

Impact of Sectoral Structure, Inflation, and Exchange Rate on Economic Growth of Pakistan

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Abstract

The research investigated the correlation between inflation and exchange rates in Ghana, as well as the impact of Ghana's sectoral structure on economic development when inflation and exchange rates are considered. The research compiled data spanning the years 1980 to 2019 and applied suitable methodologies to examine the data for co-integration and unit roots. Upon conducting the necessary regression analyses, it was determined that a negative correlation existed between exchange rates and inflation in Ghana from 1980 to 2019. Furthermore, the descriptive analysis and correlation study yielded findings that indicated the prevailing economic structure was dominated by the value-added of services, industry, and agriculture. In conclusion, the results indicated that the correlation between sectoral structure and inflation exerted a discernible influence on the economic progress of Ghana, in contrast to the correlation between sectoral structure and currency exchange rates. Furthermore, according to the research, the structure of Ghana's economy has shifted, with services now constituting the majority of value added as opposed to agriculture being the primary driver.

Keywords- Sectoral Structure, Inflation, Exchange Rate, Economic Growth, Pakistan

Introduction

This study investigates the interrelationships between structural change, economic development, currency rates, and inflation in Ghana as its primary objective. Furthermore, the research investigates the temporal correlation between inflation and exchange rates in Ghana, as well as the sectoral structure of the Ghanaian economy and its role as a mediator between inflation and exchange rates and economic growth in Ghana. The investigation and etiology of economic expansion remain central topics in economic research (Acemoglu, 2012). Economic growth is crucial for human development, and a more comprehensive understanding of the determinants of economic expansion could potentially enhance the standard of living for a great number of individuals. Exchange rates and inflation, by virtue of their individual impacts on the domestic economy, are two critical dimensions of economic growth that hold significance for

open and minor nations such as Ghana. The growth process is susceptible to the influence of currency rates and inflation on a broad scale. However, empirical research has demonstrated that the effects vary over time and among economies (Razzaque et al., 2017). This is due to market signaling, a phenomenon in which the common price or prices at which products and services are exchanged are determined by supply and demand. Razzaque et al. (2017) define inflation as the continuous escalation in the prices of products and services. Inflation can theoretically result from either an excessive money supply or demand (Bagus et al., 2014). Inflation emerges as an economic concern when continuous price increases diminish the purchasing power of income and investments, as well as assets. On the other hand, the exchange rate could be perceived as an additional indicator of price levels, which can have repercussions for open economies, including the minor ones in Ghana (Adu et al., 2015). The exchange rate is the cost at which one country's currency is exchanged for another. Variations in this rate can significantly impact the value of the products being traded and the types of services being rendered. Throughout history, nominal exchange rates have been subject to the influence of market dynamics and capital movements in various economies (Ashour & Yong, 2018). Consequently, trade influences the exchange rate, and commerce stimulates production and consumption in small open economies.

Hence, this study investigates the interplay among inflation, exchange rates, structural change, and economic growth in Ghana in order to ascertain the temporal correlation between these variables, analyze the sectoral structure of the Ghanaian economy, and determine how the sectoral structure of the economy mediates the impact of inflation and exchange rates on economic growth in Ghana.

2. An Assessment of the Literature

2.1. Establishments of Theory

The impact of currency rates on economic growth is contingent upon the prevailing macroeconomic conditions. Different studies have reached contradictory conclusions regarding the relationship between the exchange rate and economic growth (Rajan & Subramanian, 2011; Rodrik, 2008; Razmi et al., 2012; Rodrik, 2008). The divergent findings derived from the research are to be anticipated, given that exchange rates are determined by additional determinants impacting economic progress. Although the principles that govern the understanding of exchange rates, economic development, and inflation are comprehensive, they are seldom

