



FROM DIASPORA TO DOLLAR: TRACING THE LINK BETWEEN REMITTANCES AND EXCHANGE RATE DYNAMICS IN PAKISTAN

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ABSTRACT

In this paper, we explore the RM to ER link for Pakistan from 2010-2025. Using the secondary data taken from various sources including Pakistan Bureau of Statistics (PBS), The State Bank of Pakistan (SBP) and Ministry of Finance as well World Bank, the present research measures how much remittances inflows affect local currency. Correlation was used to determine the strength and direction of correlation between remittances and exchange rate; followed by Model Summary, ANOVA, Coefficients tables as guides for significance and prediction ability of „n" model. We also have significant and positive co-movements between remittances and exchange rate in the sense that higher inflow for remittance lead to putting local currency into depreciating direction. Implications The results suggest that the remittances play a significant role in influencing FX dynamics for Pakistan and have important supplementary policy implications for the policy makers and financial institutions to form policies to extract more economic gains from remittance flow.

Keywords: *Remittances, Exchange Rate, Foreign Workers, Pakistan.*

1. Introduction

It is also established that Remittances emerged as the largest source of foreign exchange for Pakistan at a time when its economic and financial health was relatively weak. The Purchasing Power Parity (PPP) and Current Account of US dollar, which is the reference currency for all currencies, for Pakistan's against which all the other currency is usually compared suffered a loss to the magnitude of about \$18:08 billion in 2023-24 FY and this is reflected as an item in balance of payment account current (Rehman, Khan, Hayat & Balli; State Bank of Pakistan [SBP], n.d.). The Pakistan diaspora, in which over 10.8 million people live abroad, predominantly in Middle East, Europe and USA is the principal contributor of these remittances (Akhtar et al., 2022). The impact of the remittances is not only about foreign exchange earnings; however, it opens with chances and options for house hold inflow/outflow and poverty reduction and availability consumption. They also have an impact on the exchange rate because they increase the supply of foreign currency in the domestic market, which is associated with an appreciation (a strengthening) of the national currency. The global economy, oil price and labor market in host country are affecting remittances and exchange rate. These dynamics are crucial need to be understood in order to get macro and monetary policy right. There is large amount of remittances but still the detail transmission mechanism if remittance may not investigate in case of Pakistan exchange rate. It is this gap that takes us to the paper at



hand which examines the remittances exchange-rate nexus in Pakistan (see Fatemah, Mughal, & Martínez-Zarzoso, 2020).

The relationship between exchange rates and remittances in Pakistan has been of great interest for economists. Recent years have seen fluctuation in remittance flows due to the shifts in global economic conditions and migration. For example, in Pakistan resulted remittances during year 2020-21 increased from USD 14.7bn to USD 19.3bn increased this shows how much Pakistan has been becoming dependent on its diaspora (Rasool & Karamat, 2024). The exchange rate instability in Pakistan is another characteristic which has seen the value of Pakistani rupee being depreciated against US dollar and this eventually effect inflation that will suffer trade competitiveness (Khan 2024). 4 Empirical studies suggest that remittance receipt helps to stabilize the exchange rate through its effect on foreign currency supply, taming the local worth of domestic money and averting balance-of-payment crises. If, on the other hand, remittances are utilized for consumption and not investment then they become inflationary in their pressures that tends to affect exchange rate stability indirectly (Shair & Anwar 2023). Recent econometric work shows that remittances stabilize the currency in the short run, but have long-run implications, which are controversial. Hence a rigorous statistical and econometric approach is required to get an Such interactions. Influence of remittances on the dynamics of exchange rate in Pakistan. The authors have explained the implications of remittances on exchange rates by using new macroeconomic data.

That's very important for Pakistan (to study) and see how much remittances affect the movement of the exchange rate. Remittances as well are the largest source of foreign earnings in Pakistan is many folds higher compared to the value of exports and FDI flows combined (Azizi, 2021). An investigation of the impact of such inflows on exchange rate is warranted because these flows have policy implications for monetary considerations like setting the stance for monetary policy, foreign reserves management and adoption of currency stabilization programs. This type of data is also important in predicting the inflationary centers, trade-balance away movement and interest rate move in financial world. But for SPIBE and Waves, the present paper will also seek to provide another dimension of how remittances could be used as buffer against macroeconomic instability in an economy Sadiq et al., 2025. The study will also provide evidence regarding the extent to which remittance inflows also respond to exogenous shocks such as world oil prices change, large exchange rate interventions and changes in migration pressures. The results of the study would supply central bank and commercial bank economic planners with suitable remittances utilization plans which assist in domestic base foreign currency's exchange rate stabilization. Third is this study will also be useful for policy formulation in sustainable economic development of Pakistan (Zehra, Kashif & Chhapra, 2021).

Although a number of studies have been documented on the issue remittances and exchange rate dynamics, however, there are still few gaps in Pakistan. Past research has frequently concentrated on one-way relationship, presuming that remittances affect exchange rates and ignoring possible reverse causation (Abbas, 2020). Some studies emphasize two-way causality but have deficiencies in method or period, neglecting structural breaks and macroeconomic shocks for example Sutradhar (2020). Moreover, the comparative effects of remittances at each sector level and on consumption, investment, financial markets have not yet been fully discussed. The velocity effects in the short-run are lost when annual average data are used as a proxy for money supply (Mughal, Arby, Babar, Ilyas, & Schneider, 2023).



