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REMITTANCES AND FINANCIAL DEVELOPMENT IN KENYA: AN AUTOREGRESSIVE DISTRIBUTED LAG APPROACH

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ABSTRACT: *This study estimates an Autoregressive Distributed Lag (ARDL) econometric model between 1970 to 2018 to test the long-run effect of remittances on financial development in Kenya. It also interacts remittances with monetary policy and human capital to test their complementarity in facilitating financial development. The long-run model finds that remittances hurt financial development contradicting the theoretical view. A possible explanation is the substitutability hypothesis which states that remittances replace the demand for financial products. The long-run model's results find that monetary policy complements remittances while human capital harms the complementarity role of remittances. More studies are required to isolate the cause of the negative externality of human capital in facilitating remittances to boost financial development. Surprisingly, openness and economic growth used as control variables have negative effects on financial development, which also need further study. The long-run equilibrium model adjusts at a speed of 51.8 percent to correct short-term disequilibrium after every two years. The study recommends that policymakers in Kenya should be cautious about the negative side effects of remittances on financial development. This study recommends that policymakers identify prudent monetary, exchange rate, trade, and fiscal policies to curb the side effects of remittances in the economy and broader development planning.*

KEYWORDS: Financial Development, Remittances, Monetary Policy, Human Capital, Kenya.

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INTRODUCTION

The role of remittances in the economy, including for investments and smoothing household consumption has come to gain prominence in recent years. On the backdrop of this ascendance, many studies examined the effect of remittances on many pertinent economic issues in developing countries (Fromentin, 2017; Mondal & Khanam, 2018; Lubambu, 2014). One of the critical issues that have drawn the attention of academics and economic policy experts is the link between remittances and financial development. Choong and Chan (2011) define financial development as an improvement in the quantity, quality, and efficiency of intermediary financial services. Financial development helps mobilize saving, facilitates and allocates capital into productive investments.

Sahay, N'Diaye, and Barajas (2015) argue that financial development serves many benefits in a country. It improves the country's economic resilience and boosts economic growth as it mobilizes saving towards productive investments. Because of financial development's allocative role in human and physical capital, the financial system is a conduit that accelerates growth. Sibindi (2014) suggests that remittances' ability to increase the likelihood of loanable funds and enhancement of financial literacy in a remittance-recipient country has a considerable potential to positively influence economic growth in a remittance-recipient country. Further, the financial system acts as a platform for gathering and sharing information, thereby minimizing risks, and accelerating economic diversification.

Figure 1 shows remittance as percent GDP in Kenya during the early 1990s to 2000s, and appears unstable because of political instability, while the remittances to GDP ratio seems to follow the trend of the monetary policy. Also, taking domestic credit to private to GDP as a proxy for financial development indicates tight relationships between the remittances-GDP ratio and money supply captured by broad money supply to GDP. In Figure 1, remittances to GDP are shown on the secondary axis while broad money supply to GDP and credit to the private sector are shown on the primary axis.

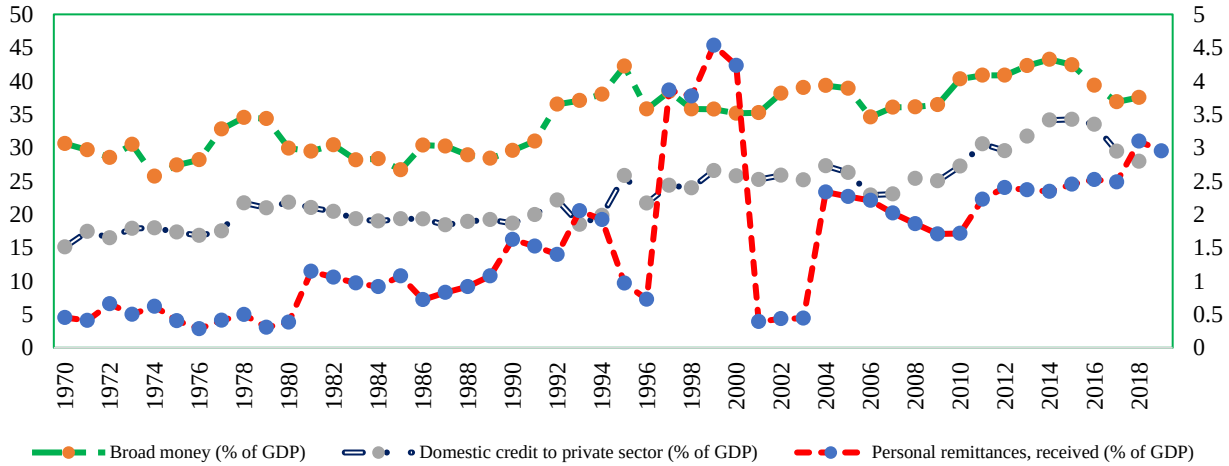

Figure 1: Broad money supply, domestic credit to the private sector, and personal remittances-GDP (1977–2018), as a percent of GDP

Source: World Development Indicators.

