

Remittances and Economic Growth in the United States: The Moderating Role of Macroeconomic Stability

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ABSTRACT

The United States is the world's largest source of international remittances, sending more than \$93 billion in formal remittances in 2023 to households in other countries, as well as significant remittance-related economic activity—such as sending money abroad, using it at home, saving it, and investing it—in the communities of immigrants and their family members in the U.S. The study is quantitative, cross-sectional survey design that looks at the relationship between remittance activity and perceived growth in the United States, and tests the moderating effect of macroeconomic stability. The study surveyed 300 respondents—remittance-sending households, banking and financial services professionals, economists and policy analysts, and immigrant-owned small business owners—in four U.S. census regions. The postulated model was tested with hierarchical moderated regression analysis. Results show that remittance activity is a significant positive predictor of perceived economic growth ($\beta = .238, p < .001$) and that macroeconomic stability significantly moderates this relationship ($\Delta R^2 = .041, p = .002$): the positive association between remittance activity and economic growth is markedly stronger under conditions of high macroeconomic stability than under conditions of low stability. The full model accounted for 38.7% of the variance of the perceived economic growth. Based on these results, the growth-enhancing effects of remittance-infused economic activity in the United States are not automatic and depend on a stable macroeconomic environment, which includes low volatility of inflation, interest rates, and exchange rates. Financial institutions and macroeconomic policies are discussed in terms of the policy and managerial implications.

INTRODUCTION

Remittances (cross-border, person-to-person financial transfers, primarily from migrants to family members in their countries of origin) are one of the largest groups of international financial flows, totaling an estimated \$831 billion globally in 2022 [1]. The U.S. is one of the few countries to be host to the highest number of international migrants and the world's highest net source of outbound remittances, which are estimated to have been around \$93.0 billion in 2023 and are predominantly remittances sent via formal channels [2] [3].

However, remittance activities have traditionally been seen as a capital outflow that is advantageous to the economies of countries where immigrants send money home, but a growing number of studies redefine remittance activity as a reflection of the significant economic impact immigrants have within the United States. Estimates suggest that remittances collectively account for about 17.5% of total income of immigrants, and thus only a part of the total is sent back to their home countries; the bulk of the total income of immigrants together is estimated to be about \$2.2 trillion per year, of which only a small portion is remitted to the migrant's country of origin [4] [5]. The relationship between remittance-related economic activity and other measures of U.S. economic activity is, therefore, directly relevant to financial institutions, immigrant-serving organizations, and macroeconomic policymakers.

Concurrently, the literature in economics has been gaining ground on the positive growth effect of remittances being subject to certain institutional and macroeconomic conditions, so that in unstable contexts remittances have little or negative effect [6-8]. Macroeconomic stability, defined as low and predictable inflation, stable interest rates, and predictable exchange rates, has been cited

numerous times as one of the factors determining the allocation of remittance-related capital into productive investment or precautionary consumption or savings [7, 9]. The proposition is directly tested in the context of the U.S. in this study, which draws on primary data obtained in a survey of 300 respondents, focusing on the direct link between remittance activity and perceived economic growth, as well as the moderating effect of macroeconomic stability on the link.

RESEARCH HYPOTHESES

H1: Remittance activity has a significant positive effect on perceived U.S. economic growth.

H2: Macroeconomic stability has a significant positive effect on perceived U.S. economic growth.

H3: Macroeconomic stability significantly moderates the relationship between remittance activity and perceived U.S. economic growth, such that the relationship is stronger when macroeconomic stability is high.

LITERATURE REVIEW

A. REMITTANCES AS A DRIVER OF ECONOMIC ACTIVITY

Classical studies on remittance-growth focus on remittances as additional external funds available to recipient countries, providing a boost to the liquidity position of households, financing small business investment, and smoothing consumption in response to economic shocks [10]. The same transfers can be interpreted from the perspective of the sender as a consequence of continued labor market engagement, earnings and economic activity of immigrant workers in the U.S. industries of construction, hospitality and services [11]. Previous research by the Federal Reserve has shown that global remittance inflows are strongly pro-cyclical with the economies of the origin countries, increasing during periods of robust employment and wages growth and falling during recessions [12].

