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Revisiting Institutional Determinants of Remittances: Evidence from a Large Panel of Countries

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Abstract

This paper attempts to examine the impact of various aspects of institutional quality on the remittances inflows for a sample of 114 countries (69 developing countries and 45 developed countries) over the period 1984-2016. We find that an improvement in the index of government stability, investment profile, internal conflict, and democratic accountability significantly increase the remittances inflows, whereas a decline in socio-economic condition and a corrupt political environment increase the remittances inflows. The results are robust to the inclusion of a variety of macroeconomic controls and country fixed effects. We find qualitatively similar results with a subsample of developing countries.

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1. Introduction

Remittances, defined as migrants' transfer in money and kind sent to their home countries, have increased significantly in recent years. For developing countries, remittances have grown from USD 3.3 billion in 1975 to USD 338 billion in 2010 to USD 689 billion in 2018. Remittances are larger than foreign direct investment and official development assistance, and are more stable than private capital flows to developing countries. Empirical evidence suggests that remittances lead to improvement in the standard of living in home countries by reducing poverty and inequality (Adams & Page, 2005), stimulating investments (Woodruff & Zenteno, 2001), promoting financial development (Aggarwal, Demirgüç-Kunt, & Pería, 2011), and reducing the likelihood of financial crisis (Sirkeci, Cohen, & Ratha, 2012).

The theoretical literature on the determinants of remittances is influenced by the early studies on the motive to remit, i.e., a pure altruism motive, a pure self-interest motive, or a tempered altruism motive (Lucas & Stark, 1985). The motive is considered altruistic if the remittances are positively related to adverse condition at home country or family at home whereas, in the case of pure self-interest motive, remittances are sent by the migrants with the aspiration to inherit, to demonstrate laudable behavior as an investment for the future or with the intent to return home (Hagen-Zanker & Siegel, 2007). In the case of tempered altruism, the migrant and the family at home mutually benefit from migration through some kind of implicit contractual arrangement in the form of co-insurance, loan repayment and exchange for services.

The determinants of remittances have been categorized into two broad categories in the empirical literature; macroeconomic and microeconomic. The microeconomic determinants of remittances mostly focus on socio-demographic features of migrants' and their family in terms of migrant income, education, age, gender, marital status, migration cost and the number of dependents at home (Agarwal & Horowitz, 2002; Hagen-Zanker & Siegel, 2007). The macroeconomic determinants consider behaviour of macroeconomic or country-level variables of home and host countries such as GDP growth, inflation, interest rate, exchange rate, trade and financial openness (El-Sakka & McNabb, 1999; Hagen-Zanker & Siegel, 2007).

The existing literature on determinants of remittances has mostly focused on the micro or macro level factors while largely ignoring the role of institutional and governance quality in a country. However, there are few studies which examine the impact of institutional factors, measured in various ways, on the level of remittances inflows for a specific panel of countries. Singh, Haacker, Lee, & Le Goff (2010) investigate the determinants of remittances in sub-Saharan Africa. Their findings suggest that better institutions, as measured by the aggregate political risk index, have a positive impact on remittances. Lartey & Mengova (2016) use a broad disaggregated index of various measures of the Economic Freedom to explore the role of institutions in driving remittances inflows to developing countries. They found that an improvement in monetary, political, and legal institutions lead to an increase in remittances inflows. For ECOWAS (Economic Communities of West African States) sub-region, Ajide & Raheem (2016) found that institutional infrastructure, taken as aggregate as well as

¹ Migration and Remittances Data, the World Bank

² See Migration and Development Brief, 2019, the World Bank https://openknowledge.worldbank.org/bitstream/handle/10986/29777/125632-WP-PUBLIC-MigrationandDevelopmentBrief.pdf?sequence=1&isAllowed=y

disaggregate measures of the governance indicator, has a positive impact on migrants' remittances. Guetat & Sridi (2017) attempt to test the effects of institutional characteristics, measured as a composite political risk index, on the remittances inflows for a sample of 15 MENA countries. They report a negative relationship between remittances and the composite risk index, supporting the altruist motive to remit. Effiong & Asuquo, (2017), using nonparametric kernel methods, investigate the effects of six measures of governance on remittances for a sample of 109 developing countries. Their findings suggest that all six measures of governance are significantly related to remittances inflows in a highly non-linear and heterogeneous manner.

