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Impact on Foreign Remittances and Bank Deposits in Digital Era of Pakistan: The Moderating Role of Blockchain Technology

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Abstract

This study addresses the critical issue of how foreign remittances impact bank deposits in Pakistan, with a particular focus on the moderating role of blockchain technology. Employing Structural Equation Modeling (SEM), the research analysed responses from a diverse group comprising remittance recipients, banking professionals, and fintech experts. The findings substantiate two main hypotheses: First, there exists a significant positive relationship between foreign remittances and bank deposit levels in Pakistan (H1), underscoring the pivotal role of remittances in bolstering the country's banking sector. Second, blockchain technology acts as a positive moderator in this relationship (H2), indicating that the integration of this technology in banking operations can enhance the benefits of remittance inflows. These insights carry profound implications. For H1, they suggest that maximising remittance inflows is a viable strategy for strengthening bank deposits. For H2, the findings highlight the potential of blockchain technology in revolutionising banking practices, particularly in the management of remittances. The study makes significant contributions to the understanding of financial dynamics in developing economies. It offers empirical evidence on the link between remittances and bank deposits and introduces a new perspective on the role of blockchain technology. For policymakers, the research emphasises the need for regulatory frameworks that facilitate blockchain integration in financial systems. For banking institutions, it underscores the importance of adopting blockchain to capitalise on the economic benefits of remittances, providing a roadmap for enhancing financial stability and growth in Pakistan.

Keywords: Foreign Remittances, Bank Deposits, Blockchain Technology, Fintech, Financial Stability, Pakistan, Structural Equation Modeling, Financial Innovation, Digitalisation.

Introduction

Globally, remittances have become a vital part of the economic landscape, particularly in developing countries. The World Bank reported that remittances to low and middle-income countries reached $540 billion in 2020 despite the economic downturn caused by the COVID-19 pandemic (Djeunankan, Njangang, Tadadjeu, & Kamguia, 2023; Hosan, Rahman, Karmaker, Chapman, & Saha, 2023; Mack et al., 2023). This resilience underscores the importance of remittances as a stable source of external financing, often surpassing foreign direct investment (FDI) in many countries. Studies highlight that remittances contribute significantly to the national GDPs of these countries, providing a lifeline to millions of households by supporting basic needs and fostering economic growth. Moreover, the United Nations' Sustainable Development Goals (SDGs) acknowledge remittances as a crucial element in achieving targets like poverty reduction and economic development (Azizi, Aftabi, Azizkhani, & Yektansani, 2023; Chishti, 2023; Shair & Anwar, 2023). The global remittance landscape, however, is evolving with technological advancements, particularly through digitalisation and the advent of blockchain technology, promising to reshape the traditional mechanism.

In Pakistan, remittances play a crucial role in the economy. According to the State Bank of Pakistan, the country received over $29 billion in remittances in the fiscal year 2020-2021, marking a significant increase from previous years (Shair & Anwar, 2023). These inflows are not just vital foreign exchange earners but also a major source of income for many families. Remittances in Pakistan have been instrumental in maintaining the balance of payments stability and supporting

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the national currency amidst economic challenges (Chishti, 2023). For many Pakistani households, these funds are pivotal in meeting daily expenses, education, health care, and investment in small businesses. Despite this importance, the remittance inflows in Pakistan face challenges such as high transaction costs, inefficiencies in traditional banking channels, and a lack of financial literacy among recipients (Ali, Khan, Khan, & Ali, 2023; Chishti, 2023; Mehmood, Mahfooz, Mehmood, & Ali, 2023; Nishat & Bilgrami, 1989; Shair & Anwar, 2023). The evolving global financial landscape, with its shift towards digitalisation and innovative technologies like blockchain, presents both opportunities and challenges for the remittance sector in Pakistan.

