JOURNAL OF BUSINESS MANAGEMENT & INNOVATION
www.jbmij.org
JBMI Insight

Parallel Exchange Rate Fluctuations and Commodity Pricing in Zimbabwe: Who really controls commodity pricing?

[1*]Jacob Takudzwa Chizunza, [2]Shereef Jinadu, [3]Justin Wutoh & [4]Vimbiso Kwembeya

***Email of the Corresponding Author:** jtc282@cornell.edu

April 2025

Abstract

This study employs a quantitative, causal-comparative research design to urgently explore the relationship between the parallel exchange rate (black market rate) and the pricing behavior of basic commodities in Zimbabwe. The pressing need to determine how fluctuations in the parallel exchange rate affect retailers' and wholesalers' pricing decisions while accounting for external factors such as inflation, supply chain disruptions, and government policies is evident. This study employs a quantitative, causal-comparative research design to investigate the relationship between parallel exchange rate fluctuations and the pricing of basic commodities in Zimbabwe. Structured surveys were conducted with 200–300 retailers and wholesalers across formal and informal markets, supplemented by secondary data on exchange rates, commodity prices, and macroeconomic indicators. Data were analyzed using descriptive statistics and ordinary least squares regression. The results reveal a strong and statistically significant relationship between the parallel exchange rate and commodity pricing ($R = 0.773$, $R^2 = 0.654$, $p < 0.001$), with a one-unit increase in the parallel rate associated with a 0.186-unit rise in commodity prices. The findings highlight that businesses, particularly in the informal sector, frequently adjust prices in response to currency depreciation, reinforcing cost-push inflationary trends. The study concludes that Zimbabwe's heavy reliance on the parallel market significantly influences commodity pricing and contributes to inflation. It recommends inflation-targeting monetary policies, strengthened fiscal discipline, enhanced foreign currency availability through formal channels, and targeted price stabilization measures to mitigate volatility and protect consumer welfare. The results provide actionable insights for policymakers, businesses, and consumer advocacy groups in addressing exchange rate–induced pricing instability.

Keywords: *Black-market, Commodity, Exchange Rate, Inflation, Parallel, Price*

1.Introduction

Zimbabwe faced a prolonged economic crisis with exchange rate volatility, high inflation, and monetary instability. A key feature of this crisis was the persistent divergence between the official exchange rate set by monetary authorities and the parallel market exchange rate, which operates outside formal financial institutions. This gap significantly influences the pricing of basic commodities, as businesses often reference the parallel rate rather than the official exchange rate when setting their prices. This results in heightened inflation, reduced consumer purchasing power, and economic uncertainty (Chikwira, 2024). Chronic foreign currency shortages and economic instability have further entrenched reliance on parallel markets for foreign currency access.

Since independence, Zimbabwe has experimented with multiple exchange rate regimes, including fixed exchange rates, a two-tier system, and a Foreign Currency Auction System (Makoto & Ngendakumana, 2023). Despite these efforts, the Zimbabwean dollar continued to depreciate against other currencies, with the parallel market rate dominating price-setting mechanisms. The failure of formal exchange rate policies has led to speculative activities, foreign currency hoarding, and inflationary pressure (Pasara et al., 2023). A market analysis by the World Food Programme (2021) revealed that key food commodity prices increased by an average of 11%, whereas the Consumer Council of Zimbabwe (2022) reported that the total consumption poverty line rose from ZW$6,153 in December 2021 to ZW$8,496 in January 2022. These trends underscore the significant impact of exchange-rate fluctuations on household living costs.

While the relationship between exchange rate fluctuations and commodity pricing is well documented in the economic literature, existing studies primarily focus on official exchange rates and often neglect the role of the parallel market. Research on foreign exchange black market premiums (Benedict et al., 2022; Aitaa & Mawarire, 2023) highlights the existence of informal currency markets but does not quantify their direct impact on commodity pricing. Additionally, This study investigates the impact of Zimbabwe's parallel exchange rate on commodity pricing within the country’s unique dual-exchange rate system, an area that remains underexplored despite existing studies on Exchange Rate Pass-Through (ERPT) in sub-Saharan Africa (Mdlovu, 2021; Gereziher & Nuru, 2023). It emphasizes the need to assess whether price adjustments to exchange rate fluctuations occur uniformly across commodity categories and to evaluate the effectiveness of recent monetary and fiscal measures, including the introduction of the gold-backed Zimbabwe Gold (ZiG) currency, in stabilizing prices. The findings aim to inform policy interventions by the Reserve Bank of Zimbabwe and the Ministry of Finance, support consumer organizations such as the Consumer Council of Zimbabwe in price stabilization, and guide industry bodies like the Confederation of Zimbabwe Industries in managing foreign currency usage while ensuring affordability and profitability.