Theoretically, the effect of institutional quality on remittances can be explained in terms of the transaction cost. Catrinescu, Leon-Ledesma, Piracha, & Quillin (2009) argue that government institutions establish the incentive structure that shapes all forms of interaction (political, economic, and social) in an economy, and in doing so, it reduces uncertainty and promotes efficiency, thus reducing the transaction cost thereby encouraging remittances flow. Since remittances are sensitive to the transaction cost, an improvement in the quality of institutions can reduce such cost and increase remittances inflows through the official channel (Effiong & Asuquo, 2017). However, it is also possible that deteriorating institution quality leads to higher migration that leads to higher remittances.

Against this background, the main objective of this study is to investigate the impact of various sub-components of institutional quality on the remittances inflows for a sample of 114 developed and developing countries over the period 1984-2016. The present study contributes to extant literature in two ways. First, previous studies have generally relied on an aggregate or composite measures of institutional quality as a determinants of remittances inflow.³ We consider a wide range of disaggregated institutional quality variables in our analysis. For example, the disaggregated effects of critical institutional variables like socio-economic condition, investment climate, internal and external conflict, religious and ethnic tension, military in politics, law & order situation, and quality of bureaucracy on remittances inflow has not been analysed earlier. Second, as compared to previous region or income specific studies, our sample is considerably more comprehensive cross-sectionally and temporally. We use a sample of 114 countries with 69 developing countries and 45 developed countries with a sample period of 32 years.

The remainder of the paper is organized as follows: section 2 describes the empirical specification and the data, section 3 presents the empirical results, and section 4 concludes the study.

2. Empirical Specification and Data

The relationship between remittances inflows and institutional quality is examined using annual data for 114 countries (69 developing countries and 45 developed countries)⁴ by estimating the following model:

$$Ln(Remit_{it}) = \alpha_0 + \alpha_1 Ln(Remit_{it-1}) + \alpha_2 Insti_Quality_{it} + \alpha_3 X'_{it} + \beta_i + \varepsilon_{it}$$
 (1)

³ There are only two studies (Ajide & Raheem, 2016; Guetat & Sridi, 2017) that have utilized disaggregated data on the six measures of the governance quality from the Worldwide Governance Indicator Database. However, these studies are different from the present study in terms of sample countries, sample period, measures of institutional quality, and methodology employed in the analysis.

⁴ The classification is based on a report prepared by the Development Policy and Analysis Division of the Department of Economic and Social Affairs of the United Nations Secretariat. For more detail, see https://www.un.org/en/development/desa/policy/wesp/wesp current/2014wesp country classification.pdf

Where $Ln(Remit_{it})$ is the dependent variable, defined as logarithm of total remittances (personal transfers that don't include compensation of employees). Remittances are not scaled by GDP, because any change in the ratio could arise either from a change in remittances or change in GDP, which makes it difficult to isolate the true effect of remittances (Escribà-Folch, Meseguer, & Wright, 2015). The data on remittances is taken from the World Development Indicator (WDI) database, which is the most widely used source for remittances data.

Insti_Quality_{it} is a measure of institutional quality, our main variable of interest. To measure institutional quality, we use the political risk rating from the International Country Risk Guide (ICRG) from the Political Risk Services (PRS) group. ICRG is the longest duration dataset of its kind, covering a broad range of institutional variables. This composite indicator assesses political stability of a country by assigning a numerical value (risk points) to a predetermined range of risk components according to a preset weighted scale. It comprises twelve institutional measures having scores between 0 and 12, namely, government stability (0-12), socioeconomic condition (0-12), investment profile (0-12), internal conflict (0-12), external conflict (0-12), corruption (0-6), military in politics (0-6), religious tension (0-6), law and order (0-6), ethnic tension (0-6), democratic accountability (0-6), and bureaucracy quality (0-6). The ICRG variables are all defined such that higher value is an improvement.⁵ For example, higher government stability implies a higher score on the government stability index.