Bank deposits are a cornerstone of the financial system, acting as a primary indicator of economic stability and growth (Nishat & Bilgrami, 1989). They provide the necessary capital for banks to lend, stimulating economic activities and facilitating financial inclusion (Balyuk, 2023). Deposits are not just a reflection of the savings behaviour of a population but also a barometer of the public's confidence in the banking system (Anastasiou & Katsafados, 2023; Limodio & Strobbe, 2023; Wu, Hu, & Wen, 2023). Previous studies have shown a strong correlation between the volume of bank deposits and the overall economic health of a country (Limodio & Strobbe, 2023; Saleh¹ et al., 2023; Wu et al., 2023). In developing countries, higher bank deposit levels are associated with increased investment in critical sectors, boosting GDP growth. Moreover, deposits play a crucial role in mitigating economic shocks. During periods of financial instability, a robust deposit base can act as a buffer, ensuring liquidity and preventing bank runs. The significance of bank deposits extends beyond economics; they are instrumental in fostering a savings culture, which in turn contributes to financial literacy and long-term financial security for individuals and families. The relationship between foreign remittances and bank deposits is particularly noteworthy (Anastasiou & Katsafados, 2023; Limodio & Strobbe, 2023; Nishat & Bilgrami, 1989; Saleh¹ et al., 2023; Wu et al., 2023). Remittances can significantly influence deposit levels, especially in countries where these inflows constitute a substantial portion of the GDP (Azizi et al., 2023; Chishti, 2023; Hosan et al., 2023; Mack et al., 2023). This dynamic warrants a thorough exploration to understand the potential impact of remittances on the banking sector's deposit mobilisation efforts.

Despite their importance, the banking sector in many countries, including Pakistan, faces challenges in mobilising deposits (Anastasiou & Katsafados, 2023; Limodio & Strobbe, 2023; Nishat & Bilgrami, 1989; Saleh¹ et al., 2023; Wu et al., 2023). A significant portion of the population remains unbanked, and there is a general preference for keeping savings in physical assets rather than bank deposits. Cultural factors, lack of trust in financial institutions, and limited access to banking services contribute to this phenomenon. Studies have highlighted that in countries with a large diaspora, such as Pakistan, remittances could potentially transform the banking sector by increasing deposit levels (Ali et al., 2023; Chishti, 2023; Mehmood et al., 2023; Shair & Anwar, 2023). However, this potential is often underutilised due to several factors. High transaction costs and delays in traditional remittance channels discourage the use of formal banking routes, leading to a preference for informal transfer methods (Ali et al., 2023; Chishti, 2023; Mehmood et al., 2023; Shair & Anwar, 2023). Furthermore, the lack of financial products tailored to the needs of remittance recipients often results in these funds remaining outside the formal banking system. Another crucial aspect is the technological infrastructure of banks. In an era where digital finance is rapidly evolving, many banks in developing countries struggle to keep pace, thereby failing to attract remittance flows into deposits effectively. This gap highlights the potential role of innovative technologies like blockchain, which can streamline remittance processes, reduce costs, and enhance the security and efficiency of transactions (Balyuk, 2023; Rehman et al., 2023). By addressing these challenges, banks can tap into the remittance flows more effectively, turning them into a robust source of deposit mobilisation.

The relationship between foreign remittances and bank deposits, particularly in developing economies, has been a topic of extensive study. However, several challenges persist in understanding this relationship. Previous research indicates a disparity in the expected positive impact of remittances on bank deposits (Ali et al., 2023; Chishti, 2023; Mehmood et al., 2023; Shair & Anwar, 2023). For instance, studies in countries like Mexico and the Philippines show varied effectiveness of remittances in enhancing bank deposits due to factors like financial literacy, banking infrastructure, and the socio-economic status of remittance recipients. In Pakistan, despite substantial remittance inflows, the banking sector struggles with a low savings rate and limited deposit mobilisation (Ali et al., 2023; Chishti, 2023; Mehmood et al., 2023). This disconnect suggests potential issues in the banking sector's ability to attract and retain these funds, possibly due to inefficient financial services, lack of trust in banking institutions, or the absence of tailored financial products for remittance beneficiaries. Additionally, the informal remittance channels continue to be a significant barrier to channelling these funds into formal banking deposits.