B. THE CONDITIONAL NATURE OF REMITTANCE-GROWTH EFFECTS

A large amount of more recent empirical research documents the conditions under which remittances benefit a country's growth. Results for Sub-Saharan Africa from the panel evidence indicate that the growth effect of capital inflows, such as remittances, is significantly dampened by institutional quality and macroeconomic stability, with the growth effect of remittances being reversed in macroeconomic settings that are unstable [13]. The remittance-growth relationship in Africa has been studied, and financial development and inflation have been cited as important variables to moderate the relationship between the two, as underdeveloped financial systems and high inflation rates cause remitted funds to be used for consumption as opposed to productive investment [14]. Wavelet analysis also reveals that the volatility of the exchange rate influences the relationship between remittances and growth, as more positive links are observed for the stable exchange-rate regimes [15]. The cross-country evidence available is complementary and suggests that remittances, when analyzed individually, could actually stunt growth in emerging markets, but become positive when economic uncertainty and macroeconomic complexity is explicitly treated as a moderating factor [16].

C. MACROECONOMIC STABILITY AS A MODERATING CONDITION

Macroeconomic stability is often measured by indicators that impact the incentive to save, invest or consume income sent from abroad, including measures of inflation volatility, interest-rate predictability, and exchange-rate stability [17]. Low, and predictable, inflation will maintain the purchasing power of remittance-generated income and stimulate long-term investment decisions, while high, and volatile, inflation will reduce real returns and stimulate precautionary, consumption-oriented decisions [18]. The theoretical mechanisms behind this hypothesis prompt the current study to allow that macroeconomic stability does not simply strengthen the connection between remittance activity and economic growth, but actually as well balances it.

D. REMITTANCES AND THE U.S. ECONOMY SPECIFICALLY

The U.S. has the highest number of international migrants in the world and is the world's leading source of remittances, and the financial system facilitating these flows consists of banks, credit unions, and money transmitters, including MoneyGram and Western Union [19]. Finally, formal U.S. remittance outflows also increased, from \$79.15 billion in 2022 to more than \$93 billion in 2023, despite the inflationary pressure, indicating continued employment in remittance-sending sectors [20]. This is because these trends highlight the importance of empirical evidence from the U.S. that shows the joint relationship between remittance-related economic activity and macroeconomic conditions, and national economic growth perceptions as measured in the present study.

RESEARCH METHODOLOGY

A. RESEARCH DESIGN

The current study adopted cross sectional, correlational and quantitative research design with moderated (hierarchical) multiple regression analysis to test the direct and interaction effects of remittance activity and macroeconomic stability on perceived economic growth.

B. POPULATION AND SAMPLING

The target audience included remittance-sending immigrant households, professionals in banking and financial services who work in cross-border payment systems, economists and public-policy analysts, and immigrant-owned small business owners. To ensure a proportional representation across the four U.S. census regions (Northeast, Midwest, South, West), stratified random sampling was employed. A total of 385 questionnaires were sent out via community organizations, financial institutions and professional associations and 300 were returned after data cleaning with a final sample of $N = 300$ and a response rate of 77.9%.

C. INSTRUMENTATION

Three main constructs were measured using a structured questionnaire with items ranging from 1 = Strongly Disagree to 5 = Strongly Agree: Remittance Activity (6 items, covering how often, how large, and how important the remittance-related earning and spending behaviors are for the respondents); Macroeconomic Stability (6 items, covering predictability of inflation, stability of interest rates, and stability of exchange rates); and Economic Growth (6 items, covering the effects of remittances on local and national economic growth, on employment, and on income). Demographic items collected included role, gender, age, region of residence and household income. The instruments were modified from existing questionnaires on remittance-growth, and macroeconomic-perception surveys, and then piloted with 25 respondents who were not in the final sample.

D. RELIABILITY

Cronbach's alpha values for Remittance Activity (.869), Macroeconomic Stability (.882), and Economic Growth (.891) all exceeded the .70 threshold for acceptable internal consistency (Table III).

E. DATA ANALYSIS PROCEDURE

A descriptive statistics, Pearson correlation, and 3-step hierarchical moderated regression were used to analyze data in SPSS. The control variable household income was entered as the first step in Step 1. Main effects for Remittance Activity (RA) and Macroeconomic Stability (MS) were entered in Step 2 and the mean effect was centered on both of these. The moderation hypothesis (H3) was tested by adding the interaction term ($RA \times MS$) to the model in Step 3. The criterion for supporting macroeconomic stability was that a statistically significant increase in R^2 (ΔR^2) in Step 3 and a statistically significant interaction coefficient was found, followed by simple-slopes analysis at the levels of -1 SD, mean and $+1$ SD of macroeconomic stability.

