



EXCHANGE RATE VOLATILITY AND GOVERNANCE INDICATORS

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Abstract

This study investigates the relationships between exchange rate volatility and governance indicators for emerging economies. Government effectiveness and regulatory quality as main indicators of governance are analyzed in terms of their implications for exchange rate volatility for a selected group of emerging countries consisting of Argentina, Mexico, South Africa and Turkey covering the period from 1996 to 2022. Government effectiveness indicator captures perceptions of the quality of public services, the quality of policy formation and implementation, the credibility of the government's commitment to designed policies, the quality of the civil service and the degree of its independence from political pressures. Regulatory quality indicator measures perceptions of the ability of the government to formulate and implement sound policies and regulations that allow and promote private sector development. It is shown that countries with higher degrees of government effectiveness exhibit lower exchange rate volatility. In addition, higher levels of regulatory quality turn out to be associated with lower exchange rate volatility. These findings yield significant policy implications for emerging countries that experience high exchange rate volatility, which constitutes the major contribution of this study to the literature.

Keywords

Exchange Rate Volatility, Government Effectiveness, Regulatory Quality

INTRODUCTION

Exchange rate volatility has been an important topic of discussion among researchers and policymakers, especially in terms of its implications for emerging countries. Analyses have so far focused on the determinants as well as the consequences of exchange rate volatility. There is also an extensive literature on the relationships between exchange rate volatility and key macroeconomic and financial variables such as inflation rate, interest rate, risk premium and trade balance; however, the associations between exchange rate volatility and governance indicators have not been studied adequately. This study aims to fill this gap in the literature through providing an investigation of government effectiveness and regulatory quality as main indicators of governance and their relationships with exchange rate volatility for a selected group of emerging countries consisting of Argentina, Mexico, South Africa and Turkey covering the period from 1996 to 2022.

The empirical literature on exchange rate volatility concentrates on a wide range of issues including the impact of exchange rate volatility on trade flows, the role of exchange rate regimes in determining exchange rate volatility, the implications of exchange rate volatility for economic growth and macroeconomic volatility as well as exchange rate volatility during financial crises. Barguelli et al. (2018) examine the effect of exchange rate volatility on economic growth using a panel data set of 45 countries and the period from 1985 to 2015. It is shown that exchange rate volatility has a negative impact on economic growth and that the effect depends on the exchange rate regimes and financial openness. Schnabl (2008) analyzes the impact of exchange rate volatility on economic growth in the euro area using a sample of 41 mostly small open economies in the EMU. International trade, international capital flows and macroeconomic stability are identified as important transmission channels from exchange rate stability to higher growth. Panel estimations reveal a robust negative relationship between exchange rate volatility and growth for countries where capital markets are underdeveloped. In another study focusing on the relationship between exchange rate volatility and economic growth, Vieira et al. (2013) aim to explore the role of real exchange rate volatility in determining long-term economic growth for a data set of 82 countries covering the period from 1970 to 2009. Higher volatility of real exchange rate turns out to have a negative impact on economic growth.

Morana (2009) investigates the linkages between exchange rate volatility and macroeconomic volatility. The author provides evidence of significant long-term associations and trade-offs between exchange rate and macroeconomic volatility for the G-7 countries, involving output and inflation volatility. Grossmann et al. (2014) study the dynamics of the overall exchange rate volatility, employing a panel vector autoregressive model (PVAR). More precisely, the dynamic links between exchange rate volatility and important macroeconomic and financial variables are investigated, using panel data for 29 countries covering the period from 1987 to 2011. The authors find that exchange rate volatility shows a statistically significant response to real GDP growth, foreign reserves, interest rates and equity index.