 X'_{it} is a vector of control variables. Based on the literature on macroeconomic determinants of remittances, we use GDP growth, Inflation rate (annual percentage change in consumer price index), Investment (share of gross fixed capital formation as percentage of GDP), Domestic Credit (share of domestic credit provided by financial sector as percentage of GDP), Exchange Rate (value of domestic currency per US dollar), Trade Openness (share of trade as percentage of GDP), and Financial Openness (an index of capital account openness, known as Chinn-Ito Index) as control variables. The data on financial openness is taken from Chinn & Ito (2006). The remaining controls are taken from the WDI. β_i is country fixed effects, and ε_{it} is the error term. Table A1 and Table A2 present the summary statistics and correlation matrix for all the variables, respectively.

To reduce the reverse causality bias and control for endogeneity, equation (1) is estimated using the dynamic system general method of moments (sys-GMM) estimator (Blundell & Bond, 1998) vis-à-vis static fixed-effect model. The dynamic sys-GMM addresses joint endogeneity of all explanatory variables using internal instruments and holds the Nickell (1981) bias associated with the correlation between the lagged dependent variable and the error term.

3. Empirical Results

The dynamic sys-GMM model results for the full sample are presented in column (1-12) of Table (1). Each column of Table (1) shows the impact of each institutional quality measure on remittances inflows. We find that six out of twelve institutional quality variables are statistically significant determinants of remittances. Contrary to the previous region-specific studies, the direction of the impact of measures of institutional quality on remittances inflows is mixed. For some measures, an increase in the institutional environment lead to an increase in remittances inflows, whereas for others we find a negative relation between institutional quality and remittance inflow. The negative and positive relationship between measures of institutional quality and remittances inflows can be explained by 'altruist' and 'self-interest'

⁵ For details on ICRG methodology and description of variables, see https://www.prsgroup.com/wp-content/uploads/2012/11/icrgmethodology.pdf

Table 1: Remittances Inflows and Institutional Quality: Full Sample

	Two-step System GMM: Dependent Variables - Remittance (in Logarithm)												
	1	2	3	4	5	6	7	8	9	10	11	12	
L.Remit	0.9474***	0.9419***	0.9482***	0.9603***	0.9605***	0.9124***	0.9608***	0.9648***	0.9619***	0.9627***	0.9371***	0.9561***	
	[68.62]	[50.50]	[70.29]	[73.39]	[74.91]	[35.73]	[73.33]	[68.59]	[63.21]	[72.09]	[54.43]	[40.85]	
Gov_Stability	0.0136*												
	[1.94]												
SocioEco_Condition		-0.0267**											
		[-2.24]											
Investment_Profile			0.0178**										
			[1.99]										
Internal_Conflict				0.0236*									
				[1.88]									
External_Conflict					0.0132								
					[0.95]								
Corruption						-0.0631**							
						[-2.05]							
Military_Politics							0.0282						
							[0.78]						
Religious_Tension								0.0259					
								[0.64]					
Law&Order									0.0237				
									[0.83]				
Ethnic_Tension										0.008			
										[0.27]			
Demo_Accountability											0.0733***		
											[2.82]		
Bureaucracy_Quality												0.0281	
												[0.52]	

Controls	Yes											
Constant	Yes											
AR(1) (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR(2) (p-value)	0.709	0.701	0.718	0.738	0.718	0.693	0.708	0.725	0.710	0.721	0.715	0.704
Hansen (p-value)	0.216	0.322	0.249	0.268	0.183	0.285	0.238	0.185	0.199	0.231	0.324	0.234
No. of Instruments	104	104	104	104	104	104	104	104	104	104	104	104
No. of Countries	114	114	114	114	114	114	114	114	114	114	114	114
N	2408	2408	2408	2408	2408	2408	2408	2408	2408	2408	2408	2408

Notes: Control variables: GDP growth, Inflation, Investment, Domestic Credit, Exchange Rate, Trade Openness, and Financial Openness. Lag of Remittances is taken as predetermined variables while the respective institutional variable, and GDP growth is taken as endogenous variables. *, ** and *** indicates statistically significant at 10%, 5% and 1% respectively. Figures in parenthesis are their respective t-statistics with Windmeijer-corrected cluster-robust standard error. Two-step system GMM estimation is with collapse instruments. The row for the Hansen test reports the p-values for the null hypothesis of instrument validity. The values reported for AR(2) are the p-values for second-order autocorrelated disturbances in the first differences equations.