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Misati, Kamau, and Nassir (2019) investigated the effect of remittances on financial development in Kenya. This study follows a similar approach; however, it extends the period of study back to 1970 through 2018. Misati, Kamau, and Nassir H. (2019) employed data between 2006–2016. Laurie and Simpson (2018) and Farai (2018) examined the effect of remittances on human capital and physical capital in Kenya. They found positive and significant effects of remittances on financial sector development. This study tests the complementary role of monetary policy and human capital in enhancing remittances' contribution to financial development by interacting with them to assess whether a well-educated human capital and certain monetary policy environment are preconditions for remittance to boost financial development.

Broadly, the study recommends that Kenya should institute appropriate monetary and trade policies to curb the negative side effects of remittances on financial development. An innovative way to support exporters to minimize resource movement effects is viable policy options. The remaining part of this study is organized as follows: section two presents a literature review, section three looks at model and methodology, section four presents and discusses results and section five concludes the paper.

LITERATURE REVIEW

Between 1970 and 2010, the manufacturing share of the GDP ratio declined in many developing and developed countries. A decline is attributed to a resource movement effect (Tregenna, 2016). Benigno and Fornaro (2014) argued following the accession of the European Monetary Union, Spain, financed its external imbalances with the low-interest rate with foreign capital inflows from other European member countries suggesting a link exists between international capital and domestic macroeconomic decisions.

Today, globalization links foreign capital to domestic economies. Understanding how foreign capital inflows like remittances, foreign aid, and foreign direct investment affect domestic financial development is necessary, timely, and urgent. An influx of remittances could trigger a fall in the interest rate that induces consumption and investment, thereby boosting financial sector development. This theoretical *priori* effect needs further empirical investigations. In the 1990s, the influx of remittances from migrants in the diaspora to developing countries, particularly top remittance-recipient countries like Kenya, renewed the need to understand the implications on financial development.

Githaiga and Kabiru (2014) provided reasons migrants send money back home. First, migrants send money back home to support family members. Second, migrants are self-seekers who send remittances to build an investment portfolio back home. Either way, this implies investment or consumption is affected at home. Since remittances interact with the financial system of a recipient country, whether invested or consumed, remittance should improve the country's financial development. Sibindi (2014) suggests channels through which remittances can positively influence financial development. A deposit of remittances receipts with the financial sector increases available loanable funds through a loanable fund effect. Banks could extend credit using deposits from the remittances, thereby improving the demand and supply of financial products. As remittance-receiving households interact with the financial sector, households' knowledge about financial services improves through the "financial literacy

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hypothesis." Figure 2 presents a conceptual framework for the preceding discussions about remittance effects on financial development.