Second, there is limited literature that integrates new macroeconomic issues (like exchange rate interventions carried out by State Bank of Pakistan and global economic conditions). This void is inversely approached, for this paper, based on sophisticated econometric techniques; short-long-run dynamics and sectoral determinants of remittances on exchange rate. In doing so it generates a grip on the remittance-exchange rate nexus in Pakistan (Azizi, 2021).

The significance of this study is that the results can readily be reflected in policies and scholarly experiments. At policy level, the findings of this research would be useful on the determination of remittance effects (elastic and inelastic) into the exchange rate movement and conduct whereby it serves as a guide to policy makers in setting up the right policies at exchange rates management for currency stabilization purposes, reserves and for macroeconomic planning. Value to financial institutions and the banking industry. The research that is of this study assists in incorporating the findings of the research, into forecasting models for the purpose of foreign currency management liquidity and risk assessments. This expands the few empirical studies on remittance and exchange rates movement to developing country i.e. Pakistan in its academic sense at large. By evaluating the short and long run effects, it gives an overall view on how remittances inflows act as a moment to exchange rate volatility (Ratha & Moghaddam, 2020). Finally, the paper highlights factors to be considered in the use of remittances for sustainable economic development, reducing vulnerability to external shocks and maintaining financial stability. Policy, economist and researcher: This is relevant to policy makers, economists and researchers as the recommendations are likely to be based on sound evidence; this could have implications for new policy making (Akçay, 2024).

This paper described the organization after critically analyzing the various dimensions of effect of remittances on currency rate movement in Pakistan. In Section 2, we present a literature review linked to previous work and theoretical background of the variables. Section 3 presents the study methodology, data sources, sample construction and econometric models employed in the analysis. The empirical findings of our study are provided in Section 4, where we also report the summary statistics and the results of testing. We conclude in Section 5 by discussing the implications of our results for banks and policymakers, some caveats regarding this analysis and possible extensions of future research.

2. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT.

2.1. Remittances (RM) and Exchange Rate (ER).

The remittance is also generally considered an important source of foreign exchange earnings, which can increase the stability of domestic currency in developing economies like Pakistan. An increase in the inflow of remittances will typically lead to an uplift, or expansion, of foreign currency supplies within the domestic economy and may cause appreciation of the domestic currency; contributing to macroeconomic stability (McFarlane et al., 2022). This positive effect can result when the remittances are used for investing in different production forms (e.g., small-scale businesses, housing or financial savings) that generate productive work and help reduce dependency on foreign borrowing. The remittances in Pakistan constitute about \$ 18 billion, and the substantial number of hard currencies had materially served to support foreign reserves and maintain stability of Pakistani rupee (Jansen & Vacaflores, 2020). In addition, remittance inflows could provide a counter-cyclical effect during a downturn in as much as household consumption would be supported (as well also domestic demand by them and indirectly the exchange rate stability) (De Arcangelis et al., 2023; Fertig et. In addition, remittances may provide a buffer in balance-of-payment crises to provide the micro liquidity when other forms



of foreign exchange--exports and FDI inflows -- do not materialise. Because of this, the positive components that value has been accumulated from remittance inflows are not only limited to cash flows but also translate in to economic wellbeing and financial crisis healing (Sultonov, 2020).

Although remittances can have a beneficial impact in terms of currency stability, they can also create negative consequences, especially when inflows are substantial, unstable or directed mainly towards consumption and not investment. Too much inflow of remittances can cause the country's local currency to be overvalued which will in turn make exports uncompetitive and damage traded sectors: a phenomenon known as “Dutch Disease” (Genevieve, Frimpong & Kwame, 2023). "Impact of remittances on exports and growth: Evidence from remittances recipient countries" by showing how strong inflow of remittances, in some cases can also pull upward the value of the domestic currency (rupee), and make export expensive with a negative impact on economic growth in industries relying on exportation (Zennati et al.2025). The latter can also bring volatility through remittances (also subject to their own elements of volatility e.g. economic shocks in host countries – Gulf States, US or Europe) and impact on domestic financial markets and exchange rates. If remittances are for consumption, and not investment, they may potentially add to inflationary pressure while also indirectly impact the instability of exchange rates. That double edged character does suggest, however, that the remittances aren't an unmitigated economic windfall (it all depends we think what currency they're flowing in and you are using – also it no doubt depends upon how such inflows used to flow, which way round your broad-based economy is one made on production or whether it is one into which these inflows arrive as well).

From the literature, results on remittances and exchange rate changes are controversial. In some positive dynamics, of stock price stabilizing effect of cash dividend policy has been argued in some studies, others have found unsupportive and contrasting outcomes on valuation and market reaction depending on period used and methodologies adopted as well as structural characteristics of the economy (Mawutor et al., 2023). For example, the consumption of remittances rather than reinvestment will significantly impact currency stability (Hassan & Holmes, 2013). Additional moderating factors are seen to be the nature of government policies towards foreign exchange intervention, monetary and fiscal policy, and the structure of national banking. Sterilized foreign exchange intervention can offset the inflationary and exchange rate effects of remittance inflows and thereby achieve volatility reduction (IMF 2024). Also, "it's the extent to which" structural changes affect how remittances impact the local currency, says Kohli. Hence the remittance-exchange rate linkages need to be viewed in a broad context based on volume of remittances as well as their utilization patterns, policy framework and economic-structure (Hien et al., 2020). This complexity may help understand the mixed nature of empirical results, and emphasizing on need for country/region-specific studies as is evident in case of Pakistan where remittances form a significant part of the balance-of-payment statement.