Cady and Gonzalez-Garcia (2007) analyze the relationship between exchange rate volatility and transparency of foreign exchange reserves in an economy. The authors use the adoption of the IMF's International Reserves and Foreign Currency Liquidity Data Template as the measure of reserves transparency. It is found that the adoption of the reserves data dissemination standard is associated with a 20 percent decrease in exchange rate volatility. Coudert et al. (2011) investigate the impact of global financial crisis on the exchange rate policies in emerging countries. The exchange rate policies are assessed by the exchange rate volatility performances of the countries. The relationship between exchange rate volatility and a global financial stress indicator, measured by the volatility in global markets, is investigated in order to test the volatility spillovers from advanced financial markets to emerging economies. The results confirm that exchange rate volatility increases more than proportionally with the global financial stress for most countries in the sample.

In a more recent study, Feng et al. (2021) analyze the effects of the COVID-19 pandemic and the government interventions on exchange rate volatility. Examining data for 20 countries from January 2020 to July 2020 using GMM estimation, the authors find evidence for rising exchange rate volatility in the case of an increase in confirmed cases. It is also shown that the government response measures such as restrictions on internal mobility and closing schools as well as government policies including income support and fiscal measures inhibit exchange rate volatility. In another study related to the COVID-19 pandemic, Ilzetzki et al. (2020) point out the fact that global exchange rate volatility has been trending downward among the core G3 currencies (the U.S. dollar, the euro and the yen) over the last two decades, and especially since 2014, and ask the question of whether this decline in exchange rate volatility can be sustained during the COVID-19 pandemic. The authors argue that the downward trend in exchange rate volatility is driven by convergence in monetary policy, reflected in a sharp reduction of inflation, implemented by modern independent central banks, while cautioning against believing that the decline necessarily reflects strengths of the global economy. Mun (2008) investigates the impact of exchange rate fluctuations on international stock market fundamentals including market volatility and cross-market correlations, focusing on the Asian financial crisis. Exchange rate fluctuations turn out to contribute largely to higher equity market volatility and cross-market correlations. The results show that falling U.S. stock markets are associated with depreciating local currencies for most of the markets in the sample, indicating a positive correlation between the U.S. market returns and local currency values.

The literature on exchange rate regimes, as the key policy that affects exchange rate volatility significantly, is also extensive. Levy-Yeyati and Sturzenegger (2003) analyze the relationship between exchange rate regimes and economic growth for a large sample of 183 countries over the post-Bretton Woods period. The authors employ a new de facto classification of regimes based on the actual behavior of the relevant macroeconomic variables and find that less flexible exchange rate regimes are associated with slower growth and greater output volatility for developing countries. Hoffmann (2007) empirically investigates the relationship between exchange rate regimes and macroeconomic volatility by examining the impact of external shocks on small open economies with different exchange rate regimes. More precisely, the hypothesis that external shocks are less contractionary under floating than under fixed exchange rates is analyzed. It is shown that floating exchange rate regimes allow the nominal exchange rate to act as a shock absorber in such a way that it smooths the adjustment process following external shocks in a small open economy. In a later study, De Vita and Kyaw (2011) examine the question of whether the choice of exchange rate regime has a direct effect on the long-term growth of developing countries. Using data for 70 countries covering the period from 1981 to 2004 and employing fixed effects estimation method, the authors find that the choice of exchange rate policy has no direct impact on the long-term growth of developing countries. In a recent study, Dudzich (2022) investigates inconsistencies between countries' official exchange rate regime declarations, the so-called "de jure" exchange rate regimes, and their actual policy, "de facto" exchange rate regimes. Several de facto classifications and a wide array of explanatory variables capturing economic and institutional factors are used in order to explore the determinants of the gap between the two types of regimes. The results suggest that foreign exchange reserves, current account balance and economic openness affect the probability with which monetary authorities break their commitment to the official exchange rate regime.

Finally, there are contributions to the literature in the form of review or survey of the studies on exchange rate volatility or closely related topics. McKenzie (1999) and Bahmani-Oskooee and Hegerty (2007) provide surveys of the literature that studies the impact of exchange rate volatility on trade flows. Petreski (2009) presents a review of the theoretical and the empirical literature on the relationship between exchange rate regime and economic growth. Rossi (2013) reviews the literature on exchange rate forecasting with a critical perspective.