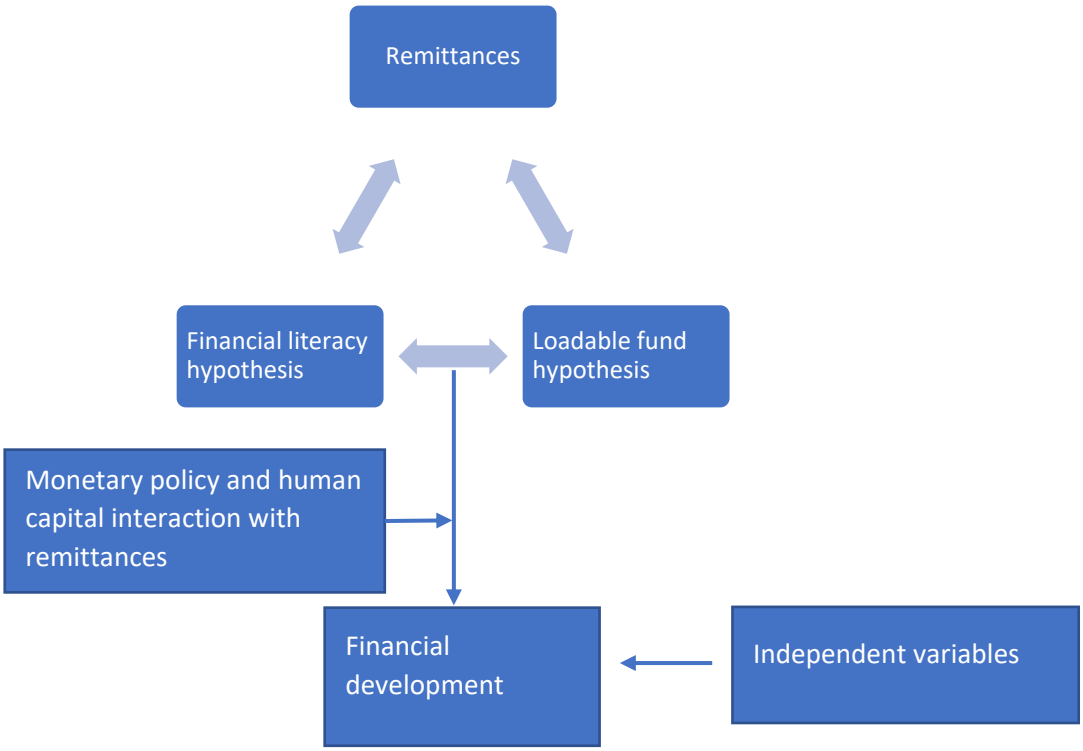

Figure 2: A loanable fund-financial literacy hypothesis theoretical framework for remittances impact on the financial development

Source: Author's conceptual framework.

Bakwena and Bodman (2011) studied the role of financial development in mediating investment in oil-producing and non-oil-producing countries. The authors find financial development plays a critical role in influencing the effectiveness of investment efficiency suggesting that an influx of foreign capital from a natural resource, or remittances in the case of this study, could influence the development of the financial sector. Despite the recent gain on the growth of financial sector development, Alter and Yontcheva (2015) note that growth had been uneven. On average, growth has been low in low-income countries. To unlock the determinants of financial development, several empirical studies examined the determinants of financial development (Huang, 2010; Takyi & Obeng, 2013).

Issahaku (2019) investigates how remittances and monetary policy independently and interactively determine financial development. The study finds remittances require a complementary monetary policy to stimulate growth. This study extends Issahaku's (2019) approach to investigate the complementary role of monetary policy in helping remittances improve Kenya's financial development.

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Farai (2018) and Laurie and Simpson (2018) examined the effect of remittances on human capital and physical capital in Kenya. They find positive and significant relationships. Arif and Khan (2019), in a separate study in Pakistan, find that remittances positively influence human capital development through investment channels. Following Arif and Khan's (2019) finding, this study empirically tests whether human capital development plays a complementary role in converting remittances into full-fledged financial development. This study tests empirically the complementary role of human capital to enhance remittance's induced financial development. The intuition is that a well-developed human capital accelerates the conversion of remittances into financial development.

Since financial development influences economic growth, understanding factors that determine financial development is essential to reduce inefficiency, improve transparency, and foster a competitive allocation of financial resources. Several empirical studies estimate the impact of remittances on financial development.

Azizi (2020) used data for one hundred and twenty-four countries for the period 1990–2015 and find that an increase in one percent of the remittances to GDP ratio leads to a 1.7 percent increase in credit to the private sector GDP. Tsaurai and Hlupo (2019) studied whether remittances and their interaction with human capital influenced financial development in transitional countries using a dynamic GMM approach, employing data for 1996–2014. The result shows a positive and significant influence of remittances on financial development, but the interaction term was not conclusive. The finding negates the notion that human capital plays a complementary role in enhancing remittances to improve financial development.

Ghulam, Shah, and Iqbal (2020) using the 1976–2015 data investigate the nexus between remittances and financial development in Pakistan. In a model with M2 to GDP as a proxy for financial development, remittance was not significant, while in the other model where credit to the private sector to GDP was employed, remittance was positive and significant. The significance of the private sector points to its reliability as an indicator of financial development.

Qiang et. al, (2019) estimate the impact of remittances on financial development for three groups of countries with different income levels. The authors note that remittances increased financial depth in all three groups of countries. Remittances stabilized the financial institutions in low-income and increased profitability in the middle-income group. Qiang et. al, (2019) notes remittances used for consumption adversely affected financial development.

Issahaku (2019) investigates how remittance and monetary policy act independently and interactively to determine the financial systems of thirty developing countries for the period 2008–2012 using a single equation instrumental variable-based estimation technique. The results show that remittances stimulate financial development only in countries with a favorable monetary environment. This makes it necessary to study if monetary policy creates an environment for monetary policy to contribute to financial development in Kenya.