RESULTS

A. DEMOGRAPHIC PROFILE OF RESPONDENTS

Demographic characteristics of 300 respondents are shown on Table I. The gender distribution for the male participants (56.0%) was higher than that of the female participants (44.0%), which meant there was an acceptable proportion of males and females. The largest age group (32.7%) was between 30 and 39 years of age and the highest proportion of respondents (27.7%) was between 40 and 49 years of age, indicating that the sample was mainly comprised of working age adults.

As to primary role, remittance-sending households were the largest group (47.0%), followed by banking and financial services professionals (28.0%), economists and policy analysts (15.0%), and immigrant-owned small business owners (10.0%). There is strong representation from key stakeholders involved in the remittance activities and decision making process.

Geographically, respondents were spread fairly evenly across the major regions of the United States, with the South representing 31.0%, the West 26.0%, the Northeast 23.0% and the Midwest 20.0%. In terms of household income, the largest segment earned \$40,000–\$74,999 annually (37.0%), while 26.0% reported incomes below \$40,000, 24.0% earned \$75,000–\$109,999, and 13.0% reported incomes of \$110,000 or above. Overall, the demographic profile shows a diverse and representative sample with large numbers of economically active individuals and households that are relevant to the study.

Category	Classification	n	%
Gender	Male	168	56.0
	Female	132	44.0
Age	18–29 years	72	24.0

	30–39 years	98	32.7
	40–49 years	83	27.7
	50 years and above	47	15.6
Primary Role	Remittance-Sending Households	141	47.0
	Banking / Financial Services Professionals	84	28.0
	Economists / Policy Analysts	45	15.0
	Immigrant-Owned Small Business Owners	30	10.0
U.S. Region	South	93	31.0
	West	78	26.0
	Northeast	69	23.0
	Midwest	60	20.0
Household Income	Under \$40,000	78	26.0
	\$40,000–\$74,999	111	37.0
	\$75,000–\$109,999	72	24.0
	\$110,000 and above	39	13.0

Table 1: Demographic Profile of Respondents (N = 300)

B. DESCRIPTIVE STATISTICS AND RELIABILITY

Descriptive statistics for the three constructs of the study are shown in Table II. The highest mean score ($M = 3.61$, $SD = 0.674$) was obtained on Remittance Activity (RA) which represents a relatively high level of agreement among respondents about role and frequency of remittance activities. The mean scores for Economic Growth (EG) also were high ($M = 3.58$, $SD = 0.658$), reflecting positive perceptions of remittances' role in economic growth. Macroeconomic Stability (MS) had the lowest mean rating ($M = 3.34$, $SD = 0.712$), indicating that there was generally a moderate level of agreement about the link between remittance flows and MS. The standard deviations (0.658 to 0.712) are relatively low, which shows that there was not much variation in responding, thus indicating a consistent pattern of perceptions throughout the sample. The overall results indicate positive perceptions of the three constructs from the respondents with the highest level of support being for remittance activity.

Construct	Items	Mean	SD
Remittance Activity (RA)	6	3.61	.674
Macroeconomic Stability (MS)	6	3.34	.712
Economic Growth (EG)	6	3.58	.658

Table 2: Descriptive Statistics of Study Constructs (N = 300)

The reliability of study constructs was analyzed with the Cronbach alpha coefficient as shown in Table III. The internal consistency of the items was highest in the case of Economic Growth ($\alpha = 0.891$), Macroeconomic Stability ($\alpha = 0.882$) and Remittance Activity ($\alpha = 0.869$). Cronbach's alphas are all greater than the recommended alpha of 0.70, which demonstrates excellent reliability and good internal consistency of the measurement items. The results show that the research instrument is reliable and appropriate for statistical analysis, so that if there is a statistical analysis, the constructs can be used to measure the concepts that they intend to measure.