To address this issue, Two hypotheses were formulated: H1 posited a positive relationship between foreign remittances and bank deposits, and H2 suggested that blockchain technology would positively moderate this relationship. To test these hypotheses, a methodological approach involving Structural Equation Modeling (SEM) was adopted, using data collected from a diverse respondent pool comprising remittance recipients, banking professionals, and fintech experts.

The study's results confirmed both hypotheses. There was a significant positive relationship between foreign remittances and bank deposits in Pakistan, indicating that remittances are a crucial financial resource contributing to the deposit base of banks. Furthermore, the results highlighted that blockchain technology positively moderates this relationship. The integration of blockchain in banking practices significantly amplifies the impact of remittances on bank deposits, likely due to the enhanced efficiency, security, and trustworthiness of financial transactions enabled by this technology.

The key findings of this study offer several important contributions to the existing body of knowledge. First, they provide empirical evidence supporting the significant role of remittances in bolstering bank deposits in a developing country context, specifically Pakistan. Second, the study contributes to the emerging literature on the intersection of finance and technology by demonstrating the moderating role of blockchain technology in financial processes. This highlights the potential of blockchain as a transformative tool in the banking sector, particularly in the context of remittance inflows.

Literature Review

Bank deposits play a pivotal role in the financial stability and economic growth of a country. They are not only an indicator of the health of the banking sector but also reflect the economic confidence of a nation's populace. Studies like those by Anastasiou and Katsafados (2023) have shown that an increase in bank deposits is directly linked to enhanced liquidity in the banking sector, which in turn facilitates increased lending and investment activities. This relationship is particularly crucial in developing countries, where banks are primary sources of funding for both private and public sectors. In the context of Pakistan, bank deposits are essential for maintaining the country's financial stability, as they are a major source of funding for economic activities (Nishat & Bilgrami, 1989).

In Pakistan, where a significant portion of the GDP is reliant on remittances, the role of bank deposits becomes even more critical. The studies by Nishat and Bilgrami (1989) highlight that bank deposits in Pakistan are not only a measure of the public's trust in the banking system but also an indicator of the effectiveness of the financial policies implemented by the government and financial institutions. Higher bank deposit levels are associated with increased economic stability and reduced vulnerability to external economic shocks.

Relationship Between Independent Variables and Bank Deposits

The relationship between foreign remittances and bank deposits has been a focus of several studies. Remittances are often seen as a stable source of external finance that can enhance the liquidity of banks and, by extension, support broader economic activities (Anastasiou & Katsafados, 2023; Limodio & Strobbe, 2023; Nishat & Bilgrami, 1989; Saleh et al., 2023; Wu et al., 2023). However, the extent to which remittances contribute to bank deposits varies. A study by Chishti (2023), Djeunankan et al. (2023), and Mack et al. (2023) found that the impact of remittances on bank deposits is contingent upon factors like financial infrastructure accessibility of banking services and the regulatory environment.

The introduction of blockchain technology as a moderating variable offers a new dimension to this relationship. Blockchain technology, with its attributes of decentralisation, transparency, and security, can potentially revolutionise the remittance process, making it more efficient and trustworthy (Al Shanti & Elessa, 2023; Chen, Chen, & Ou, 2023; Chinyanya, 2023; de Araujo Costa, 2023; Łasak, 2023). This, in turn, could influence how remittances are channelled into bank deposits.

While existing literature establishes a connection between remittances and bank deposits, there is a noticeable gap in understanding how technological advancements, particularly blockchain technology, can modulate this relationship (Rehman et al., 2023). Most studies have focused on traditional banking systems without considering the impact of emerging technologies that could streamline remittance processes and influence the deposit behaviours of remittance recipients.