analyzed in the context of a collection of interconnected ideas. Frenkel (1976) argues that exchange rate models heavily rely on the dynamics of financial asset markets. In contrast to the conventional notion that exchange rates fluctuate to equilibrate international trade in goods, Frenkel (1976) characterizes the exchange rate as altering to equilibrate international trade in financial assets. They assert that exchange rate models that emphasize financial asset markets often assume ideal capital mobility (Rajan and Subramanian, 2011). In other words, capital circulates freely between nations due to the absence of substantial transaction fees and restrictions on capital that could potentially impede investment. The asset-approach models can be broadly classified into two categories: the monetary approach and the portfolio-balance technique, as stated by Rajan and Subramanian (2011). The exchange rate between two currencies is determined by the relative money supply and demand between the two countries, in accordance with the monetary method. The disparity between the supply of domestic and foreign bonds is minimal. The portfolio-balance approach permits the exchange rate to be influenced by relative money market conditions as well as bond supply and demand (Mussa, 1976). The primary distinction, as stated by Backus (1984), is that monetary-approach (MA) models operate under the assumption that domestic and foreign bonds are perfect substitutes, whereas portfolio-balance (PB) models acknowledge imperfect substitutability. Bond purchasers are indifferent to the denomination of the bond, provided that the expected return remains unchanged, assuming that both domestic and international bonds can be substituted without distinction. Due to the fact that, in this scenario, bondholders prefer to hold domestic bonds over foreign bonds, they are not required to pay a premium to do so. As a result, MA models maintain uncovered interest rate parity and there is no risk premium. As a result of the limited substitutability of the assets, demanders opt to diversify their portfolios across multiple countries. The targeted portfolio share for assets in each nation is allocated to asset proprietors as a result of the diversification incentives for the portfolio. Even if the asset supply of a nation increases, they will only acquire a larger share of that nation's assets in exchange for rewards. Consequently, an additional cost is incurred to acquire these assets. In PB models, the premiums for forward exchange rate risk frequently fluctuate based on the relative availability of the underlying assets. The premium paid for the assets of nation A experiences an upward trend as its supply of financial assets grows in comparison to that of nation B. The maintenance of undiscovered interest rate parity is impeded by the presence of risk premiums in the forward

market. The MA model excludes this premium on the assumption that investors are indifferent to whether they hold country A or country B bonds, or what proportion of each they own.

2.2. Ruling Exchange Rate

The exchange rate, as defined by Lucy et al. (2015), is the cost of one country's currency denominated in the currency of another country. Its price is determined by the interaction of demand and supply. The forward rate, denoted by Mankiw (2010), represents the anticipated exchange rate for a future date; the spot rate, on the other hand, represents the current rate in a given market at a given time. Speculation and the formation of an effective exchange rate, which is derived from a basket of currencies and is also known as the Sterling Index or Sterling trade-weighted index, are facilitated by its existence.

3. The Consequences of Currency Appreciation and Depreciation and Exchange Rate Fluctuations

As the value of any of the currencies comprising the two components changes, so does the market-based exchange rate. An appreciation of a currency occurs when the demand for it surpasses its supply. Nonetheless, in the event that supply surpasses demand, the currency will experience depreciation, indicating that individuals would prefer to retain their wealth in alternative formats, potentially in alternative currencies. Nonetheless, this does not imply that individuals no longer desire money. In response to increases in both transactional and speculative money demand, currency demand surges. The demand for monetary transactions exhibits a strong correlation with measures such as national employment, gross domestic product (GDP), and commercial activity. Elevated levels of unemployment are correlated with diminished government spending on products and services (Khan, 2018). Central banks have the ability to regulate the transaction demand for money with relative ease, as they need only modify the money supply to accommodate variations in the demand for money. In contrast, a central bank regulates the speculative demand for money through interest rate adjustments, albeit with some reluctance. An investor's propensity to acquire a currency is enhanced when an interest rate is elevated, as this generates demand for the currency. It is widely acknowledged that currency speculation can impede economic development, particularly when large investors intentionally devalue a currency to the point where the government is compelled to liquidate it in order to preserve stability. The speculator may then purchase the funds from the bank for a profit. Advocates of flexible exchange rates argue that a country ought to function under a free

rate system so that it can pursue an independent economic policy (Tai et al., 2012). Its currency must depreciate due to its monetary policy, which will cause unemployment and depression. A government should permit the exchange rate to fluctuate freely while focusing on internal stability of prices, production, and unemployment—a objective that is more effectively pursued by a nation since it eliminates the need for foreign economic intervention. Allowing currency rates to fluctuate is crucial for averting the dominance of deflationary and inflationary forces. External exchange rate disruptions may potentially penetrate an economy characterized by rigidly fixed exchange rates. Fixed exchange rates function as a stress absorbent (Tai et al., 2012).