Akkoyunlu (2012) investigate whether Turkish workers' remittances from Germany between 1963 and 2009 affected financial development using the VAR method. The study finds no link between remittances and financial development. Sibindi (2014), in a study in Lesotho, investigates the causal relationships between remittances, financial development, and

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economic growth using 1975–2020 data. Johannessen test and VECM techniques were employed. The result finds a causal relationship between remittances to financial development.

Githaiga and Kabiru (2014) used data for thirty-one developing countries to study the relationship between remittances and financial development. Proxied by a credit to the private sector, the results showed remittances hurt financial development. Githaiga and Kabiru (2014) employed GMM and OLS with M2 to GDP and credit to private sector/GDP as proxies for financial development. Oke, Uadiale, and Okpala (2011) in a study in Nigeria using 1977–2009 data find that remittances have a positive and significant influence on financial development. The study estimates the GMM and OLS estimation methods.

An increase in remittances does not translate into improved financial development due to several reasons. Distrust in the banking sector, high transaction costs, and anti-money laundering efforts are some reasons that households could avoid using the financial sector to transact remittances but instead opt for informal channels. Those sent purposely for consumption by households do not contribute to financial development, an argument which is inconsistent with the fact that remittances, even if meant for consumption, through the multiplier effect, could induce financial development.

Donou-adonsou, Gyan, and Basnet (2020) investigate the effect of remittances on financial development in the top ten remittance-recipient countries in Sub-Saharan Africa countries, including Kenya by employing data from 1980–2016. The result shows that remittances had a positive and significant long-term relationship with financial development. Tah (2019) used the number of commercial banks per 100,000 adults as a proxy for financial access in a study in twenty-six Sub-Saharan African countries for 2004–2015, estimated by the Arellano-Bond Dynamic panel. The study finds a positive and significant relationship between financial access and remittances, implying that remittances improved financial access.

In a panel data study of fifty countries in Africa, Karikari, Mensah, and Harvey (2016) examine the effect of remittances on financial development using 1990–2011 data by employing fixed effect, random effect, and panel VECM with credit to the private sector as a proxy for financial development. The study finds short-run causality from remittances to financial development. On further investigation, Karikari, Mensah, and Harvey (2016) find that remittances promote financial development in some respects as a better financial system fosters receipts of remittances. This suggests a monetary policy plays a complementary role.

Takyi and Obeng (2013) find that trade openness and income play a decisive role in financial development in the short- and long run in a study to establish determinants of financial development in Ghana. The authors find that the reserve requirement ratio, inflation, and interest rates played a negative role while the fiscal deficit appeared neutral. The neutrality of fiscal deficit shows government borrowing does not crowd out private investment.

MODEL AND METHODOLOGY

Githaiga and Kabiru (2014) and Karikari, Mensah, and Harvey (2016) who use credit to the private sector to GDP and banking sector deposit to GDP; Ghulam, Shah and Iqbal (2020) and Oke, Uadiale, and Okpala (2011) use credit to the private sector to GDP and M2 to GDP as proxies for financial development in empirical studies but producing mixed empirical

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results. However, since credit to the private sector captures the link between financial development and real economic production, this study uses credit to the private sector GDP to capture financial development.

The model aims to investigate the effects of overall remittances and their interaction with monetary policy and human capital on financial development in Kenya. The model adopted in this study closely follows Azizi (2020) and Issahaku (2019). Based on the availability of data, empirical investigation is conducted using observations for forty-nine years from 1970 to 2018. The data is sourced from World Bank Development Indicators (2020).

Model Specification

The econometric model is specified as follows in (1):

Financial development (fd_t) is specified as a function of (Rem_t, i_{1t}, i_{2t}, Op_t, and g_t)
(1)

where

- fd_t is a credit to the private sector as a percent of GDP
- Rem_t is a remittance inflow as a percent of GDP
- i_{1t} is a product of broad money supply as a percent of GDP and remittances as a % of GDP
- i_{2t} is a product of human capital proxied by government expenditure in education as % GDP and remittances as a percent of GDP
- Op_t is the sum of exports and imports as a percent of GDP
- g_t is the annual growth rate in percent

Table 1 summarizes all variables for estimating model (1)—units of measurements, and prior signs of the coefficients. Model (1) examines the effect of remittances, interaction between monetary policy and remittances, and interaction between remittances and human capital. Takyi and Obeng (2013) find that openness and income are important determinants in short-term and long-term models of predicting financial development. Thus, this study includes economic growth and openness as control variables. For the interaction terms, the study hypothesizes that remittances need a stable monetary environment and a well-educated human capital to contribute to financial development. The critical variables are remittances and the interaction terms, all of whose coefficients are expected to be positive and significant. The coefficients of the control variables are also expected to be positive.