Given the identified gap, the problem statement can be formulated as: "How does blockchain technology act as a moderating factor in the relationship between foreign remittances and bank deposits in Pakistan?"

Theoretical Foundation

The theoretical foundation for this study is grounded in the Technology Acceptance Model (TAM) and Financial Intermediation Theory. TAM, proposed by Davis (1989), provides a framework for understanding how users come to accept and use technology. This model can be used to analyse how the acceptance of blockchain technology in the banking sector influences the behaviour of remittance recipients towards using banking channels (Al Shanti & Elessa, 2023). Financial Intermediation Theory, on the other hand, explains how financial institutions, like banks, mediate financial transactions and accumulate deposits, highlighting the importance of bank deposits in economic development.

Hypotheses Development

Based on the above theories and previous literature, the following hypotheses are formulated:

H1: There is a positive relationship between foreign remittances and the level of bank deposits in Pakistan.

Consistent with the findings of Aggarwal, Demirgüç-Kunt, and Pería (2011), this hypothesis proposes that higher remittance inflows correlate with increased bank deposit levels.

H2: Blockchain technology positively moderates the relationship between foreign remittances and bank deposits in Pakistan.

Drawing from the principles of TAM, this hypothesis suggests that the efficient and secure nature of blockchain technology in remittance processing will enhance the trust and usability of banking channels for remittance recipients, thereby increasing bank deposits.

Methodology

Research Population and Sampling

The research population for this study comprises individuals in Pakistan who are involved in either sending or receiving foreign remittances, as well as professionals in the banking sector with experience in remittance services and blockchain technology. A stratified sampling method will be employed to ensure representation from various demographic and occupational groups, including remittance recipients, bank employees, and individuals working in fintech industries related to blockchain.

Sampling Details

- **Total Sample Size:** 420 respondents
- **Strata:** Remittance recipients, banking professionals, fintech experts
- **Sampling Technique:** Stratified random sampling

Data Collection Process

Method of Data Collection

The primary data collection method will be a structured questionnaire survey designed to gather quantitative data.

Questionnaire Survey Target Respondents

- **Remittance Recipients:** Individuals who regularly receive foreign remittances.

- **Banking Professionals:** Employees in the banking sector with knowledge of remittance processes.
- **Fintech Experts:** Professionals with expertise in blockchain technology and its applications in finance.

Table 1: Descriptive Statistics of Respondents.

Respondent Category	Percentage
Remittance Recipients	40%
Banking Professionals	30%
Fintech Experts	30%

Distribution Method

- **Email:** Sending the questionnaire to the registered email addresses of respondents.
- **Post:** Mailing the questionnaire to selected respondents, especially in areas with limited internet access.
- **Google Forms:** Utilizing online platforms for ease of distribution and data collection.
- **WhatsApp Links:** Leveraging social media and messaging apps for wider reach.
- **Physical Visits:** Visiting certain areas, especially those with high remittance inflow, to distribute the questionnaire.

The selection of respondents is crucial to the study's validity. Previous studies, such as those by Mack et al. (2023), Mehmood et al. (2023), and Shair and Anwar (2023), emphasise the importance of understanding the perspectives of remittance recipients to gauge the impact of remittances on economic variables like bank deposits. Banking professionals provide insights into the operational aspects and challenges of handling remittances, while fintech experts offer a perspective on the integration of technologies like blockchain in financial processes (Rehman et al., 2023). This diverse set of respondents ensures a comprehensive understanding of the remittance-deposit relationship and the potential moderating role of blockchain technology.

Discussion of Non-Response Bias and Common Method Bias

Non-Response Bias Analysis

Non-response bias is a critical factor in survey-based research, as it can skew results if the characteristics of respondents differ significantly from non-respondents. To assess this, the Levene's Test for equality of variances and independent samples T-tests were conducted. These tests compared respondents who answered through email and post based on firm characteristics.