Auboin and Ruta (2013) survey the literature on the relationship between exchange rates and trade. Rose (2011) provides a survey of the causes and the consequences of a country's exchange rate regime choice.

This study contributes to the existing literature through taking into account the impact of governance indicators while analyzing exchange rate volatility. Government effectiveness and regulatory quality as main indicators of governance are investigated in terms of their implications for exchange rate volatility. Government effectiveness is measured by an indicator that captures perceptions of the quality of public services, the quality of policy formation and implementation, the credibility of the government's commitment to designed policies, the quality of the civil service and the degree of its independence from political pressures. Regulatory quality is represented by an indicator that measures perceptions of the ability of the government to formulate and implement sound policies and regulations that allow and promote private sector development. It is shown that countries with higher degrees of government effectiveness exhibit lower exchange rate volatility. In addition, higher levels of regulatory quality turn out to be associated with less volatile exchange rates. These findings yield significant policy implications for emerging countries that experience high exchange rate volatility, which constitutes the major contribution of this study to the literature.

METHODOLOGY

The associations among exchange rate volatility, government effectiveness and regulatory quality are investigated using data from the World Bank. More precisely, data on exchange rates are taken from the Global Economic Monitor dataset provided by the World Bank while data on governance indicators are taken from the Worldwide Governance Indicators dataset provided by the World Bank. Figures 1-4 presented below are produced using data for Argentina, Mexico, South Africa and Turkey covering the period from 1996 to 2022.

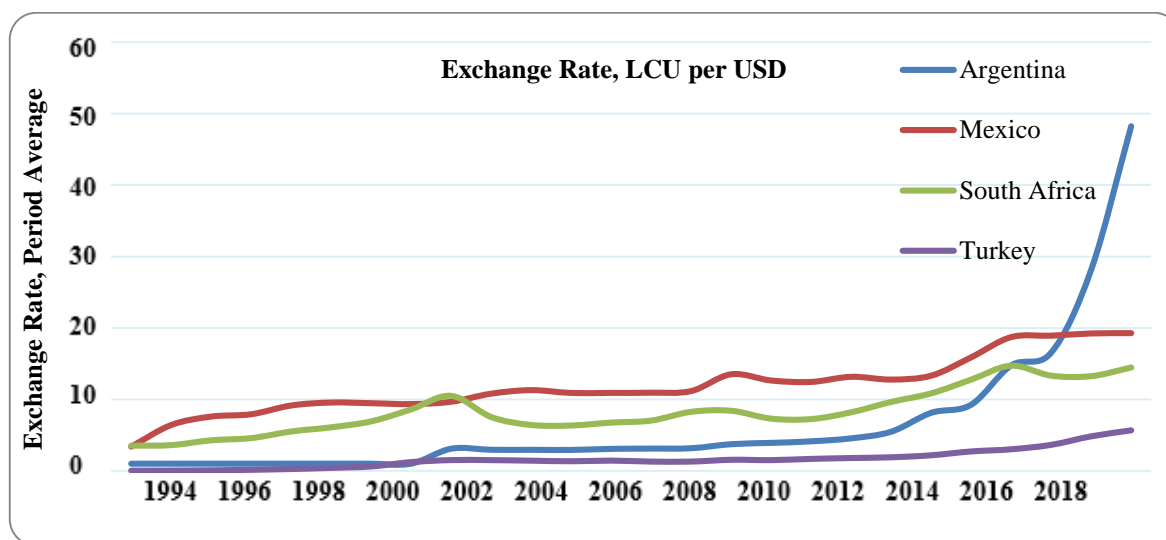
Exchange rate volatility is captured by the official exchange rate data where official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages and represented as local currency units relative to the U.S. dollar.