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Table 1: Summary of Variables for Estimation and Coefficients' Expected Signs

Variable	Definition	Measurement	Model 1 Expected Sign
fd_t	Financial development	Credit to the private sector as a % GDP	
Rem_t	Remittance	Remittance as % of GDP	+
g_t	Economic growth rate	Annual %	+
Op_t	Openness	Sum of exports and imports %GDP	+
i_{1t}	Remittances * Broad money supply	Broad money supply % GDP * remittances % GDP	+
i_{2t}	Remittances * Human capital	Government expenditure in education as % GDP * remittances % GDP	+

Source: Author's compilation, March 2022.

Before a full econometric analysis, since there are some inconsistencies in the estimation of econometric results, our analysis starts by checking the stationarity of variables in models (1). The study employs Augmented Dickey-Fuller and Kwiatkowski-Phillips-Schmidt-Shin tests statistics for checking the degree of stationarity among targeted variables. Table 2 summarizes the stationarity test results. The stationarity is declared when a variable t-calculated value is smaller than the t-critical value or less than a 5% level of probability. The decision on the stationarity of the variables is summarized under the conclusion column in Table (2). All variables are stationary at first difference except openness, economic growth, and interaction terms that are I(0).

Table 2: Stationarity Test

Variable	ADF Test		KPSS		Conclusion
	Intercept	Trend	Intercept	Trend	
Economic growth					
Level	0.0000	0.0001	P<0.01	P<0.01	I(0)
Interaction one					
Level	0.1220	0.0211	P>0.10	P<0.01	I(1)
1st Diff	0.0000	0.0000	P<0.01	P<0.01	
Interaction 2					
Level	0.9486	0.2331	P>0.10	P<0.01	I(1)
1st Diff	0.0000	0.0003	P<0.01	P<0.01	
Openness					
Level	0.0453	0.0159	P<0.05	P<0.05	I(0)
Personal remittance					
Level	0.0820	0.0048	P>0.10	P<0.05	I(1)
1st Diff	0.0000	0.0000	P<0.01	P<0.01	
Financial development					
Level	0.3993	0.1102	P>0.10	P<0.01	I(1)
1st Diff	0.0000	0.0000	P<0.01	P<0.01	

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The results from stationarity analysis show that variables are a mixture of I(1) and I(0), and there is no I(2). Following Pesaran, Shin, and Smith (2001), this study adopts the Autoregressive Distributed Lag (ARDL) model, herein. The ARDL has advantages over other traditional econometric techniques. Jayaraman, Choong, and Kumar (2012) argue that the ARDL technique is used in a mixture of orders of integration and produces efficient long-run estimates with a short and finite sample. Makun (2018) argues that ARDL is appropriate to correct for the probable endogeneity problem.

The ARDL framework is a two-staged estimation technique. To test the presence of a long-run relationship between the dependent and independent variables, equation (1) is re-organized as an unrestricted error correction model (UECM) in ARDL. Hence, the variables are viewed in variation Δ as the first difference operator to make all variables stationary to estimate the error correction model (ECM) from the short-run given by ARDL. To investigate the long-run cointegration, the study uses the UECM mechanism. Before cointegration analysis, the order of lag is determined automatically in STATA using Akaike Information (AIC) criteria that shows all control variables are lag 2 and dependent variables are lag 1 in both models. Lag selection ensures that the actual dynamics in the models are well captured (Ghulam, Shah & Iqbal, 2020).

EMPIRICAL RESULTS AND DISCUSSIONS

Table 3 presents an examination of the long-term relationship between the variables in the model (1) and finds the existence of a long-term cointegration using the Bounds test (Pesaran, Shin & Smith, 2001; Pesaran, 2007). To assess the presence or absence of a long-term cointegration, the decision depends on whether *F*-statistic falls below the lower bound I(0) or above I(1). Model (1) finds that F statistics fall below I(0) and above I(1) bound at a 1% confidence level indicating the presence of a long-run association between the variables in the model.