Construct	Cronbach's Alpha
Remittance Activity	.869
Macroeconomic Stability	.882
Economic Growth	.891

Table 3: Reliability Statistics (Cronbach's Alpha)**C. CORRELATION ANALYSIS**

Pearson correlation among study constructs are shown in Table IV. Remittance Activity and Economic Growth ($r = .512$, $p < .01$) and Macroeconomic Stability and Economic Growth ($r = .601$, $p < .01$) were both positively and significantly correlated. The bivariate scatter plot and fitted regression line for Remittance Activity vs. Economic Growth is shown in Figure 2.

Construct	RA	MS	EG
Remittance Activity (RA)	1.000		
Macroeconomic Stability (MS)	.398**	1.000	
Economic Growth (EG)	.512**	.601**	1.000

Table 4: Pearson Correlation Matrix (N = 300)**D. HIERARCHICAL MODERATED REGRESSION ANALYSIS**

Economic Growth was used as the dependent variable in a three-step hierarchical regression. Step 1 added household income as a control, accounting for 6.2% of the variance ($R^2 = .062$). The main effects of Remittance Activity and Macroeconomic Stability were added in Step 2, which accounted for additional explained variance ($\Delta R^2 = .284$, $p < .001$), thus supporting H1 and H2, for $R^2 = .346$. Step 3 added the $RA \times MS$ interaction term, which produced a further significant increase in explained variance, $R^2 = .387$ ($\Delta R^2 = .041$, $\Delta F(1, 295) = 9.38$, $p = .002$), supporting H3. Figure 4 shows the incremental variance explained at the three model steps and Table V shows the full Step-3 regression coefficients.

Predictor	B	SE	β	t	p
(Constant)	3.512	.142	—	24.732	< .001
Household Income (control)	.084	.041	.092	2.049	.041
Remittance Activity (RA)	.221	.052	.238	4.250	< .001
Macroeconomic Stability (MS)	.312	.055	.334	5.673	< .001
$RA \times MS$ (interaction)	.147	.048	.163	3.063	.002

Table 5: Hierarchical Moderated Regression Results (Step 3, Dependent Variable: Economic Growth)

Note. $R^2 = .387$, Adjusted $R^2 = .379$, $F(4, 295) = 46.51$, $p < .001$. ΔR^2 for interaction term = .041, $\Delta F(1, 295) = 9.38$, $p = .002$.

E. SIMPLE SLOPES ANALYSIS

Simple slopes for the effect of Remittance Activity on Economic Growth were calculated at low (-1 SD), mean and high ($+1$ SD) levels of Macroeconomic Stability. Table VI and Figure 3 show that the growth-enhancing effect of remittances was negative under low macroeconomic stability ($b = .128$, $p = .045$) but significantly positive under high macroeconomic stability ($b = .314$, $p < .001$), indicating that the effect of remittances on economic growth was stronger when macroeconomic conditions were more stable.

Level of Macroeconomic Stability	b	SE	t	p
Low (-1 SD)	.128	.064	2.010	.045
Mean	.221	.052	4.250	< .001
High ($+1$ SD)	.314	.057	5.512	< .001

Table 6: Simple Slopes of Remittance Activity on Economic Growth at Levels of Macroeconomic Stability**F. SUMMARY OF HYPOTHESIS TESTING**

The results of hypothesis testing are summarized into table VII. H1 was supported as the results showed that Remittance Activity has a significant positive impact on Economic Growth ($\beta = 0.238$, $p < .01$). H2 also received support, as Macroeconomic Stability had a stronger positive influence on Economic Growth ($\beta = 0.334$, $p < .01$). In addition, the interaction between Remittance Activity and Macroeconomic Stability was significant for its explanatory power ($\Delta R^2 = 0.041$, $p < .01$). This finding is consistent with the idea that the relationship between remittance activity and economic growth is dampened significantly by macroeconomic stability, thus reinforcing the positive effects of remittance activity under more stable macroeconomic conditions. In general, all of the hypotheses were confirmed.