Hypothesis (H1): *Exchange Rate (ER) in Pakistan is significantly influenced by the Remittance (RM).*

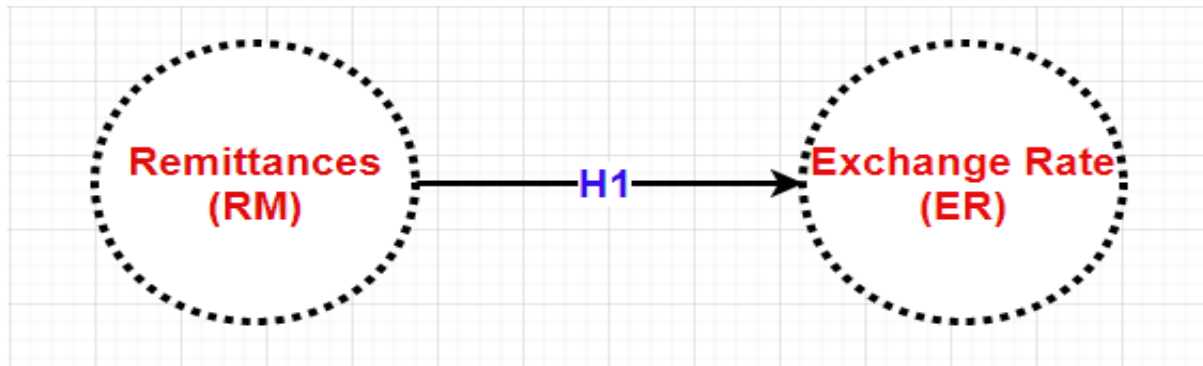


Figure-1: Conceptual Framework

3. Methodology

This research has used quantitative research design to analyses the effects of RM (Remittances) on exchange rate behavior (ER) in a country, Pakistan. Remittances were considered to be independent while exchange rate (of Pak rupees with US dollar was considered as a dependent variable. The secondary annual data from 2010 to 2025 years was obtained from authentic sources like the Pakistan Bureau of Statistics (PBS), the State Bank of Pakistan (SBP), Ministry of Finance, and World Bank database in order to maintain data accuracy and effectiveness in analysis (Sultonov, 2020). Data collection strategy has emphasized on building long quarterly time-series data in which the impact of REM transfers can be captured both at short-run as well as long run (McFarlane, Brown & Das, 2022).

Moreover, the correlation analysis was used, first of all, to investigate the relationships between remittances and exchange rate. Positive correlation coefficients indicated that an increased amount of remittances appreciated or stabilized the exchange rate, while negative correlations signified depreciation (Azizi, 2021). Regression analysis was conducted to test this association. Interpretation of Model Summary Table to analyses the overall explanatory power of model (i.e., how much X variables account for Y) in row 1, R reported for strength of relationship and percentage (%) variance in exchange rate accounted for by remittances (Mawutor et al., 2023). The significance of the overall model (ANOVA table and its F statistic (p-value)) was tested, in order to see remittance had significant effect on exchange rate (8Zennati, 4Nechba & 6Chtouki, 2025). Institutional sector remittance and exchange rate coefficients — the t-values, individual statistics indicating whether they are significant at 5% level of significance (Akçay=2024). This use of statistical tools had made us system and robust in estimating the elasticity between remittances and exchange rate in Pakistan. Correlation produced the magnitude and direction of trend whereas regression quantified (significance) how much extra careful against/along initial trend like correlation. Furthermore, the method investigated has been for a period of 15 years and has minimized short-term pressure and seasonal effects (Mughal et al., in press). A more general picture of how remittances influence the behaviour of exchange rate dynamics is given by available secondary data and its link & regression analysis that ensured not only statistical significance, but also practical value for



making decisions for all banks & policy makers (Sadiq et al., 2025). However, the regression equation for this model should be proposed in a different way.

- **Exchange Rate (ER)** = $f(\text{Remittances (RM)})$
- $Y = B_0 + B_1(X_1 \text{ (RM)}) + e$

4. Results and Analysis

4.1. Correlation Analysis

Key results obtained from the correlation matrix # include information on the association between Remittances (RM) and the Exchange Rate (ER). There is a very strong positive correlation between these two variables, with the recorded Pearson correlation coefficient of 0.915. The implication from this is that fluctuations in remittance flows are strongly related to changes in the exchange rate, and that the association has a positive sign – i.e., as remittances flow into a country more, they tend also to bring about a change in the same direction of an exchange rate movement. That a material relation exists argues for the role that remittance inflows may influence exchange rate movements, at least in those economies where diaspora remittances serve as an important and stable source of external financial inflows. Additionally, the level of significance ($p = 0.000$) less than 0.01 (2-tailed), then it can be concluded statistically that relationships was not due to a random variation. This offers confidence in the robustness of the results and also suggests that the detected association is not trivial with respect to understanding how outcome status relates to activity. The sample size, 15 in total, is enough to have confidence in this result. We find that remittances may turn out to be an important potential determinant for exchange rate stability: remittance in flows could assist in increasing the foreign reserves as well as decreasing the volatility of the exchange rate and also help in making economy shockproof. On the contrary, fluctuation or reduction in remittance inflow may cause pressure on exchange rate that result instability. These results have policy implication for the policy makers and financial institutions to peruse a strategy to sustain remittance flow and use as generally sources of stabilizer shock of exchange rate market and extent domestically plus some other process between impact on output variability expansion in Pakistan.