Table 2: Remittances Inflows and Institutional Quality: Developing Countries

	Two-step System GMM: Dependent Variables - Remittance (in Logarithm)												
	1	2	3	4	5	6	7	8	9	10	11	12	
L.Remit	0.9724***	0.9657***	0.9641***	0.9703***	0.9774***	0.9807***	0.9835***	0.9860***	0.9799***	0.9795***	0.9526***	1.0024***	
	[61.48]	[38.90]	[52.30]	[61.64]	[65.44]	[42.55]	[60.73]	[62.62]	[64.93]	[61.60]	[41.85]	[32.72]	
Gov_Stability	0.0144**												
	[2.20]												
SocioEco_Condition		-0.023**											
		[-2.12]											
Investment_Profile			0.0221*										
			[1.73]										
Internal_Conflict				0.0330**									
				[2.13]									
External_Conflict					0.0309								
					[1.10]								
Corruption						-0.0068**							
						[-2.14]							
Military_Politics							0.0283						

							[0.47]					
Religious_Tension								0.0474				
								[1.22]				
Law&Order									0.0295			
									[0.79]			
Ethnic_Tension										0.0908		
										[1.63]		
Demo_Accountability											0.0853***	
											[2.82]	
Bureaucracy_Quality												0.1297
-												[1.11]
Controls	Yes	Yes	Yes	Yes	Yes	Yes						
Constant	Yes	Yes	Yes	Yes	Yes	Yes						
AR(1) (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR(2) (p-value)	0.681	0.685	0.703	0.674	0.678	0.674	0.669	0.682	0.694	0.661	0.793	0.641
Hansen (p-value)	0.293	0.365	0.496	0.443	0.272	0.443	0.300	0.355	0.310	0.401	0.271	0.441
No. of Instruments	44	44	44	44	44	44	44	44	44	44	44	44
No. of Countries	69	69	69	69	69	69	69	69	69	69	69	69
N	1590	1590	1590	1590	1590	1590	1590	1590	1590	1590	1590	1590

Notes: Notes: Control variables: GDP growth, Inflation, Investment, Domestic Credit, Exchange Rate, Trade Openness, and Financial Openness. Lag of Remittances is taken as predetermined variables while the respective institutional variable, and GDP growth is taken as endogenous variables. *, ** and *** indicates statistically significant at 10%, 5% and 1% respectively. Figures in parenthesis are their respective t-statistics with Windmeijer-corrected cluster-robust standard error. Two-step system GMM estimation is with collapse instruments. The row for the Hansen test reports the *p*-values for the null hypothesis of instrument validity. The values reported for AR(2) are the *p*-values for second-order autocorrelated disturbances in the first differences equations.

motive of remittances, respectively. The negative relationship indicates that an increase in the country risk encourages the migrants to send more money back home to compensate and to assist their family for the poor living conditions i.e. the altruist motive. On the other hand, a positive relation indicates the decrease in country risk encourages the migrants to send more funds back home for investment purpose, i.e., the self-interest motive.

Table 1 shows that an improvement in the index of government stability (the government's ability to carry out its declared program and its ability to remain in office), investment profile (government attitude towards inward investment climate which influence foreign investment), internal conflict (political violence in the country and its impact on governance), and democratic accountability (how responsive government is to its people), significantly increases the remittances inflows for our sample countries, supporting the 'self-interest' motive. In other words, we find that a stable government, better investment climate, less internal conflict, and more democratic country in the home country encourage the migrants to send more remittances for investment in their home country. Further, supporting the 'altruist motive', we find that a deteriorating socio-economic condition (assessment of unemployment, consumer confidence, and poverty in the society that could fuel social dissatisfaction) and corruption (assessment of corruption within political system) increases the remittances inflows for our sample countries significantly i.e., workers send more remittances to their families in case of unfavourable socioeconomic condition in home countries. These findings are in contrast with the previous literature wherein an improvement in the composite or aggregate measures of institutional quality increases remittances inflows. However, the findings with respect to the impact of corruption, political or government stability on remittances inflows are in line with Berdiev, Kim, & Chang (2013) and Agbegha (2006). The findings on the impact of socio-economic condition, investment profile, and internal conflict on remittances inflow are new as compared to prior studies, particularly for similar studies using a sample of large cross-sectional panel data.

