. This indicates an inverse relationship between the two variables, where an increase in the tax burden index by one unit results in a decrease in the Balance of Payments for developing countries under study by 6.97e+07.

- Money supply (MS) has a negative impact on the dependent variable, Balance of Payments (BP), but is not statistically significant, as the coefficient probability (prob=0.516) is greater than the specified significance level of 0.05. This suggests an inverse relationship between the two variables, where an increase in the money supply by one unit results in a decrease in the Balance of Payments for developing countries under study by 0.0092963.

- The official exchange rate (ER) has a positive impact on the dependent variable, Balance of Payments (BP), with statistical significance, as the coefficient probability (prob=0.004) is less than the specified significance level of 0.05. This indicates a direct relationship between the two variables, where an increase in the official exchange rate by one unit results in an increase in the Balance of Payments for developing countries under study by 1233004.

- Net domestic credit (NDC) has a positive impact on the dependent variable, Balance of Payments (BP), but is not statistically significant, as the coefficient probability (prob=0.491) is greater than the specified significance level of 0.05. This suggests a direct relationship between the two variables, where an increase in net domestic credit by one unit results in an increase in the Balance of Payments for developing countries under study by 0.0092731.

• The average tariff rate (TAX) has a positive impact on the dependent variable, Balance of Payments (BP), but is not statistically significant, as the coefficient probability (prob=0.664) is greater than the specified significance level of 0.05. This suggests a direct relationship between the two variables, where an increase in the average tariff rate by one unit results in an increase in the Balance of Payments for developing countries under study by 2.99e+07.

• The real effective exchange rate (ERRE) has a positive impact on the dependent variable, Balance of Payments (BP), but is not statistically significant, as the coefficient probability (prob=0.505) is greater than the specified significance level of 0.05. This suggests a direct relationship between the two variables, where an increase in the real effective exchange rate by one unit results in an increase in the Balance of Payments for developing countries under study by 4445662.

• The economic freedom index (IEF) has a positive impact on the dependent variable, Balance of Payments (BP), with statistical significance, as the coefficient probability (prob=0.017) is less than the specified significance level of 0.05. This indicates a direct relationship between the two variables, where an increase in the economic freedom index by one unit results in an increase in the Balance of Payments for developing countries under study by 1.51e+08.

2.1.4. Model Fit Quality Test:

Based on the R-squared and F-test values presented in Table (6), we summarize the following:

• The overall R-squared value (0.2522) is low, indicating that the explanatory variables—government spending, public debt, tax burden index, money supply, official exchange rate, net domestic credit, average tariff rate, real effective exchange rate, and economic freedom index—explain 25.22% of the variation in the Balance of Payments for the developing countries under study. The remaining 74.78% is explained by other variables not included in the model, suggesting a moderate fit quality of the model.

• The Fisher F-value is 34.79 with a probability of 0.000, which is less than the specified significance level of 0.05, indicating that the regression is significant. This means there is a relationship between the independent variables included in the model and the dependent variable, demonstrating the overall significance and measurement capability of the model.

• The statistic (roh), representing the proportion of the variance of u to the total variance of the residuals, equals 0.58. The poolability test for distinguishing between the Pooled Regression Model (PRM) and the Fixed Effects Model (FEM) indicates:

o Null Hypothesis: Pooled Regression Model (PRM) is preferred.

o Alternative Hypothesis: Fixed Effects Model (FEM) is preferred.

The poolability test result (Prob=0.000) is less than 0.05, leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis, confirming that the Fixed Effects Model (FEM) is more appropriate. This finding supports the Hausman test results.

2.4. Economic Analysis:

The economic analysis of the coefficients estimated in Table (6) can be summarized as follows:

• The coefficient of government spending (g = -0.0465231) is negative, indicating an inverse relationship between the Balance of Payments (BP) and government spending. This aligns with economic theory, as increased government spending may lead to a deficit in the Balance of Payments due to higher demand for goods and services exceeding domestic production.

• The coefficient of public debt (ggd = 0.0314669) is positive, indicating a direct relationship between the Balance of Payments (BP) and public debt. This aligns with economic theory if public debt contributes to increased investment and GDP growth, improving the Balance of Payments, provided that the inflow of funds exceeds the outflow of interest and repayments.

• The coefficient of the tax burden index (tb = -6.97e+07) is negative, indicating an inverse relationship between the Balance of Payments (BP) and the tax burden index. This suggests that a higher tax burden may discourage foreign investment and affect capital flows, potentially leading to a Balance of Payments deficit.

- The coefficient of the official exchange rate (er = 1233004) is positive, indicating a direct relationship between the Balance of Payments (BP) and the official exchange rate. This supports the economic theory that an increase in the exchange rate positively affects the Balance of Payments.

- The coefficient of the economic freedom index (ief = 1.51e+08) is positive, indicating a direct relationship between the Balance of Payments (BP) and the economic freedom index. This aligns with economic theory.

- The coefficient of money supply (ms = -0.0092963) is negative but not statistically significant, suggesting no substantial effect on the Balance of Payments under current policies.

- The coefficient of net domestic credit (ndc = 0.0092731) is positive but not statistically significant, indicating no substantial effect on the Balance of Payments under current policies.

- The coefficient of the average tariff rate (tax = 2.99e+07) is positive but not statistically significant, suggesting no substantial effect on the Balance of Payments under current policies.

- The coefficient of the real effective exchange rate (erre = 4445662) is positive but not statistically significant, suggesting no substantial effect on the Balance of Payments under current policies.

5. Conclusion:

The Balance of Payments reflects the desired economic state and any imbalances can negatively affect the national economy. Continued deficits may lead to a depletion of foreign reserves and external debt, limiting the country's credit capacity and necessitating external adjustments, often with adverse effects on the economy. Persistent surpluses can lead to the freezing of part of the national income in idle assets, which can also negatively impact the national economy. Governments should aim to balance the Balance of Payments.

Fiscal, monetary, and trade policies are crucial for state intervention in economic activities. By using monetary variables such as money supply and exchange rates, along with financial variables like government spending, public debt, and tax policy, governments can influence and guide economic activity. These policies also address and restore internal and external economic imbalances.

Hypothesis Testing: The study hypothesis states, "Coordinated economic policies can achieve simultaneous and contradictory economic goals, such as achieving a trade surplus while maintaining a surplus in the capital account through expansionary fiscal and monetary policies and a restrictive trade policy." The hypothesis is correct, as it demonstrates that coordinating economic policies can effectively manage the Balance of Payments. The combination of financial, monetary, and trade policy tools can impact the trade balance, current account, and capital account.

The study revealed that the impact of variables such as broad money supply, net domestic credit, average tariff rate, and real effective exchange rate is not statistically significant, indicating no substantial effect on the Balance of Payments for the developing countries under study with the current policy mix. Further research could explore different policy combinations and their effects on the Balance of Payments.

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