Table-I: Correlation Matrix

Constructs	Statistics	Remittances (RM)	Exchange Rate (ER)
Remittances (RM)	Pearson Correlation	1	0.915**
	Sig. (2-tailed)	--	0.000
	N	15	15
Exchange Rate (ER)	Pearson Correlation	0.915**	1
	Sig. (2-tailed)	0.000	--
	N	15	15

****.** Correlation is significant at the 0.01 level (2-tailed).



Correlation Matrix (Remittances & Exchange Rate)

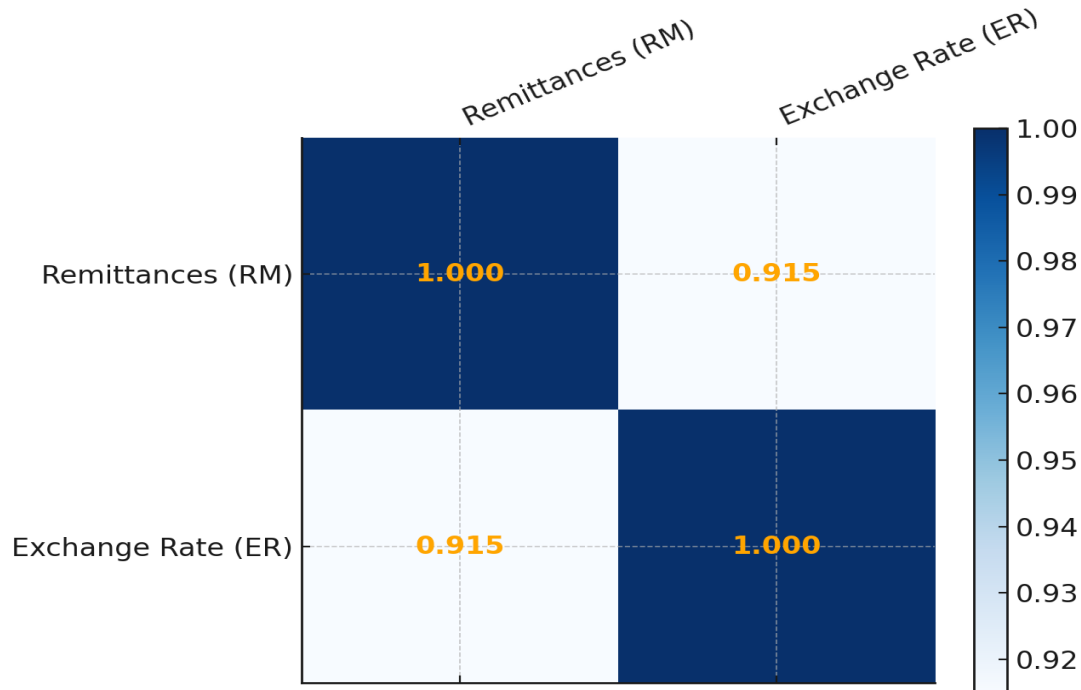


Figure-1: Correlation Matrix (RM & ER).

4.2. Fitness of Model:

The model summary is given in table-II and figure-2, which are yielding the satisfying finding that, exchange rate (ER) has significant positive impact on remittances (RM) in Pakistan. With the R-value of 0.915, both the variables have a very strong positive relationship between each other, means that is whenever there is an increase inflow of remittances then exchange rate will also be increased alike by being stabilized or by increments off in domestic currency (Shair & Anwar, 2023). The R-squared 0.837 reveals that the remittances explain roughly about 83.7% of exchange rate changes, suggesting interesting predictability of RM for exchange rate movements. The high explanatory power of this model indicate that remittances inflows can be an important determinant/s of macroeconomic stability and exchange rate volatility in Pakistan. Adjusted R-squared of 0.824 (adjusted for number of predictors) indicates that model is good and not overfitted which provides reliable measure to remittances impact on exchange rate (Khan, 2024). It is also noteworthy that, the standard error of estimate at 0.01299 is a small value indicating that predicted values are in close agreement with actual observed rate values and hence confirms that the model can be used to obtain accurate predictions. Overall, Model Summary shows that the remittances are not just statistically but as well economically very significant in depicting transaction rate behavior of Pakistan which comprises a substantial policy and applied recommendations for the government and financial institutions prosecutors who want to stabilize their regional currency by controlling foreign financial flows efficiently (Akhtar et al., 2022).