Government effectiveness indicator captures perceptions of the quality of public services, the quality of policy formation and implementation, the credibility of the government's commitment to designed policies, the quality of the civil service and the degree of its independence from political pressures. Government effectiveness data is presented in terms of percentile rank, which indicates the country's rank among all countries covered by the aggregate indicator with 0 corresponding to the lowest rank and 100 to the highest rank. Percentile ranks are adjusted to correct for changes over time in the composition of the countries covered by the Worldwide Governance Indicators.

Regulatory quality indicator measures perceptions of the ability of the government to formulate and implement sound policies and regulations that allow and promote private sector development. Regulatory quality data is also presented in terms of percentile rank that indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to the lowest rank and 100 to the highest rank.

Figure 1 presents the exchange rates for Argentina, Mexico, South Africa and Turkey, represented in local currency units (LCU) per U.S. dollar (USD). It can be seen that Turkey exhibits the lowest level of exchange rate volatility during the time period covered, while Argentina displays the highest level of exchange rate volatility. In order to be able to see how South Africa and Mexico perform relative to each other, a closer look at the graph might be useful. Figure 2 gives a focused version of Figure 1, which shows that the exchange rate volatility is higher in Mexico than in South Africa.

The performances of the countries in the sample with respect to exchange rate volatility reflect several important facts about the macroeconomic environment and the financial situation in these countries. This is mainly due to the fact that exchange rate volatility is closely related to key macroeconomic and financial indicators such as inflation rate, interest rate and balance of payments, while it is significantly influenced by the exchange rate regime pursued by the policymakers.