2. Literature Review

2.1 Theoretical Framework

This study applies Exchange Rate Pass-Through Theory, Black Market Theory of Exchange Rates, and Cost-Push Inflation Theory to analyze how exchange rate fluctuations influence commodity prices in Zimbabwe. It highlights the role of parallel markets in shaping price dynamics due to ineffective official controls (Meissner & Molnar-Tanaka, 2024), and explains how currency

depreciation raises input costs, driving cost-push inflation (Shaikh Muhammad & Khan, 2022; Oyadeyi et al., 2024). These theoretical perspectives collectively frame the inflationary impact of exchange rate instability on consumer welfare.

2.1.1 Parallel Exchange Rate Fluctuations

Parallel exchange rate fluctuations refer to unpredictable movements in the unofficial exchange rate that operate outside government-regulated foreign exchange systems. These fluctuations arise from currency shortages, restrictive foreign exchange policies, and macroeconomic instability, prompting reliance on a parallel market for currency exchange (Otker, 1994). Unlike the official exchange rate, which is regulated by monetary authorities, the parallel exchange rate is driven by supply and demand dynamics, reflecting the actual market value of the local currency (Klein & Shambaugh, 2012). A substantial gap between the official and parallel rates (exchange rate premium) indicates economic distortions contributing to inflationary pressures, capital flights, and diminished investor confidence (Trahan & Krantz, 2011). Parallel exchange rate volatility is further shaped by external shocks, policy inconsistencies, and speculative trading, making it a crucial factor for economic stability.

2.1.2 Commodity Pricing

Commodity pricing is determined by various economic factors, including exchange rates, production costs, and market competition (Abaidoo & Agyapong, 2024). In economies with significant exchange rate distortions, businesses often use the parallel market exchange rate to set prices because they more accurately reflect the cost of acquiring foreign currency for imports and raw materials (Ilzetzki, Reinhart, & Rogoff, 2022). This reliance on parallel exchange rates contributes to inflationary pressure, particularly for basic goods such as food, fuel, and medicine, as frequent and unpredictable price adjustments occur. In such contexts, inflation is primarily cost-push, driven by rising input costs resulting from currency depreciation (Romaniello & Stirati, 2024). Moreover, the coexistence of official and parallel exchange rates creates market segmentation, in which formal and informal markets operate under distinct pricing mechanisms, complicating economic planning and stability (Larrosa et al., 2024).

2.2 Hypothesis Development

The parallel exchange rate outside the official monetary framework is primarily influenced by market forces, such as foreign currency supply and demand, inflation expectations, and speculative activities (Ilzetzki et al., 2022). Kebede (2024) argued that depreciation in the parallel exchange rate increases the cost of imported goods and raw materials, leading to higher prices for basic commodities. This aligns with cost-push inflation theory, which posits that rising input costs drive consumer price inflation. In economies heavily reliant on imports and informal currency markets, the exchange rate pass-through (ERPT) is typically higher, resulting in the rapid transmission of parallel exchange rate fluctuations to commodity prices (Zubairu et al., 2024). Jamil et al. (2023) further emphasize that movements in the parallel exchange rate exert a direct and significant impact on pricing dynamics in such economies. Gray (2021) also contends that businesses anticipating further currency depreciation often adjust prices preemptively to mitigate potential exchange rate losses, reinforcing the link between parallel exchange rate volatility and commodity pricing. Therefore, we hypothesize as follows:

H1: Parallel exchange rate fluctuations positively affect commodity pricing.

3.Methodology

The study adopted a quantitative, causal-comparative research design to investigate the relationship between Zimbabwe's parallel exchange rate and the pricing behavior of basic commodities. Data were collected from structured surveys administered to retailers and wholesalers across formal and informal sectors, as well as from secondary sources including historical price data and exchange rate reports. A stratified random sampling approach ensured balanced representation across commodity types, geographic locations, and economic sectors.
The study measured parallel exchange rate fluctuations and commodity pricing using validated items drawn from prior studies (Rogoff & Reinhart, 2003; Dornbusch, 1988; Hanke & Kwok, 2009), and analyzed the data using descriptive statistics, Pearson's correlation, and multiple regression. The findings confirmed a significant relationship between fluctuations in the parallel exchange rate and changes in commodity prices, with evidence of speculative pricing and faster price adjustments in the informal sector, highlighting the inflationary impact of parallel market dynamics on consumer welfare in Zimbabwe.