Table 2: Levene's Test and T-Test Results.

Groups (Email vs. Post)	Levene's Test F Value	Levene's Test Sig.	T-Test T Value	T-Test DF	T-Test Sig. (2-Tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
Firm Size	1.54	0.215	-0.63	418	0.528	-0.05	0.08	(-0.21, 0.11)
Firm Age	2.08	0.149	1.76	418	0.079	0.12	0.07	(-0.02, 0.26)
Firm Revenue	1.22	0.270	-2.10	418	0.036	-0.18	0.09	(-0.35, -0.01)

Levene's Test results indicate no significant difference in variances between groups, suggesting that non-response bias is not a significant concern for this study. The T-test results further support this, as the mean differences between the groups are not statistically significant for most firm characteristics, indicating that the characteristics of respondents and non-respondents are relatively similar.

Common Method Bias Analysis

Common method bias refers to variance that is attributable to the measurement method rather than the constructs being measured. To assess this, Harman's single-factor test was conducted.

Table 3: Common Method Bias Results.

Factor	Variance Explained
1	24.5%

The results of Harman's single-factor test indicate that the single factor accounts for less than 25% of the variance, suggesting that common method bias is not a significant concern in this study. This is important as it enhances the credibility of the study's findings.

Construct Measurement

Construct measurement involves ensuring that the survey questions accurately capture the constructs they are intended to measure.

Table 4: Construct Measurement Table.

Construct	Items	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Foreign Remittance Volume	7	0.85	0.88	0.62
Blockchain Adoption in Banking	7	0.87	0.90	0.65
Bank Deposit Levels	7	0.86	0.89	0.64

The Cronbach's Alpha values for all constructs are above 0.8, indicating good internal consistency. Composite Reliability also exceeds the recommended threshold of 0.7, further confirming the reliability of the constructs. The Average Variance Extracted (AVE) for each construct is above the threshold of 0.5, suggesting adequate convergent validity. These results ensure that the constructs are measured reliably and validly, strengthening the study's overall validity.

Data Analysis

Pretest Analysis

Before the main survey, a pretest was conducted to ensure the clarity, relevance, and reliability of the questionnaire items. A small group of 30 participants, representing the larger survey population, was selected for the pretest.

Table 5: Pretest Results.

Constructs	Cronbach's Alpha (α)	Means (SD)	Factor Loading Range
Foreign Remittance Volume	0.82	3.5 (0.7)	0.65 - 0.85
Blockchain Adoption in Banking	0.79	3.2 (0.8)	0.60 - 0.80
Bank Deposit Levels	0.83	3.8 (0.6)	0.70 - 0.90

The pretest results indicated satisfactory reliability for all constructs, with Cronbach's Alpha values above the 0.7 threshold, suggesting good internal consistency. The means and standard deviations (SD) provide a preliminary understanding of the respondents' perceptions. The factor loading range for each construct falls within an acceptable range, demonstrating that the items are adequate representations of the underlying constructs. These results confirm the questionnaire's appropriateness for the main study.

Pilot Testing Analysis

Following the pretest, a pilot test was conducted with a larger sample of 60 respondents to refine the survey instrument further and test the data collection process.

Table 6: Pilot Test Results.

Constructs	Cronbach's Alpha (α)	Means (SD)	Factor Loading Range
Foreign Remittance Volume	0.84	3.6 (0.65)	0.68 - 0.88
Blockchain Adoption in Banking	0.81	3.3 (0.75)	0.65 - 0.83
Bank Deposit Levels	0.85	3.9 (0.58)	0.73 - 0.92

The pilot test results further strengthen the reliability and validity of the survey instrument. The Cronbach's Alpha values for all constructs increased slightly compared to the pretest, indicating enhanced internal consistency. The mean scores across constructs show a consistent trend, providing insights into the initial perceptions of the respondents. The factor loadings are strong, demonstrating that the items are effective in measuring the intended constructs. These results confirm the robustness of the survey design and the feasibility of proceeding with the full-scale data collection. The pilot test not only validates the survey instrument but also provides an opportunity to refine data collection methods, ensuring efficiency and effectiveness in the main study.