Table 3: ARDL Bounds Test

Model	F-Value	Equations	P-value[#]	I (0) Bound	I (1) Bound
Model 1			10%	2.75	3.79
	8.86	5	5%	3.12	4.25
			1%	3.93	5.23

Following the confirmation of a long-run relationship between the variables, the study estimates the long-run model for the overall remittance effect, including the interaction terms on financial development in Kenya. Panel (a) of Table (4) presents the long-run model's estimates, panel (b) shows the results of diagnostic checks conducted and panel (c) shows the short-run error correction model. The diagnostic checks assess the overall reliability of the models and show the results don't suffer from severe econometric problems. The Jarque Bera test was used for the normality test, the LM test for serial correlation, and the Breusch Pagan Godfrey test to check for heteroscedasticity.

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The short-run error correction model whose results are presented in panel (c) examined the short-run dynamic relationship to test the reliability of the long-run estimates. In panel (c), the results show that the ECM coefficient carries a negative sign that is statistically significant at a 1% level. The ECM coefficient is -0.518 determining the rate of adjustment to the long-run equilibrium position. Moreover, the ECM shows that any divergence from the long-run relationship should be adjusted by about 51.8%, implying the adjustment takes two years since the analysis is based on annual data. Critical to note is the fact that only openness plays a significant role in the short-run adjustment, suggesting the role of trade balances in moderating financial development in developing countries like Kenya.

Table 4: ARDL Models Results

Panel (a): Long-Run Estimates

Variable	**Model 1**
Remittances	-6.965***
Openness	-0.271***
Openness (-1)	0.143**
Openness (-2)	-0.131**
Financial development (-1)	0.481***
Growth rate	-0.0535
Interaction one	0.228***
Interaction two	-0.012
Constant	10.105***
Adj. R-squared	0.933
Prob (F-stat)	0.0000

*** *p*-val:<0.001 ** *p*-val:<0.05 **p*-val:<0.01

Panel (c): Reliability Checks

Model	**Normality (Jarque Bera)**	**Serial Corr (LM Test)**	**Heteroskedasticity (Breusch Pagan Godfrey) Test**
Model 1	0.597	0.278	0.034

Panel (d): Short-Run Error Correction Model

	Model 1
ECM	-0.518***
d(Openness)	-0.271***
d(Openness (-1))	0.131**

*** *p*-val:<0.001 ** *p*-val:<0.05 **p*-val:<0.01

The results for the long-run economic relationship between financial development and remittances, the interaction between remittances and monetary policy, and the interaction between human capital and remittances, as in model (1), are shown in Table (4) in panel (a).

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The results revealed strong support for an inverse relationship between financial development and remittances in Kenya consistent with Githaiga and Kabiru's (2014) study. However, the results contradict that of Misati et, al. (2019) who used the ARDL to show a positive and significant relationship between remittances and financial development using quarterly data for 2006–2016. As shown in section two, distrust in the banking sector, high transaction costs, anti-money laundering efforts, and use of remittances for consumption purposes could influence remittance not contributing to financial development.

As expected, the interaction term between remittances and monetary policy is positive and significant at a 1% level which suggests the remittances require a certain monetary environment to contribute positively and significantly to financial development in developing countries like Kenya. Surprisingly, the interaction term between remittances and human capital proxied by government expenditure in education as % GDP is negative and insignificant. The study hypothesizes that a country with a better human capital is well placed to accelerate financial development with remittances inflow. The empirical result is not supportive of this view.

On the control variables, surprisingly, economic growth negatively affects financial development though not significant. The finding is inconsistent with Misati et, al (2019) who find that economic growth is positive and significant. The study finds openness, proxied as a sum of exports and imports to GDP, negatively affects financial development and is significant at a 1% level. The study speculates that openness influences financial development through the official exchange rate appreciation that retards economic growth. The overall model explains 93.3% of financial development which is significant.

Finally, the stability of the model was tested by employing the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ). Figure 3 provides plots of these tests for models (1) in panels (a–b). As shown in Figure 3, the CUSUM and CUSUMSQ test statistics did not exceed the critical limits at a 5% significant level as they are in the band. Therefore, the model is stable and reliable.