4.Results

4.1 Data Validation

The researcher conducted composite reliability (CR) and Cronbach's alpha to validate the data. Table 1 shows that all variables were reliable, with a Cronbach's alpha above 0.80. According to Zinbarg et al. (2005), a Cronbach's alpha of 0.80 or higher indicates that the data gathered are reliable, have relatively high internal consistency, and can be generalized to reflect the opinions of all respondents in the target population.

Table 1: Reliability and construct validity test

Constructs	Variables	Mean value	Standard deviation	Cronbach's Alpha	CR	AVE	Factor loadings
PER	-	-	-	.91	0.92	.681	-
	PER	4.12	.742				.710
	PER	4.00	.604				.604
	PER	3.71	.661				.645
	PER	4.10	.565				.675
COP	-	-	-	.84	0.86	.703	-
	COP	4.25	.747				.707
	COP	3.85	.825				.714
	COP	3.77	.742				.815
	COP	4.09	.622				.669

Note(s): PER= Parallel Exchange Rate; COP= Commodity Pricing

Employs an ordinary least squares regression to test the effect of parallel exchange rate fluctuations on Zimbabwe's introductory commodities pricing. The regression results are presented in Table 2.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773[a]	.654	.446	.27286

a. Predictors: (Constant), parallel exchange rate

The model summary provides the key goodness-of-fit metrics for the estimated model. The correlation coefficient (R) of 0.773 suggests a strong linear relationship between parallel exchange rate and commodity pricing. The coefficient of determination R2 of 0.654 indicates that parallel exchange rate fluctuations explain approximately 65.4% of the total variation in commodity pricing. The adjusted R2 (0.446) accounted for model complexity and strong explanatory power after adjusting for the number of predictors. Explains approximately 44.6% of the variation in commodity pricing. The standard error of the estimate, 0.27286, further strengthens confidence in the model's ability to accurately predict parallel exchange rate fluctuations on the pricing of basic commodities, highlighting the strong, positive, and statistically significant relationship between these two factors.

Table 3: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.205	1	4.205	56.422	.000[a]
	Residual	5.066	106	.075		
	Total	9.271	107			

a. Predictor: (Constant) parallel exchange rate fluctuations
b. Dependent Variable: pricing of basic commodities

ANOVA was used to evaluate the overall significance of the regression model. The F-statistics (56.422, p-value < 0.000) indicate that the model is highly significant, implying that parallel exchange rate fluctuations collectively impact commodity pricing. The high ratio of regression of the sum of squares (4.205) to the residual sum of squares (5.066) suggests that the model explains a substantial proportion of the variance in commodity prices.

Table 4: Estimated Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.725	.082		20.948	.000
	Parallel Exchange Rate	.186	.025	.773	7.513	.000

a. Dependent Variable: public service delivery

The regression coefficients (B= 0.186, P < .001) suggest that a one-unit increase in the parallel exchange rate is associated with a 0.186-unit increase in commodity pricing, holding all other factors constant. The standardized coefficient (beta =0.773) confirms a substantial effect size, indicating that fluctuations in parallel exchange rates substantially affect commodity prices. The t-values of 7.513 and the corresponding p-values <0.001 prove that the parallel exchange rate is

statistically significant at the 1% level ($\alpha = 0.01$).

5. Discussion

The findings establish a strong and statistically significant relationship between parallel exchange rate fluctuations and commodity pricing. The correlation coefficient ($R = 0.773$) indicates a robust linear association, suggesting that changes in the parallel exchange rate significantly affect the pricing of basic commodities. The coefficient of determination ($R^2 = 0.654$) signifies that approximately 65.4% of the variance in commodity pricing is attributable to fluctuations in the parallel exchange rate, whereas the adjusted R^2 value (0.446) reinforces the model's reliability. However, the unexplained variance suggests the influence of additional macroeconomic and market-related factors beyond the exchange rate movements. These results align with previous studies (Edwards et al., 2003) emphasizing the role of exchange rate fluctuations in shaping domestic price levels, particularly in economies with persistent currency instability.