Source: Global Economic Monitor, World Bank

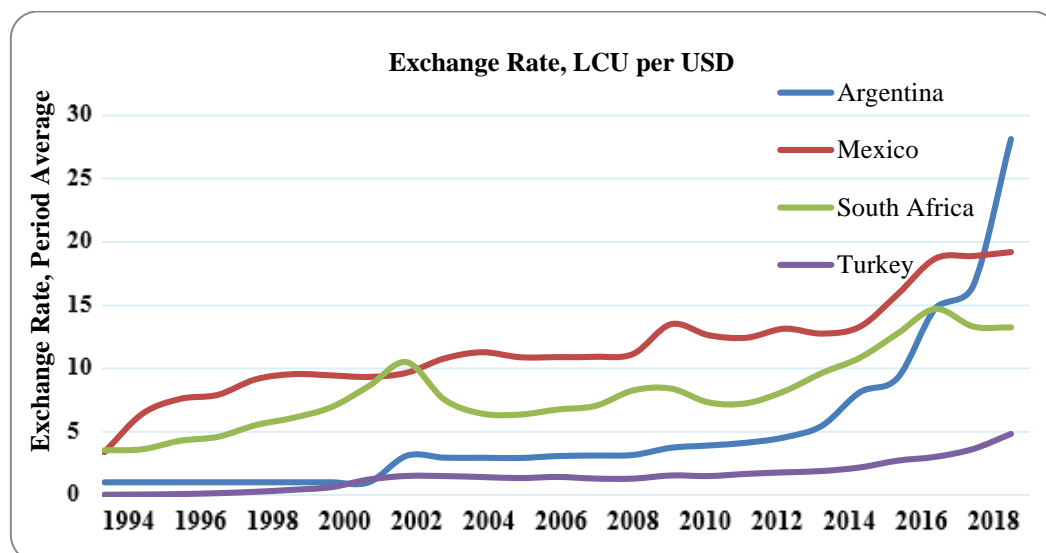
Figure 1. Exchange Rate Volatility

During the time period covered in this study, Argentina experienced many challenges in the economy, some of which were caused by international factors while others were results of domestic factors or policies. More precisely, the devaluation of the Mexican peso during 1994 and the devaluation of the Brazilian real in 1999 had severe impact on the Argentine economy in the 1990s. In the second half of 1998, Argentina fell into a deep recession, triggered and then compounded by a series of adverse external shocks including the appreciation of the U.S. dollar, to which the peso was pegged at par, low prices for agricultural commodities and the 1998 Russian financial crisis. The three-year stand-by agreement with the IMF at the beginning of 2000 did not help much to improve the macroeconomic and financial prospects due to uneven implementation of fiscal adjustments and reforms, a worsening global macroeconomic environment and political instability. As a result, Argentina rapidly lost credit in capital markets and experienced complete loss of market access as well as capital flight by the second quarter of 2001. At the end of 2001, in a climate of severe political and social unrest, the country partially defaulted on its international obligations since the government found itself unable to borrow or meet debt payments. The decade following the economic crisis involved the brief recovery period as well as the global financial crisis that hit the Argentine economy just like the rest of the world. Sovereign defaults, devaluations, high rates of inflation and unemployment were repeatedly observed in the economy over the last two decades. Therefore, the country continued to exhibit high volatility in the exchange rate as well as in many other macroeconomic and financial variables including output, inflation rate and unemployment rate.

The country in the sample with the least volatile exchange rate, Turkey, has also experienced dramatic instability and fluctuations in the economy during the time period analyzed in this study. International factors such as financial crises in other emerging economies, external shocks hitting the international financial markets and the Great Recession have had serious effects on the Turkish economy, in addition to the domestic factors and internal shocks related to the macroeconomic and financial infrastructure, over the last three decades. However, the consequences of these incidents have been moderate in comparison to the Argentine economy. The first half of the 1990s consisted of economic challenges resulting from an overheated economy, dramatic rise of foreign short-term debt, loss of external and internal confidence in the government's ability to manage the impending balance of payments crisis and political disputes between public authorities. The downgrading of Turkey's debt to below investment grade by international credit-rating agencies led to an accelerated dollarization of the economy, a large-scale capital flight and the collapse of the currency. The package of measures announced by the government in 1994 including reduction in government spending, a commitment to raise taxes, a sharp increase in prices charged by the public-sector enterprises and accelerated privatization of state economic enterprises was subject to concerns on the basis of credibility issues. The 2000s characterized by a huge pool of funds in international financial markets as a result of financial globalization have contributed significantly to the recovery and the expansion of the Turkish economy, which attracted large amount of capital inflows during this period. While the rapid economic growth and the unique geopolitical situation of Turkey led to an increasing influence of the country on international dynamics related to political economy, the reliance of the economy on some key industries caused vulnerability to external shocks as observed during the Great Recession and the COVID-19 pandemic. Despite fragilities in the economy, which are characteristics of the majority of the emerging countries, Turkey exhibited a low level of exchange rate volatility in comparison to the other countries in the sample.

Mexico experienced turbulent years in the 1990s due to hyperinflation, devaluations, a currency crisis as well as political turmoil observed in the country. The most significant incident of the decade was the so-called "Mexican peso crisis", which became one of the first international financial crises ignited by capital flight and