Panel (a) **Panel (b)**

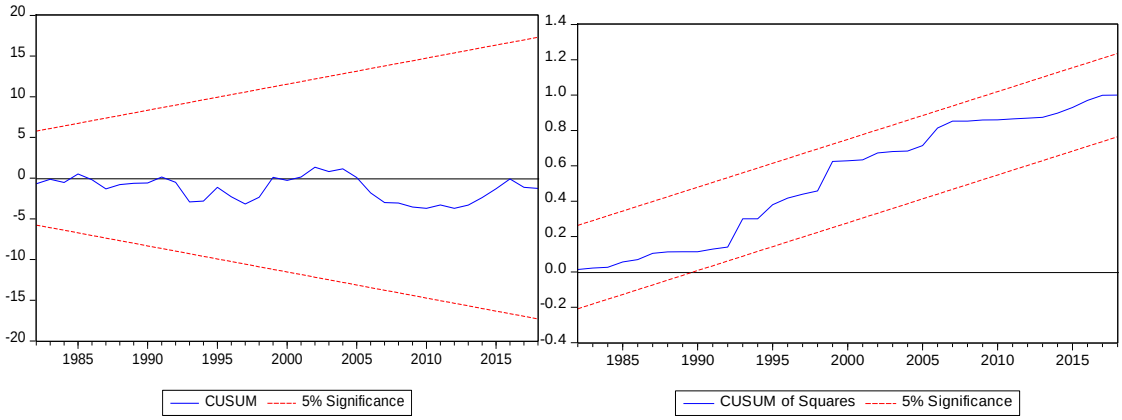

Figure 3: Stability diagnostics

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CONCLUSION AND POLICY RECOMMENDATIONS

The main objective of this study was to investigate the effect of overall remittances and their interaction terms with monetary policy and human capital on financial development in Kenya by estimating an ARDL model between 1970 to 2018. The study includes openness and economic growth as control variables. The empirical results show some surprising results, including those inconsistent with the theory of financial literacy-loadable fund hypotheses discussed in the literature review.

First, in the long-run model, against theoretical expectations, remittances, economic growth, and openness have adverse effects on financial development in Kenya consistent with Akkoyunlu (2012) and Githaiga and Kabiru (2014) who in their previous studies find remittances hurt financial development. Ghulam, Shah, and Iqbal (2020) find remittances play a positive role when the credit to the private sector is used to capture financial development. Two reasons account for possible adversary effects: remittances used for consumption and substitutability effect that limits loans uptake. The substitutability hypothesis suggests remittances bridge a credit gap through a substitution mechanism or lowers the demand for insurance that a remittance recipient might buy lowering the overall demand for financial products (Ambrosius, 2011; Misati et al., 2019; Claire, 2018). The policy response is therefore for the Central Bank of Kenya to channel remittances for investment.

Second, the negative role played by economic growth and openness could be attributed to the appreciative effects of the exchange rate that caused Dutch disease effects with negative feedback into the financial development. These results contradict Takyi and Obeng (2013) who find income and openness as positive determinants of financial development. In a long-run model, openness is significant while economic growth is not significant. A robust exchange rate policy and empirical studies to further isolate the cause and effect are necessary.

Third, consistent with Issahaku (2019) who finds a complementary role played by the monetary policy, and Karikari, Mensah, and Harvey (2016) who find in some respects a better financial system fosters, remittances promote financial development, the long-run model finds monetary policy plays a complementary role for remittances to contribute to positive financial development. The result shows that the Central Bank of Kenya needs to use the monetary policy to reverse the negative effect of remittances on financial development.

Fourth, surprisingly, like in Tsaurai and Hlupo (2019), the long-run model finds that the human capital proxied by government spending in education harms facilitating remittances to contribute to financial development, though not significant, this is a puzzling result that requires further study. The result suggests that a level of literacy has no role in facilitating remittances to improve financial development.

Fifth, in the short run, the model finds only openness has a significant adverse effect with long-run disequilibrium adjust after two years at the speed of 51.8 percent. The study speculates this effect stems from an exchange rate appreciative effect that openness might play in a fully liberalized small open economy. This study recommends that policymakers identify the monetary, exchange rate, and trade policies to cushion Kenya's economy from the negative effects of remittances.

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REFERENCES

Akkoyunlu, Ş. (2012). Remittances and Financial Development: Is there a Direct Link ? Evidence from Turkish Data. World Trade Institute, University of Bern, Switzerland.

Alter, A., & Yontcheva, B. (2015). Financial Inclusion and Development in the CEMAC. WP/15/235, International Monetary Fund.

Arif, I., & Khan, L. (2019). The role of financial development in human capital development: Evidence from Pakistan. Pakistan Journal of Commerce and Social Science, 13(4), 1029–1040.

Azizi, S. (2020). Impacts of remittances on financial development. Journal of Economic Studies, 47(3), 467–477.

Bakwena, M., & Bodman, P. (2011). The Role of Financial Development in Natural Resource Abundant Economies: Does the Nature of the Resource Matter? Botswana Journal of Economics, 7(11), 16–31.