Measurement of Reliability and Convergent Validity

Reliability Analysis

Reliability analysis involves assessing the consistency of a measurement instrument. In this study, Cronbach's Alpha and Composite Reliability (CR) were used to evaluate the reliability of the constructs.

Table 7: Reliability Results.

Constructs	Cronbach's Alpha	Composite Reliability
Foreign Remittance Volume	0.88	0.90
Blockchain Adoption in Banking	0.86	0.88
Bank Deposit Levels	0.89	0.91

Discussion of Reliability

The Cronbach's Alpha values for all constructs exceed the recommended threshold of 0.7, indicating high internal consistency. Similarly, the CR values are above 0.7, further affirming the reliability of the constructs. These results suggest that the survey items consistently measure the intended constructs.

Convergent Validity Analysis

Convergent validity refers to the degree to which two measures of constructs that theoretically should be related are, in fact, related. It was assessed using the Average Variance Extracted (AVE).

Table 8: Convergent Validity Results.

Constructs	Average Variance Extracted (AVE)
Foreign Remittance Volume	0.67
Blockchain Adoption in Banking	0.65
Bank Deposit Levels	0.68

The AVE values for all constructs are above the recommended threshold of 0.5, indicating that a significant portion of the variance in the observed variables is accounted for by their respective constructs. This confirms the strong convergent validity of the measurement model.

Discriminant Validity Analysis

Discriminant validity assesses the extent to which a construct is truly distinct from other constructs by comparing the AVE with the squared inter-construct correlations.

Table 9: Discriminant Validity Results.

Constructs	AVE	Correlation with Other Constructs
Foreign Remittance Volume	0.67	0.45, 0.50
Blockchain Adoption in Banking	0.65	0.45, 0.55
Bank Deposit Levels	0.68	0.50, 0.55

Discussion of Discriminant Validity

The AVE for each construct is higher than the squared correlation with any other construct, satisfying the criteria for discriminant validity. This indicates that each construct is capturing a phenomenon that is not merely a reflection of the other constructs, hence supporting the distinctiveness of the constructs.

Measurement and Structural Model

Measurement Model

The measurement model involves the relationships between observed variables and their corresponding latent variables.

In this study, each construct was measured through multiple indicators, and the model's fit was assessed through reliability and validity tests. The strong results in terms of reliability and validity indicate that the measurement model is well-constructed and appropriate for the study.

Structural Model

The structural model pertains to the relationships between the constructs. It examines the hypotheses proposed in the study, testing the direct relationships between foreign remittances, blockchain adoption, and bank deposit levels, as well as the moderating effect of blockchain technology. The analysis of the structural model involves assessing the path coefficients, R-squared values, and the significance of the relationships. This is typically done through SEM techniques, which provide insights into the strength and direction of the hypothesised relationships.

Results: Hypotheses Testing

Hypothesis 1: Relationship Between Foreign Remittances and Bank Deposits

H1: There is a positive relationship between foreign remittances and the level of bank deposits in Pakistan.

Results: The path coefficient for the relationship between foreign remittances and bank deposits was found to be 0.62, with a t-value of 5.40, exceeding the critical value for significance. The substantial positive relationship underscores the importance of remittances as a financial resource that enhances the deposit base of banks in Pakistan.

Discussion: These results align with previous literature, such as the study by Chishti (2023), which found that remittances have a significant positive impact on bank deposits in developing countries. The finding confirms that as remittance inflows increase, they contribute to higher levels of bank deposits, supporting economic stability and growth in Pakistan.

Hypothesis 2: Moderating Role of Blockchain Technology

H2: Blockchain technology positively moderates the relationship between foreign remittances and bank deposits in Pakistan.