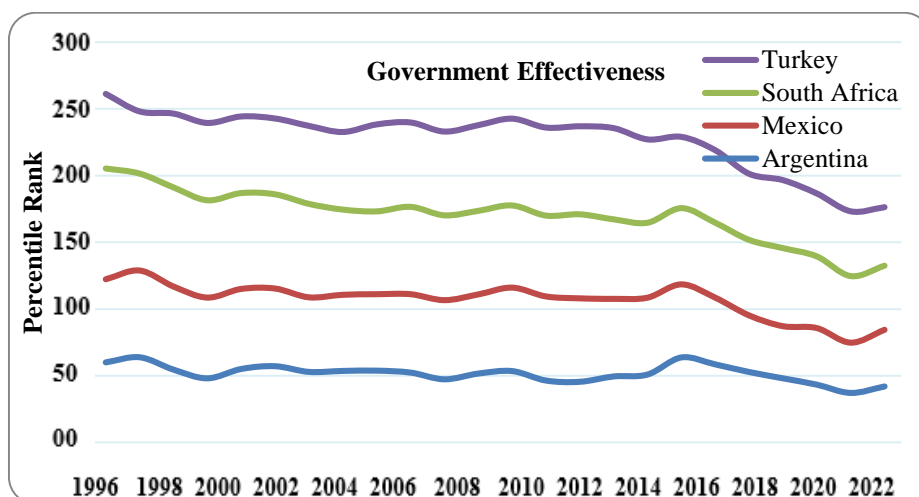
spread to economies in Asia and the rest of Latin America. It was a currency crisis sparked by the Mexican government's sudden devaluation of the peso against the U.S. dollar in December 1994. The expansionary monetary and fiscal policies followed during the 1994 presidential election period, the short-term debt instruments issued by the Mexican treasury that were denominated in domestic currency with a guaranteed repayment in U.S. dollars and the signing of the North American Free Trade Agreement (NAFTA) increased investor confidence and attracted foreign capital. However, these positive effects were more than offset by the severe impact of political instability caused by a violent uprising in the state of Chiapas and the assassination of the presidential candidate. As a result, the risk premium on Mexican assets increased significantly. The fact that the peso was overvalued due to its peg to the U.S. dollar led to both trade deficit and capital flight. The intervention by the Mexican central bank in order to maintain the peg to the U.S. dollar depleted the bank's dollar reserves by the end of 1994, as a result of which the peso was devalued. The Mexican economy experienced higher risk premium, rising interest rates, depreciation of the peso after it was allowed to float freely and increasing inflation rate. Despite structural reforms including trade liberalization as well as tight monetary and fiscal policies in the aftermath of the currency crisis, the Mexican economy remained fragile due to the fact that the strong economic ties of the country to the U.S. after the implementation of NAFTA have deepened the dependency of the economy on U.S. economic conditions. Mexico's reliance on the U.S. as an export market and the relative importance of exports to its overall economic performance made the country highly susceptible to fluctuations in the U.S. economy. As a result, the global financial crisis, and the subsequent downturn in the U.S. economy, led to a dramatic contraction of 6.3% in the Mexican economy in 2009, according to World Bank. Much worse than that, the sharpest contraction in Mexico since the Great Depression was observed during the COVID-19 pandemic, when the economy contracted by 8.7% in 2020, as reported by World Bank.



Source: Global Economic Monitor, World Bank

Figure 2. Exchange Rate Volatility – A Closer Look

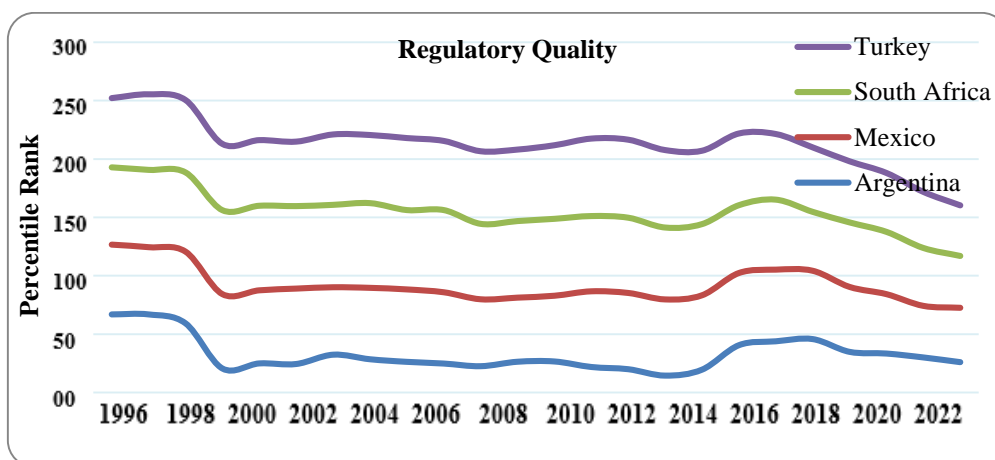
As the most industrialized, technologically advanced and diversified economy in Africa, South Africa has exhibited a dramatic transformation, both economically and politically, during the time period covered in this study. Starting from the second half of the 1990s, South Africa has developed a diversified economy, particularly towards services, as a result of the removal of the international sanctions imposed on the country for more than 12 years in response to the system of institutionalized racial segregation called “apartheid” that existed in the country from 1948 to the early 1990s. Following the abolition of the “apartheid” in 1991, South Africa held its first multiracial elections in 1994, after which inflation was brought down, public finances were stabilized and some foreign capital was attracted. From 2004 onward economic growth picked up significantly while both employment and capital formation increased. The South African economy struggled through the global financial crisis, with a contraction of 1.5% in 2009 according to World Bank, and the recovery has been largely led by private and public consumption growth. In 2017, due to political tensions in the country, international credit-rating agencies cut South Africa's credit rating to junk status, as a result of which the South African rand depreciated significantly. The economic situation of the country deteriorated further during the COVID-19 pandemic, as the economy contracted by 6% in 2020 according to World Bank.