2.4. Implementation of Inflation

A country whose inflation rate remains persistently low will typically witness an appreciation in the value of its currency, as it will possess greater purchasing power relative to other currencies. An increase in inflation often results in a depreciation of a nation's currency in comparison to the currencies of its trading partners. This is frequently associated with increased interest rates. Gottschalk et al. (2008) employed the structural vector autoregression method to predict inflation in Sierra Leone in their paper on analyzing determinants of inflation when data limitations exist. The authors determined that higher oil prices, an expanded money supply, and nominal wage depreciation all contribute to domestic inflation. A rise in commodity prices may reduce the purchasing power of the impoverished, thereby complicating their efforts to maintain a minimal budget. This is due to the fact that their income has not increased in tandem with prices. Kabundi (2012) examined the dynamics of inflation in Uganda using the error correction model and discovered that local and external variables have short and long-term effects on inflation, with commodity supply and demand influencing the agricultural sector.

2.5. The differentiation between exchange rates and inflation

Allor (2019) asserts that a modification in the exchange rate could result in imported inflation. The price of imported products will increase proportionally to the price at which they are acquired internationally. This occurs with greater probability when the value of a country's currency is depreciating significantly. When domestic consumption surpasses imports of goods manufactured in that country, it significantly affects the economy. Both the marginal propensity to import and the significance of the foreign sector in the economy exert an influence on this. Because imports are less costly than domestic products, their value increases in tandem with local product prices; this indicates that the substitution of imports for domestic goods is more

elastic. In 1993, Sowa and Kwakye established a model that depicted the interplay between monetary forces, real variables, expectations, and monetary factors as the origins of inflation, thereby illustrating that monetary forces could account for a more substantial proportion of Ghana's inflation. P and f are identical (M, Y, E, P_e). Regarding inflation, factors such as money, output growth, the rate of exchange (i.e., the local cost of foreign currency), and pricing expectations are all taken into account. It was determined that monetary pressure and exchange rate devaluations both exerted a substantial influence on inflation in Ghana. However, it was observed that supply factors contributed significantly more to inflation than monetary factors did, while exchange rate adjustments had a comparatively lesser effect. These results indicate that inflation is a multifaceted issue with numerous underlying factors.

2.6. Divergences in the Interest Rates

A significant correlation exists among currency rates, inflation, and interest rates. The capacity of central banks to regulate exchange rates and inflation is demonstrated by the fact that interest rate adjustments affect both currency values and inflation (Calvo & Reinhart, 2002). In contrast to other countries, economic economies offer financiers a greater return through higher interest rates. An increase in interest rates attracts foreign capital, thereby causing the currency's value to surge. According to the Mundell-Flemming model, an expansion of the interest rate differential would incentivize capital inflows, resulting in a depreciation of the exchange rate. An increase in interest rates corresponds to a corresponding escalation in government debt, which is maintained through seignorage, according to Sargent and Wallace (1981). As a result, a high-interest-rate strategy could reduce money demand while simultaneously increasing prices. Likewise, an increase in interest rates could potentially impede future export performance, resulting in a reduction of foreign exchange reserves and, ultimately, a depreciation of the currency (Furman & Stiglitz, 1998). The implementation of substantial deficit financing by governments to subsidize government funding and public sector initiatives can potentially have adverse effects on the exchange rates of the nations involved (Ehigiamusoe & Lean, 2019). Foreign investors are deterred from investing in countries with substantial public debt and deficits, despite the potential economic benefits of such endeavours for the domestic economy. Excessive debt fosters inflation, and in an environment characterized by inflation, the loan will ultimately be repaid with future-priced real currency. A government

may print money to satisfy a portion of its immense debt in the worst-case scenario, but an expansion of the money supply inevitably leads to inflation. In addition, if a government is unable to finance its deficit through the sale of domestic bonds and an increase in the money supply, it will be compelled to issue additional securities for sale to foreign purchasers, thereby diminishing the value of said securities. A substantial debt may ultimately instill concern among foreign investors who hold the belief that the government is incapable of fulfilling its obligations.