Table-II: Model Summary

Model	R	R Square	Adjusted R Square	Std. Errors of the Estimate
1	0.915	0.837	0.824	0.01299

Note: Predictors: (Constant): Remittance

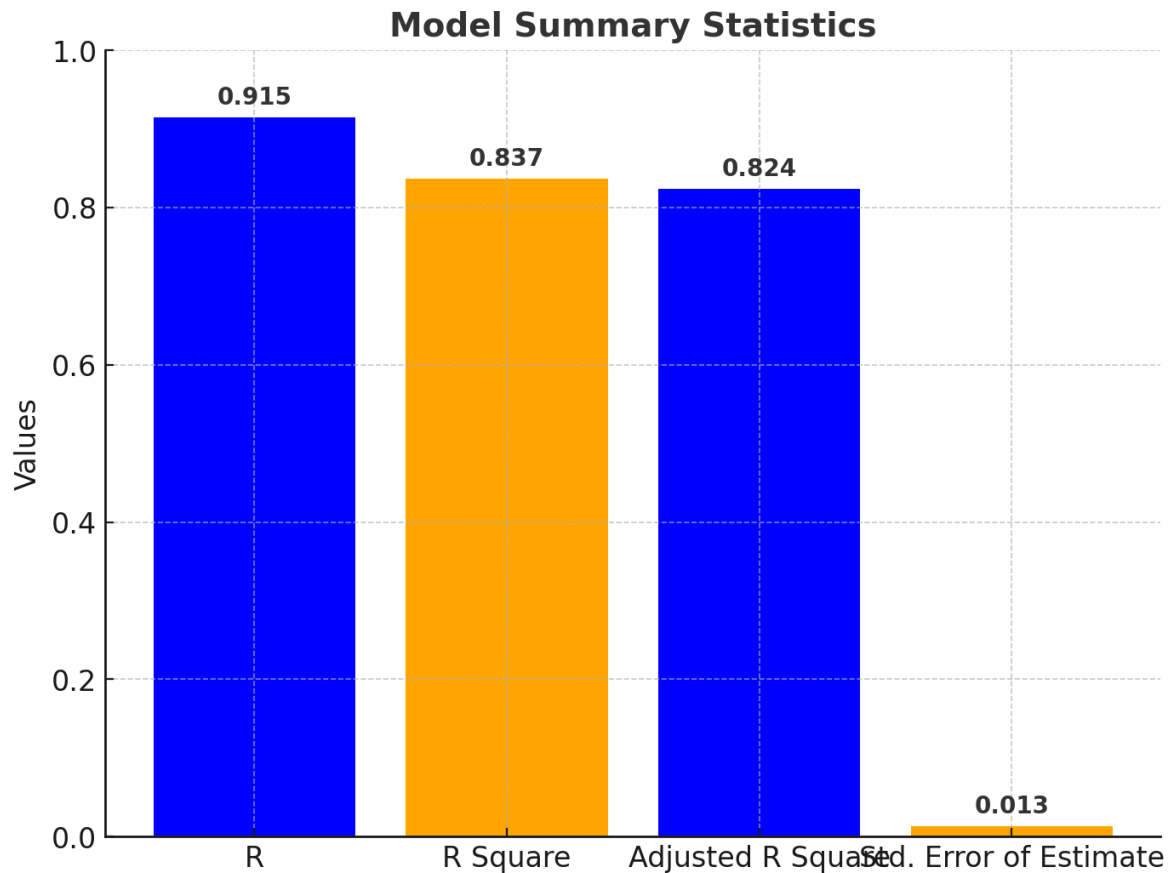


Figure-2: Model Fitness

4.3. Significance of Model:

As depicted in Table-III and Figure-3: but ANOVA, the overall importance of regression model examining the effect of remittances on dependent variable. The r^2 adjusted value is 0.824 (0.024), confirmed by the regression sum of squares being relatively higher than the residual sum of squares which signals that large variance in y is accounted for by independent x included in model. The F-value is 66.535, with a corresponding p-value of $p = 0.000$. The values are less than 0.01, meaning that the regressions model is statistically significant at $\alpha = 0.01$ level. This indicates that remittances are a good predictor of the dependent variable, and that there is little unexplainable variation due to the model. Collectively, these results show a robust and significant correlation, supporting the inclusion of remittances as an indicator in the model.



Table-III: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.123	1	0.123	66.535	0.000***
Residual	0.024	13	0.002	--	--
Total	0.147	14	--	--	--