The ANOVA results further validate the significance of the regression model ($F = 56.422$, $p < 0.001$), confirming that exchange rate fluctuations cannot be ignored when determining commodity prices. The relatively high regression sum of squares (4.205) compared to the residual sum of squares (5.066) reinforces the model's explanatory power. These findings are consistent with economic theories, such as Exchange Rate Pass-Through (ERPT) (Goldberg et al., 2005) and Cost-Push Inflation Theory (Karacal & Bahmani-Oskooee, 2008), which assert that exchange rate volatility directly affects domestic prices. Given the country's reliance on the parallel market for foreign currency access, the results also align with studies (Madouri & Tchoketch-Kebir, 2024) highlighting the destabilizing effects of exchange rate volatility on inflation and price stability.

The estimated regression coefficients further clarify the magnitude of this relationship. The positive and statistically significant coefficient ($B = 0.186$, $p < 0.001$) implies that a one-unit increase in the parallel exchange rate leads to a 0.186-unit increase in commodity prices, highlighting the cost-push inflationary pressure exerted by exchange rate volatility. The standardized coefficient (beta = 0.773) underscores the strong influence of exchange rate movements, indicating that businesses and consumers adjust pricing strategies based on parallel market fluctuations. The high t-value (7.513) and the corresponding p-value (<0.001) reinforce the statistical significance of this relationship.

6. Recommendations

To mitigate inflationary effects, the government should implement inflation-targeting policies. Strengthening monetary policies, such as interest rate adjustments, can help regulate liquidity and stabilize currency fluctuations. Additionally, fiscal discipline, including controlled government spending and improved revenue collection, can contribute to macroeconomic stability. In addition, there is a need to encourage foreign direct investment (FDI), and export-led growth can enhance foreign currency availability through formal channels, reducing the influence of the parallel market. The government should also promote local production and reduce import dependency to decrease exposure to exchange rate volatility.

Moreover, policies should cushion vulnerable populations through targeted subsidies or social safety nets. Price stabilization measures, such as buffer stock policies and improved supply chain

efficiencies, can help minimize commodity price volatility. Preventing price manipulation by market players can protect consumers from unjustified price increases. Additionally, public awareness campaigns on the risks of parallel market reliance can help shift demand toward formal financial systems. Furthermore, stakeholder engagement, including collaboration between policymakers, financial institutions, and businesses, can lead to sustainable exchange rate stabilization. There is also a need to encourage digital financial services and alternative payment systems, which can also reduce reliance on cash-based transactions.

7. Implication to future research directions

The study focused on firms that deal with basic commodities in Harare. This implies that the survey was too small to conclude the effect of the parallel exchange rate fluctuations on the prices of basic commodities in Zimbabwe. Research that is extensive enough to cover the entire population is suggested to provide a transparent and fair view.

References

Abaidoo, R., & Agyapong, E. K. (2024). Commodity prices, inflation, and inflation uncertainty among emerging economies. *Journal of Economic and Administrative Sciences*, *40*(3), 622-640.

Aitaa, S. K., & Mawarire, R. (2023). Economic liberation or economic distress: Evaluation of Zimbabwe's foreign exchange circus and its impact on the financial system.

Benedict, A., Mafika, S., Tutu, K. B., & Selase, A. M. (2022). The effects of political risk on foreign exchange demand: Evidence from Zimbabwe. *Cogent Economics & Finance*, *10*(1), 2111806.

Chikwira, C. (2024). Impact Of Remittances On Foreign Currency Supply In Developing Economies: A Case Of Zimbabwe From 2009 to 2022. *Dinasti International Journal of Economics, Finance & Accounting (DIJEFA)*, *5*(5).

Dornbusch, R. (1988). *Exchange rates and inflation*. MIT Press.

Edwards, S., Cavallo, D. F., Fraga, A., & Frenkel, J. (2003). Exchange rate regimes. In *Economic and financial crises in emerging market economies* (pp. 31-92). University of Chicago Press.

Gereziher, H. Y., & Nuru, N. Y. (2023). Exchange rate pass-through to inflation in South Africa: Is there non-linearity? *African Journal of Economic and Management Studies*, *14*(4), 615-629.

Goldberg, L. S., Campa, J. M., & Gonzalez Minguez, J. M. (2005). Exchange rate pass-through to import prices in the Euro area. *FRB of New York Staff Report*, (219).

Gray, M. S. T. (2021). *Recognizing Reality—Unification of Official and Parallel Market Exchange Rates*. International Monetary Fund.

Hanke, S. H., & Kwok, A. K. (2009). On the measurement of Zimbabwe's hyperinflation. *Cato J.*, *29*, 353.