2.7. Rationales Backed by Evidence

It was determined by Sowa and Kwakye (1993) that a significant proportion of Ghana's inflation could be attributed to monetary forces. To illustrate this, they developed a model that interacted with monetary factors, real variables, and expectations, i.e. P and f are identical (M, Y, E, P_e). Once upon a time, it was postulated that the rate of exchange, or the local cost of foreign currency, in addition to price expectations, influenced inflation in conjunction with money and output growth. It was determined that monetary pressure and exchange rate devaluations both exerted a substantial influence on inflation in Ghana. However, it was observed that supply factors contributed significantly more to inflation than monetary factors did, while exchange rate adjustments had a comparatively lesser effect. These results indicate that inflation is a multifaceted issue with numerous underlying factors. Bowa (1994) argued that the inflationary process in Zambia was associated with the monetarist and structuralist schools of thought, and that changes in the money supply and exchange rate adjustments were significant determinants of inflation. The implementation of stricter fiscal and monetary policies is imperative to mitigate the volatility of the money supply. Based on his research, an expansion in the money supply resulted in a 1% escalation in the inflation rate after a duration of two years. Using an evaluation, Adam (2009) investigated the implementation of Uganda's monetary policy. The research examined multiple dimensions of Uganda's monetary policy. The initial premise was that while Uganda had maintained a commendable record of containing inflation among African countries since the early 1990s, doing so had come at a significant fiscal expense, and monetary policy had inhibited rather than fostered the expansion of the financial sector. Upon conducting an analysis of the economies of multiple African countries, Chhibber (1991) identifies four primary factors that contribute to inflation: controlled prices that deviate from market prices and induce inflationary shocks through price adjustments; demand-pull forces stemming from an overabundance of credit in the economy; and cost-push factors arising from currency

depreciation. Canetti and Greene (2000) conducted investigations in the following countries: Sierra Leone, Somalia, Tanzania, Uganda, Zaire, and Zambia; Ghana, The Gambia, Kenya, Nigeria, and Uganda respectively. The researchers investigated the potential correlation between inflation and a depreciation of the exchange rate or an expansion in the money supply. In conjunction with VAR, the Granger causality test was implemented. The Schwarz criterion was employed to ascertain the optimal lag length of four. Through an experimental exercise, the minimum value of the criterion was identified to be at lag four. The VAR technique revealed that alterations in the money supply exerted a substantial influence on inflation levels in four nations, while exchange rate depreciation primarily affected inflation rates in three countries and had an equivalent effect on inflation rates in the remaining three nations. These results were validated by Granger causality tests with lag lengths of four and eight, which demonstrated unidirectional causality between the money supply and the exchange rate, and from the exchange rate to the CPI. Additionally, feedback causation was observed between M3 growth and the CPI. Inaccurate equations may result from the lengthy lag times utilized, they further stated.

3. Methods

In order to facilitate the attainment of the study's goals, an explanatory research design was implemented. This design facilitates the systematic presentation of the results and places emphasis on establishing the causal relationships among the primary variables of the study (Van Wyk, 2012). Generally, analytical studies whose scope is restricted to determining the relationship between a set of variables employ this research design. As a result, this methodology supports the investigation by providing a framework that directs the scholar in establishing connections between research questions and research interpretation in order to accomplish the objectives of the study. Utilizing quantitative data obtained from a survey of potential respondents who were verified as social media users and radio listeners, the study design is implemented. By employing quantitative analytic methods, such as correlation analysis, the study computes the influence of social media engagement on the radio audience of the chosen sample of participants. The subsequent sections pertain to the demographics and sample utilized in this research. The population of a study consists of a bunch of individuals or objects that possess characteristics that are relevant to the research (Weeks, 2020). The macroeconomic indicators comprising the Ghanaian economy constitute the population of interest for this study. The purpose of selecting this sample was to obtain precise macroeconomic indicators of Ghana,

which could subsequently be utilized to examine the intricacies of economic growth, exchange rates, inflation, and inflation. The World Bank (2020) identifies 1429 macroeconomic variables that can be used to characterize the Ghanaian economy. Sampling is an essential component of data collection. By means of sampling, a statistical method, a subset of individual observations from a population of people is collected so as to provide predictions based on statistical inference and, more specifically, to provide information about the population of interest. Strauss and Corbin (1997) state that qualitative research designs frequently employ a smaller sample size in comparison to their quantitative counterparts. This is because qualitative research methods typically emphasize meaning or in-depth understanding of a phenomenon. In contrast, quantitative research methodologies prioritize the assessment of causal connections and the identification of dynamic patterns that occur over time. In either case, sampling procedures are fundamentally grounded in probability and non-probability (Alvi, 2016: p. 12). Because of the utilization of a non-probability sampling approach, specific units of the population will be excluded from the chance to be selected as participants in this study.