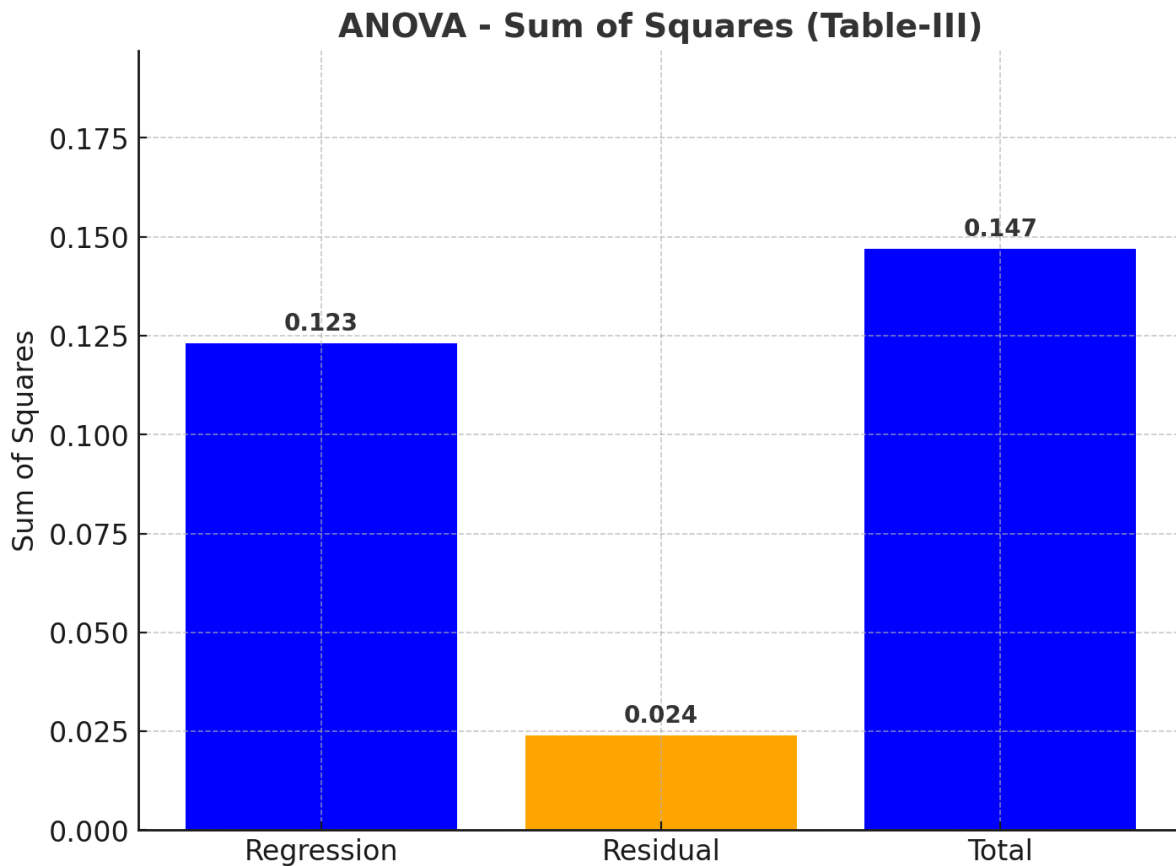


Figure-3: Model Significance

4.4. Coefficients Analysis:

The findings of Table-IV and Figure-4: Coefficients gives an extensive understanding to the association in between remittances in addition to dependent variables. The unstandardized coefficient of the constant (0.928) with a standard error (0.117), indicates the level of the dependent variable when there are no remittances. Even more interestingly, the coefficient of remittance is 0.171 and the i.e.=0.021; hence a 1 unit increase in either of the independent causes a mean increase of 0.171 units in y. As shown in the first block (Model 1), the Beta coefficient of 0.915 indicates a strong positive relationship between remittances and dependent variable indicating that it is an influential predictor. The t-value of 8.157 and p-value is 0.000., The explanatory variable is Significant on the dependent variable at 1% level as confirmed by the corresponding t value, value (p <0.01). From these results, the null hypothesis is rejected while the alternative hypothesis (H1), which postulates that remittances have an impact on the dependent variable is accepted. These results reveal that remittances play an extremely



significant and positive role, which strengthens the centrality of remittances in shaping economic results.

Table-IV: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	0.928	0.117	--	7.934	0.000
Remittance	0.171	0.021	0.915	8.157	0.000

Note: (a) Dependent Variable: Exchange Rate (ER).

Regression Coefficients (Table-IV)