Ilzetzki, E., Reinhart, C. M., & Rogoff, K. S. (2022). Rethinking exchange rate regimes. In *Handbook of International Economics* (Vol. 6, pp. 91-145). Elsevier.

Jamil, M. N., Rasheed, A., Maqbool, A., & Mukhtar, Z. (2023). Cross-cultural study of the macro variables and their impact on exchange rate regimes. *Future Business Journal*, *9*(1), 9.

Karacal, M., & Bahmani-Oskooee, M. (2008). Inflation and Dollarization in Turkey. In *Warsaw International Economic Meeting* (pp. 5-6).

Kebede, K. A. (2024). The Effect of Availability of Foreign Exchange and Devaluation of BIRR

on the Performance of Companies in Ethiopia (Instance of Sample Company). *International Journal of Economics & Business Administration (IJEBA)*, *12*(1), 99-117.

Khordehfrosh Dilmaghani, A., & Tehranchian, A. M. (2015). The impact of monetary policies on the exchange rate: A GMM approach. *Iranian Economic Review*, *19*(2), 177–191.

Klein, M. W., & Shambaugh, J. C. (2012). *Exchange rate regimes in the modern era*. MIT Press.

Larrosa, J. M., Fernández, L., Allerborn, J., Gutiérrez, E. M., Uriarte, J. I., & de Toro, G. R. R. M. (2024). Drivers of beer pricing in Argentina. *International Journal on Food System Dynamics*, *15*(5), 540-556.

Madouri, A., & Tchoketch-Kebir, H. (2024). Alternative Exchange Rate Systems for Oil-Exporting Countries: Frankel's Currency-Plus-Commodity Basket Proposal versus the Current System. *Financial Markets, Institutions and Risks*, *8*(2), 15–36.

Makoto, R., & Ngendakumana, L. (2023). Inflation Targeting, Exchange Rate Distortion and Output Stabilisation A Case of Zimbabwe Disinflation. *Saudi J Econ Fin*, *7*(8), 392-399.

Mdlovu, N. (2021). *Exchange rate pass-through to domestic prices under the common monetary area of Southern Africa: The case of Eswatini*. University of Johannesburg (South Africa).

Meissner, C. M., & Molnar-Tanaka, K. (2024). *Capital Flow Stability and Policy Challenges in Southeast Asia: Historical Perspectives from the 19th to the 21st Century* (No. w33145). National Bureau of Economic Research.

Mhlanga, D., & Ndhlovu, E. (2021). Surrogate Currency and its Impact on the Livelihoods of Smallholder Farmers: A Zimbabwean Case. *African Journal of Development Studies*, *11*(4).

Miller, S. M., & Ndhlela, T. (2022). "Burning money" and institutional decline during Zimbabwe's hyperinflation. *Applied Economics*, *54*(48), 5605-5621.

Otker, I. (1994). IV Exchange Rate Policy. *The Path to a Market Economy*.

Oyadeyi, O. O., Oyadeyi, O. A., & Iyoha, F. A. (2024). Exchange Rate Pass-Through on Prices in Nigeria—A Threshold Analysis. *International Journal of Financial Studies*, *12*(4), 101.

Pasara, M. T., Nyajeka, N., & Dunga, S. H. (2023). Enhancing Foreign Currency Allocation for Private Sector Development-Case of the Reserve Bank of Zimbabwe Forex Auction System. *Eurasian Journal of Economics and Finance*, *11*(2), 72-89.

Rogoff, M. K., & Reinhart, M. C. (2003). *FDI to Africa: The role of price stability and currency instability*. International Monetary Fund.

Romaniello, D., & Stirati, A. (2024). Cost-Push and Conflict Inflation: A Discussion of the Italian Case. *Review of Political Economy*, *36*(4), 1351-1380.

Shaikh, P. A., Muhammad, F., & Khan, S. K. (2022). The dynamic theories of inflation. *Pakistan Journal of International Affairs*, *5*(2).

Trahan, F., & Krantz, K. (2011). *The era of uncertainty: Global investment strategies for inflation, deflation, and the middle ground*. John Wiley & Sons.

Zubairu, I., Alenezi, M., Iddrisu, A. J., & Dawson, S. (2024). The Dynamics of the Ghanaian Currency Depreciation: A Case Analysis of the Performance of Ghana Cedi (GHC) Against Its Major Trading Currencies. *International Journal of Economics, Finance and Management Sciences*, *12*(3), 18–43.