Benigno, G., and Fornaro, L. (2014). The financial resource curse. Scandinavian Journal of Economics, 116(1), 58–86.

Choong, C., & Chan, S. (2011). Financial development and economic growth: A review. African Journal of Business Management, 5(6), 2017–2027.

Donou-adonsou, F., Gyan, P., & Basnet, H., (2020). Remittance inflows and financial development : Evidence from the top recipient countries in Sub-Saharan Africa. Applied Economics, 52(2011), 1-14.

Farai, J. (2018). Migrant remittances and physical investment purchases : evidence from Kenyan households. Journal of Development Studies, 54(2), 312–326.

Fromentin, V. (2017). The long-run and short-run impacts of remittances on financial development in developing countries. Quarterly Review of Economics and Finance, 66 ©, 192-201.

Ghulam Mustafa, G., Shah, Z., & Iqbal, A., (2020). Impact of Foreign Remittances on Financial Development of Pakistan. Journal of Accounting and Finance in Emerging Economies, 6(1), 331–342.

Githaiga, N., & Kabiru, G. (2014). Remittances As A Determinant of Financial Sector Development. Journal of Business, Economics, and Finance, 3(4), 398–424.

Huang, Y. (2010). Determinants of Financial Development. Cambridge University.

Issahaku, H. (2019). Harnessing international remittances for financial development: the role of monetary policy. Ghana Journal of Development Studies, 16(2), 113-137.

Jayaraman, K., Choong, C., & Kumar, R. (2012). Role of remittances in India's economic growth. Global Business and Economics Review 14(3):159-177.

Karikari, K., Mensah, S., & Harvey, K. (2016). Do remittances promote financial development in Africa? SpringerPlus, 5(1), 1-21.

Laurie, A., & Simpson, N., (2018). Migration, Remittances and Human Capital Investment in Kenya. IZA Institute of Labor Economics, DP(11835), 1-39.

Lubambu, K. (2014). The Impacts of Remittances on Developing Countries. European Parliament.

Makun, K. (2018). Imports, remittances, direct foreign investment and economic growth in Republic of the Fiji Islands: An empirical analysis using ARDL approach. Kasetsart Journal of Social Sciences, 39(3), 439–447.

Misati, N., Kamau, A., & Nassir, H. (2019). Do migrant remittances matter for financial development in Kenya? Financial Innovation, 5(1), 1–25.

Mondal, R., & Khanam, R. (2018). The impacts of international migrants' remittances on

Article DOI: 10.52589/AJESD-TJTNPTQL
DOI URL: https://doi.org/10.52589/AJESD-TJTNPTQL

household consumption volatility in developing countries. Economic Analysis and Policy. 5, 171-187.
Oke, O., Uadiale, M., & Okpala, P. (2011). Impact of Workers' Remittances on Financial Development in Nigeria. International Business Research, 4(4).
Pesaran, H. (2007). A simple panel unit root test in the presence of cross-section dependence. Journal of Applied Econometrics, 22(2), 265–312.
Pesaran, H., Shin, Y., & Smith, J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3), 289–326.
Qiang, S., Khurshid, A., Calin, C., & Khan, K. (2019). Do remittances contribute to the development of financial institutions? new evidence from the developing world. Romanian Journal of Economic Forecasting, 22(2), 78–97.
Sahay, R., N'Diaye P., & Barajas, A. (2015). Rethinking Financial Deepening: Stability and Growth in Emerging Markets INTERNATIONAL MONETARY FUND Rethinking Financial Deepening: Stability and Growth in Emerging Markets Authorized for Distribution. Revista de Economia Institucional 17(33):73-107.
Sibindi, B. (2014). Remittances, Financial Development and Economic Growth: Empirical Evidence from Lesotho. Journal of Governance and Regulation, 3(4), 116–124.
Tah, A. (2019). Remittances and financial access: Evidence from Sub-Saharan Africa. Cogent Economics & Finance, 7(1), 1–10.
Takyi, O., & Obeng, K. (2013). Determinants of financial development in Ghana. International Journal of Development and Sustainability, 2(4), 2324–2336.
Tregenna, F. (2016). Deindustrialization and premature deindustrialization. Handbook of Alternative Theories of Economic Development, 710–728.
Tsaurai, K., & Hlupo, P. (2019). Do Remittances Enhance Financial Development in Transitional Markets? Comparative Economic Research, 22(4), 73–89.

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DOI URL: https://doi.org/10.52589/AJESD-TJTNPTQL