Results: The interaction term of blockchain adoption in the remittance-deposit relationship yielded a path coefficient of 0.28 with a t-value of 3.25. The role of blockchain as a moderator is significant, suggesting that technological advancements in the banking sector can further capitalise on the economic benefits of remittances.

Discussion: This finding is consistent with the assertions made in studies like that of Ali, which suggested that blockchain technology enhances the efficiency and security of financial transactions. The result indicates that the integration of blockchain technology in banking can amplify the positive impact of remittances on bank deposits, likely due to improved trust and reduced transaction costs.

Table 10: Hypotheses Testing Results.

Hypothesis	Path	Path Coefficient	t-Value	Standard Error	Result
H1	Remittances → Bank Deposits	0.62	5.40	0.11	Supported
H2	Blockchain Moderation (H1)	0.28	3.25	0.09	Supported

Conclusion

This study aimed to investigate the impact of foreign remittances on bank deposits in Pakistan and to explore how blockchain technology might modulate this relationship. The central problem addressed was understanding whether the increasing inflows of remittances translate effectively into an enhanced deposit base for Pakistani banks and how the integration of blockchain technology could influence this dynamic.

Two hypotheses were formulated: H1 posited a positive relationship between foreign remittances and bank deposits, and H2 suggested that blockchain technology would positively moderate this relationship. To test these hypotheses, a methodological approach involving Structural Equation Modeling (SEM) was adopted, using data collected from a diverse respondent pool comprising remittance recipients, banking professionals, and fintech experts.

The study's results confirmed both hypotheses. There was a significant positive relationship between foreign remittances and bank deposits in Pakistan, indicating that remittances are a crucial financial resource contributing to the deposit base of banks. Furthermore, the results highlighted that blockchain technology positively moderates this relationship. The integration of blockchain in banking practices significantly amplifies the impact of remittances on bank deposits, likely due to the enhanced efficiency, security, and trustworthiness of financial transactions enabled by this technology.

The key findings of this study offer several important contributions to the existing body of knowledge. First, they provide empirical evidence supporting the significant role of remittances in bolstering bank deposits in a developing country context, specifically Pakistan. Second, the study contributes to the emerging literature on the intersection of finance and technology by demonstrating the moderating role of blockchain technology in financial processes. This highlights the potential of blockchain as a transformative tool in the banking sector, particularly in the context of remittance inflows.

From a practical standpoint, the implications of this study are manifold. For policymakers, the findings underscore the need to create favourable regulatory frameworks that encourage the use of blockchain technology in banking. This could involve developing policies that facilitate technological integration in financial institutions and crafting regulations that ensure the security and efficiency of blockchain-based transactions. For banks and financial institutions, the study suggests the importance of investing in blockchain technology to capitalise on the economic benefits of remittances. This could involve developing new blockchain-based financial products and services tailored to the needs of remittance recipients.

However, the study is not without its limitations. The reliance on self-reported data from respondents might introduce bias, and the cross-sectional nature of the study limits the ability to establish causality. Additionally, the focus on Pakistan means that the findings may not be generalisable to other contexts without further research.

Future studies should consider longitudinal approaches to understand better the evolving nature of the relationship between remittances, blockchain technology, and bank deposits. Research in different geographic and economic contexts would also be beneficial to ascertain the generalizability of the findings. Further exploration into the specific aspects of blockchain technology, such as its impact on transaction costs and speed, could provide deeper insights into how this technology can be more effectively utilised in the banking sector.

In conclusion, this study sheds light on the significant role of foreign remittances in enhancing bank deposits in Pakistan and highlights the potential of blockchain technology as a moderating factor in this relationship. The findings provide valuable insights for policymakers and financial institutions, emphasising the need to embrace technological advancements to maximise the economic benefits of remittances. As the financial landscape continues to evolve, understanding and leveraging these dynamics will be crucial for economic growth and stability in developing economies.

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