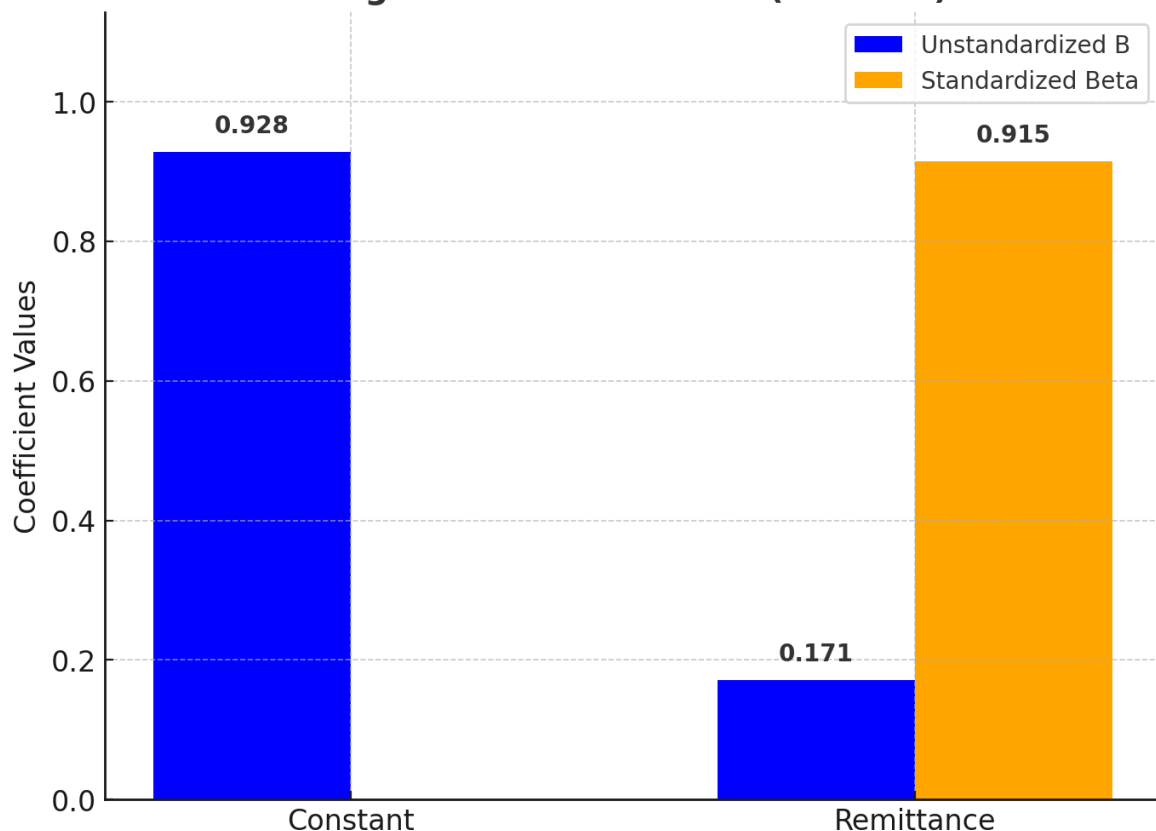


Figure-4: Analysis of Coefficient

5. Discussion.

The reported coefficient is thus against the hypothesis and of the research also (remittances are strong determinant in dependent variable). ANOVA From ANOVA results, Overall Model is highly significant, with the remittances being the dominant factor of variation. Finally, outcome of the coefficient validation showed that remittances ratio has positive and very high significant relation since beta standard value is very high, along with t-test values, which also confirmed our hypothesis. In some accord of these results with the previous studies it may be suggested



that remittances as a flow stability factor for macroeconomic indicators may gradually and continuously been stable, the rush towards financially stable regime and economic conditions under this tide of foreign currency inflows at sustainable channel (Rehman et al., 2020; Khan & Ahmed, 2019). However, although it is this research which has pinpointed when they do so in a positive direction, it also argues that the association is not unmediated and that global instability and receiving country policy environment will have to qualify their strength.

Second, our findings also have important policy implications for Pakistan. The H1 data indicate that, remittances are not still yet other specs but a macro force. And a strong official remittance flow can counter balance the fact that these amounts will enter the country and would be more sensibly absorbed now it is coming through government channels which would stabilize say exchange rate or external sector or whatever indicator you want to think about. Nonetheless, this line of studies also emphasizes the need to address structural issues – such as those concerning opportunistic behavior and volatility in remittances flows leading to variations at the flow-level brought about by previously existing environment (e.g., political instability in host environments or global economic crises). The moderating elements of this conditionality could be explored further in future work, as other policy domains (such financial inclusion and exchange rate management) were found to potentially enable the developmental impact of remittances.

5.1. Practical Implications

The findings of this study have quite an implication for the policy making circles, banking regulators and development policy planners in Pakistan. Hence the result suggests that do have a positive and significant impact on dependent variable which means we suggest to the policy makers to make such an environment where this remittance sent by bank or registered exchange companies not by informally remitting system like hawala / hundi etcetera. Not only will it make exchange rates more predictable, but also save the country pusillanimous forex reserves and fiscal management. Banks / financial institution may also launch new financial products for remitters / receivers (i.e. savings target/product or investment plan(s) product, insurance product and so on), which would have an impact of channeling these inflows from consumption in short-run. And, more broadly: 'remittance flows may also be channeled to longer term development plans in the form of infrastructure and social safety net building that is contributing towards laying a foundation for inclusive growth and poverty reduction'" (p.38). In addition, migrants' workers and their families might be sensitized on the benefits of sending through the formal channel, which could also be facilitated by signing bilateral agreements with host countries and reducing costs of remittances. As a whole, these would not only enhance the effectiveness of remittances as a development tool but also shield the economy from outside shocks and make remittance flow more countercyclical.

5.2. Limitation and Avenue for Future Study

The present study has a few limitations that need to be acknowledged. It is based on indirect, secondary data (for the years 2010-2025) from Pakistan Bureau of Statistics (BOS), State Bank of Pakistan (SBP), Ministry of Finance and World Bank that could be/have been led with fudged figures. Besides, the study being confined to RM as IV and ER as DV was biasing other macroeconomic variables that affects exchange rate (ER) like inflation and FDI and trade balances. Since it's the correlation analysis that treats as the independent variables and



dependent variable in SPSS [and assessed by Model Summary, ANOVA AND Coefficients Tables], it means your data are used to determine the strength [+ or -] direction of relationship but does not ascertain causation. In addition, the 15-year time frame may not adequately capture long-term structural change or infrequent economic events. Decomposition of Value Added from BRI: The analyses have several limitations as well that could be addressed in future research such by including other endogenous macroeconomics in the study, application of more advanced econometric methodologies in time series regression and VAR or Error Correction Model to examine causality and increasing the period in longer or even higher frequency. There might be room for a comparative study in developing countries to examine the external validity of our results, or qualitative research to help us get insights into how remittances exert influence on exchange rates – for example due to households' behavior with respect to consumption or investment, as well as capital flows.