Source: Worldwide Governance Indicators, World Bank
Figure 3. Government Effectiveness

The government effectiveness indicators for the countries in the sample are presented in Figure 3. Since the indicator is given in terms of percentile rank, the relative government effectiveness of countries can be seen. More precisely, Turkey has the highest degree of government effectiveness followed by South Africa. Argentina exhibits the lowest degree of government effectiveness while Mexico performs slightly better.

When the performances of the countries with respect to exchange rate volatility and government effectiveness are considered together, it is seen that countries with higher degrees of government effectiveness have lower levels of exchange rate volatility. This finding shows that the quality of public services, the quality of policy formation and implementation, the credibility of the government’s commitment to designed policies, the quality of the civil service and the degree of its independence from political pressures have significant implications for exchange rate volatility in emerging economies.



Source: Worldwide Governance Indicators, World Bank
Figure 4. Regulatory Quality

Regulatory quality indicators are given in Figure 4. Due to the fact that the indicator is presented in terms of percentile rank, the graphical illustration shows the relative regulatory quality of the countries in the sample. To be more specific, regulatory quality is of highest level in Turkey while Argentina has the lowest level of regulatory quality. South Africa comes after Turkey and is followed by Mexico with respect to regulatory quality performance.

Consideration of the performances of the countries with respect to exchange rate volatility and regulatory quality together, it is clear that countries with higher levels of regulatory quality have less volatile exchange rates. This result indicates that the ability of the government to formulate and implement sound policies and regulations that allow and promote private sector development is closely associated with exchange rate volatility in emerging countries.

CONCLUSION

Government effectiveness and regulatory quality are two important indicators of governance that have significant implications for macroeconomic performance and overall well-being of emerging countries. Exchange rate volatility reflects the situation in the foreign exchange market; therefore, has crucial impact on the stability of financial markets. Emerging economies exhibit varying performances with respect to government effectiveness and regulatory quality while they also experience different levels of exchange rate volatility. This study aims to explore the associations among these key features of emerging countries, which have not been studied extensively in the literature so far.

Government effectiveness indicator captures perceptions of the quality of public services, the quality of policy formation and implementation, the credibility of the government's commitment to designed policies, the quality of the civil service and the degree of its independence from political pressures. Regulatory quality indicator measures perceptions of the ability of the government to formulate and implement sound policies and regulations that allow and promote private sector development. These two main indicators of governance are analyzed in terms of their implications for exchange rate volatility for a selected group of emerging countries consisting of Argentina, Mexico, South Africa and Turkey covering the period from 1996 to 2022. It is shown that countries with higher degrees of government effectiveness exhibit lower exchange rate volatility. In addition, higher levels of regulatory quality turn out to be associated with lower exchange rate volatility. These findings yield significant policy implications for emerging countries that experience high exchange rate volatility, which constitutes the major contribution of this study to the literature.

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