5. Results Discussion

This study ascertains the sectoral structure of Ghana's economy and demonstrates how it influences inflation and exchange rates in order to stimulate economic expansion. Throughout the study's sample period, the results indicate that inflation and Ghana's exchange rates were negatively correlated. This conclusion is logical and self-evident in light of Ghana's open and small economy; further depreciation of the exchange rate will result in increased domestic prices. The observation of the negative relationship is as follows: an increase in inflation results in a depreciation of the exchange rate. This relationship negatively affects economic progress as it implies that fluctuations in the global market for goods and services could potentially cause immediate changes in domestic prices and the actual worth of profits. Unfortunately, little has changed over time regarding the structure of the economy; the current policy debate centers on the application of industrial policy to promote structural change (Chang & Andreoni, 2020). Based on the findings of this analysis, value-added services have been the primary drivers of Ghana's economy since that period. Presently, they constitute a more substantial proportion of total production than both industry and agriculture combined. While the extraction of oil and other natural resources provides the majority of value added to the industry, it also contributes significantly to overall output (Pauw, 2018). The findings give rise to concerns as the long-term

effects of inflation and exchange rates on economic development are contingent upon the sectoral structure of the economy. Inflation has a greater impact on industry and agriculture than on services in terms of economic development, according to the findings. The statistical significance of the interaction coefficients between the shares of value-added in industry and agriculture and inflation demonstrates this. This conclusion is also logical, considering the economy's reliance on agricultural and industrial imports to sustain fixed investment and consumption. On the contrary, the absence of statistical significance in the relationship between inflation and value-added services suggests that inflation does not have a discernible impact on economic development during the entire period under study. The exchange rate's interactions yield a distinctive visual representation. Long-term relationships between the exchange rate and the value-added shares of industry, services, and agriculture are statistically significant. This analysis demonstrates that while inflation solely affects economic growth via value-added in the agricultural and industrial sectors, exchange rates exert a sustained influence on economic development throughout all sectoral frameworks. Inflation and exchange rate management should not be the primary concern of policymakers at this time. Instead, it is imperative to prioritize the development of Ghana's economy in order to leverage the intricacies of the international market and mitigate the impact of the exchange rate on the domestic economy. Recent scholarly investigations concerning the significance of industrial strategy and the imperative for developing countries to establish themselves as net exporters suggest that economic managers possess the jurisdiction to ensure that macroeconomic policies foster sustainable growth.

6. Conclusion

The findings of the research indicate a negative correlation between inflation and Ghana's exchange rates over the entire sample period. This negative correlation is readily comprehensible as it delineates the consequences of the economy's dependence on imported finished goods and services. Furthermore, value-added agriculture, value-added services, and value-added industries comprise the majority of the sectoral structure of Ghana's economy. Although not unique to Ghana, the majority of economies conform to this framework. However, the extent to which each of these types of value-added contributes to economic development and growth is critical for the progress of humanity as a whole. Agriculture, which also experienced a significant transformation, has been replaced as the principal driver of Ghana's economy by the value added

from services. This structural transition has been brought about by alterations in economic policy and the implementation of liberalization measures, which have enabled increased trade and the establishment of open markets. Inflation and exchange rates have an effect on growth when examining the sectoral structure of Ghana. The impact of growth on each of exchange rates, inflation, and sectoral dynamics is distinct when the sectoral structure of the economy is considered. In the Ghanaian economy, exchange rates influence growth by means of all forms of value-added; however, inflation primarily impacts growth by means of value-added in sectors that have higher final consumption, namely agriculture and investment. Consequently, these associations bear ramifications for policy formulation and macroeconomic management. Managing the inflation rate and currency rate should not be considered primary concerns by those entrusted with the economic management of Ghana, according to some. In order to mitigate the impact of the exchange rate on the Ghanaian economy and take advantage of the fluctuations in the international market, policymakers should prioritize the development of the nation's economy. According to the most recent research regarding the importance of industrial strategy and the requirement for a developing country to become a net exporter, economic managers in Ghana must consider all the consequences of establishing a productive macroeconomic framework to ensure sustained progress. The government could potentially demonstrate practicality with regard to structural transformation by employing industrial policy to offer additional incentives for the exportation of domestic goods and services. These incentives will motivate businesses to exert considerable effort and export their products so that they can gain access to a larger international market and generate foreign currency for the country. The implementation of a government initiative to decrease the volume of imported goods and services is imperative. Being the most substantial consumer and employer in the economy, the government

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