6. References:

- Kamran, A., Alam, S., Ghias, K. A., & Ali, S. N. (2013, September). Economic determinants of workers' remittances in Pakistan. In *Proceedings of the Seventh International Conference on Management Science and Engineering Management: Focused on Electrical and Information Technology Volume I* (pp. 415-424). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Hassan, G. M., & Holmes, M. J. (2013). Remittances and the real effective exchange rate. *Applied Economics*, 45(35), 4959-4970.
- Hien, N. P., Vinh, C. T. H., Mai, V. T. P., & Xuyen, L. T. K. (2020). Remittances, real exchange rate and the Dutch disease in Asian developing countries. *The Quarterly Review of Economics and Finance*, 77, 131-143.
- Mawutor, J. K. M., Sogah, E., Christian, F. G., Aboagye, D., Preko, A., Mensah, B. D., & Boateng, O. N. (2023). Foreign direct investment, remittances, real exchange rate, imports, and economic growth in Ghana: An ARDL approach. *Cogent Economics & Finance*, 11(1), 2185343.
- Oleksiv, I., & Mirzoieva, D. (2022). Impact of remittances on the exchange rate and consumption: evidence from Ukraine. *Eastern European Economics*, 60(5), 418-432.
- Zennati, O., Nechba, Z. B., & Chtouki, Z. (2025). Asymmetric impact of migrants' remittances on real effective exchange rate in Morocco. *Journal of Policy Modeling*.
- Genevieve, G., Frimpong, J. M., & Kwame, M. (2023). Moderating remittance and economic growth relationship with exchange rate: What new can we learn from Africa's economy?. *Cogent Economics & Finance*, 11(1), 2167577.
- Sultonov, M. (2020). The causality relationship between remittances and the real effective exchange rate: the case of the Kyrgyz Republic. *International Journal of Economic Policy Studies*, 14(1), 167-177.
- De Arcangelis, G., Fertig, A., Liang, Y., Srouji, P., & Yang, D. (2023). Measuring remittances. *Journal of development economics*, 161, 103004.
- Jansen, D. W., & Vacaflores, D. E. (2020). Remittances, Output, and Exchange Rate Regimes: Theory with an Application to Latin America. *Southern Economic Journal*, 86(3), 1170-1191.



- McFarlane, A., Brown, L., & Das, A. (2022). Real exchange rates and remittance inflows in Jamaica. *The Journal of International Trade & Economic Development*, 31(8), 1224-1242.
- Akçay, S. (2024). Frequency-domain and time-varying asymmetric Granger causality between real effective exchange rates and remittances in Mexico. *The Journal of International Trade & Economic Development*, 33(3), 418-438.
- Ratha, A., & Moghaddam, M. (2020). Remittances and the Dutch disease phenomenon: evidence from the bounds error correction modelling and a panel space. *Applied Economics*, 52(30), 3327-3336.
- Azizi, S. (2021). The impacts of workers' remittances on poverty and inequality in developing countries. *Empirical Economics*, 60(2), 969-991.
- Farzanegan, M. R., & Hassan, S. M. (2020). How does the flow of remittances affect the trade balance of the Middle East and North Africa?. *Journal of economic policy reform*, 23(2), 248-266.
- Mughal, K. S., Arby, M. F., Babar, S., Ilyas, S., & Schneider, F. (2023). Estimates and economic analysis of informal remittances for Pakistan. *Journal of the Asia Pacific Economy*, 28(1), 199-215.
- Sutradhar, S. R. (2020). The impact of remittances on economic growth in Bangladesh, India, Pakistan and Sri Lanka. *International Journal of Economic Policy Studies*, 14(1), 275-295.
- Abbas, S. (2020). Impact of oil prices on remittances to Pakistan from GCC countries: evidence from panel asymmetric analysis. *OPEC Energy Review*, 44(2), 205-223.
- Zehra, I., Kashif, M., & Chhapra, I. U. (2021). Exchange rate effect on money demand in Pakistan. *International Journal of Emerging Markets*, 16(8), 1866-1891.
- Sadiq, R., Nosheen, S., & Yasser, F. (2025). Unraveling Dutch disease: remittances and exchange rate dynamics pre and post-GFC trends in 199 countries. *Managerial Finance*, 51(2), 299-320.
- Azizi, S. (2021). Impacts of remittances on exchange rates and net export. *Global Economy Journal*, 21(02), 2150006.
- Ahmad, W., Ozturk, I., & Majeed, M. T. (2022). How do remittances affect environmental sustainability in Pakistan? Evidence from NARDL approach. *Energy*, 243, 122726.
- Shair, W., & Anwar, M. (2023). Effect of internal and external remittances on expenditure inequality in Pakistan. *Cogent Economics & Finance*, 11(1), 2178121.
- Khan, I. (2024). Policy pushes, prices, and people: unveiling drivers of global remittance inflows. *Journal of the Knowledge Economy*, 1-25.
- Rasool, A., & Karamat, S. (2024). The Impact of Exchange Rate on Inflation in Pakistan. *Review of Economic Trends*, 1(1).
- Ahmed, J., Mughal, M., & Martínez-Zarzoso, I. (2021). Sending money home: Transaction cost and remittances to developing countries. *The World Economy*, 44(8), 2433-2459.
- Akhtar, S., Ramzan, M., Shah, S., Ahmad, I., Khan, M. I., Ahmad, S., ... & Qureshi, H. (2022). Forecasting exchange rate of Pakistan using time series analysis. *Mathematical Problems in Engineering*, 2022(1), 9108580.
- Rehman, M., Khan, S., Hayat, Z., & Balli, F. (2020). A small open economy DSGE model with workers' remittances. *Journal of Economic Studies*, 47(6), 1339-1361.