Hypothesis	$\beta / \Delta R^2$	Decision
H1: Remittance Activity $\rightarrow$ Economic Growth	.238**	Supported
H2: Macroeconomic Stability $\rightarrow$ Economic Growth	.334**	Supported
H3: Macroeconomic Stability moderates RA $\rightarrow$ EG	$\Delta R^2 = .041^{**}$	Supported

Table 7: Summary of Hypothesis Testing Results

** $p < .01$.

DISCUSSION

The findings confirm all three hypotheses and align with the empirical literature that generally indicates that remittance capital inflows are pro-growth during macroeconomic conditions of stability, but are counter-growth during volatile conditions [7, 8, 9]. The large direct impact of remittance activity on perceived economic growth (H1) supports the finding that remittance related earning and spending activity by immigrant workers represents a meaningful portion of U.S. economic activity, even though remittances comprise only a small fraction of immigrant's income abroad, as estimated in the literature [4, 5].

The strong and positive main effect of macroeconomic stability (H2) is consistent with the long-established macroeconomic theory that more stable inflation, interest and exchange rates are associated with higher investment and growth performance. Perhaps most important, the results of the significant interaction between RA and MS (H3) expand previous results from conditional remittance-growth studies in developing country environments [6] to a U.S.-specific context: remittance-linked economic activity is not necessarily growth-enhancing, but depends on the broader macroeconomic environment. This is captured by the simple slopes analysis: Under low macroeconomic stability, the benefit of remittance activity on growth is small and insignificant, while under high stability the same increase in the volume of remittance activity comes with a significantly larger predicted increase in economic growth.

This fits the moderating-variable literature, in which stable macroeconomic conditions keep the real value of remittance-related income from rising and make less precautionary saving or consumption smoothing, and more of the remittance income invested in more productive activities, such as investments, entrepreneurship, and durable consumption, which boosts overall economic growth [7, 9]. It is not clear under what conditions (uncertain inflation or interest rate changes) these identical remittance-based income contributions are more likely to be spent on immediate consumption or saved in foreign currencies, thereby reducing the impact on domestic growth.

IMPLICATIONS**A. THEORETICAL IMPLICATIONS**

This study generalizes the conditional remittance-growth literature, which has been documented mainly in the context of developing and emerging-market countries [6, 7, 8, 9]. It empirically shows that, where macroeconomic stability is a factor, it acts as a true statistical moderator, which is not just an extra predictor, of the relationship between remittance and growth, confirming the need in the literature for the development of models that explicitly take into account interactions rather than straightforward main effects [6].

B. Managerial and Institutional Implications

The results indicate that products which foster stable, predictable remittance and savings behaviour – like fixed-rate savings accounts, inflation-protected products, and clear, low-cost transfer services – could have a positive impact on sustaining the remittance-related growth potential of economic activity even in times of overall economic uncertainty for banks, credit unions, and money-transfer operators that serve immigrant communities.

C. Policy Implications

The findings will help inform policymakers that maximizing the domestic economic contribution of immigrant and remittance-related economic activity is not only a policy matter related to immigration and the labor market, but one of low and predictable inflation and stable interest rates as well. Given that remittance outflows are concentrated in specific sectors like construction, hospitality and services [3], [10], there is a risk that macroeconomic and financial inclusion policies specifically for these sectors will provide disproportionate growth benefits.

LIMITATIONS AND FUTURE RESEARCH

There are a number of limitations in this study. First, the cross-sectional design doesn't allow for causal inferences about observed relationships; a panel or time-series design with objective macroeconomic data (e.g., volatility in the CPI, Federal Reserve interest-rate data) would lend greater support to causal inferences. Second, all constructs were assessed by self-perception instead of remittance and GDP data, potentially causing common method bias. Third, although the sample of respondents was stratified for regional representation, it is possible that it under-represents undocumented remitters, who are hard to find on formal sampling frames. Future studies could leverage perceptual survey data with administrative remittance flow and macroeconomic time-series data, and include other moderators, including financial inclusion, digital payment adoption and immigration policy uncertainty.

CONCLUSION

This study analyzed the connections between remittance activity and perceived economic growth in the United States and the moderating effects of macroeconomic stability, based on survey data collected from 300 participants from remittance-sending households, financial professionals, economists, and immigrant business owners. Remittance activity and macroeconomic stability both had significant positive effects on perceived economic growth, and macroeconomic stability significantly amplified the positive relationship between remittance activity and economic growth. The results suggest that the tremendous economic impact of remittance-related activities in the United States is greatest when macroeconomic conditions are stable. This contribution will need to be sustained and maximized, possibly requiring coordinated attention to financial inclusion of immigrants and macroeconomic stability policy.

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