Since remittances are proven to be more important for developing countries, as an additional robustness check, we do a similar analysis for with a subsample of 69 developing countries. The empirical results for developing countries are presented in columns 1 to 12 of Table 2.

In terms of the significance of the measures of institutional quality, the results are similar to the full sample. However, the co-efficient of institutional quality variables, except democratic accountability, for developing countries is slightly higher than that of the full sample. This indicates that the effect of institutional quality variables on remittances inflows is larger developing countries, which suggests that the quality of institutions matters more to the developing countries.

4. Conclusion

In this paper, we examine the impact of various sub-components of institutional quality on the remittances inflows for a sample of 114 countries over the period 1984-2016. The results suggest that an improvement in the index of government stability, investment profile, internal conflict, and democratic accountability significantly increase the remittances inflows, supporting the self-interest' motive to remit, whereas a decline in socio-economic condition and a corrupt political environment also increase the remittances inflows supporting the 'altruist' motive to remit The results are robust to the inclusion of a variety of macroeconomic controls and country fixed effects. We find qualitatively similar results with a subsample of developing countries. Given the role remittances play in the development process, especially in developing countries, policymakers should aim at improving the quality of political, social, and economic institutions to attract remittances.

References

- Adams, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World Development*, *33*(10), 1645–1669. https://doi.org/10.1016/j.worlddev.2005.05.004
- Agarwal, R., & Horowitz, A. W. (2002). Are International Remittances Altruism or Insurance? Evidence from Guyana Using Multiple-Migrant Households. *World Development*, 30(11), 2033–2044. https://doi.org/10.1016/S0305-750X(02)00118-3
- Agbegha, V. O. (2006, May 4). Does Political Instability Affect Remittance Flows? Retrieved September 8, 2019, from https://etd.library.vanderbilt.edu//ETD-db/available/etd-04112006-173057/
- Aggarwal, R., Demirgüç-Kunt, A., & Pería, M. S. M. (2011). Do remittances promote financial development? *Journal of Development Economics*, 96(2), 255–264.
- Ajide, K. B., & Raheem, I. D. (2016). The institutional quality impact on remittances in the ECOWAS Sub-Region. *African Development Review*, 28(4), 462–481.
- Berdiev, A. N., Kim, Y., & Chang, C.-P. (2013). Remittances and corruption. *Economics Letters*, 118(1), 182–185. https://doi.org/10.1016/j.econlet.2012.10.008
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8
- Catrinescu, N., Leon-Ledesma, M., Piracha, M., & Quillin, B. (2009). Remittances, Institutions, and Economic Growth. *World Development*, *37*(1), 81–92. https://doi.org/10.1016/j.worlddev.2008.02.004
- Chinn, M. D., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions. *Journal of Development Economics*, 81(1), 163–192. https://doi.org/10.1016/j.jdeveco.2005.05.010
- Effiong, E. L., & Asuquo, E. E. (2017). Migrants' Remittances, Governance and Heterogeneity. *International Economic Journal*, *31*(4), 535–554.
- El-Sakka, M. I. T., & McNabb, R. (1999). The Macroeconomic Determinants of Emigrant Remittances. *World Development*, 27(8), 1493–1502. https://doi.org/10.1016/S0305-750X(99)00067-4
- Escribà-Folch, A., Meseguer, C., & Wright, J. (2015). Remittances and Democratization. *International Studies Quarterly*, 59(3), 571–586. https://doi.org/10.1111/isqu.12180
- Guetat, I., & Sridi, D. (2017). Institutional quality effect on remittances in MENA region. *Middle East Development Journal*, 9(1), 84–100.
- Hagen-Zanker, J. S., & Siegel, M. (2007). *The determinants of remittances: A review of the literature*. Retrieved from http://collections.unu.edu/view/UNU:964
- Lartey, E. K. K., & Mengova, E. (2016). Does institutional quality in developing countries affect remittances? *The Journal of Developing Areas*, 50(1), 59–76. https://doi.org/10.1353/jda.2016.0008
- Lucas, R. E. B., & Stark, O. (1985). Motivations to Remit: Evidence from Botswana. *Journal of Political Economy*, 93(5), 901–918.
- Nickell, S. (1981). Biases in Dynamic Models with Fixed Effects. *Econometrica*, 49(6), 1417–1426. https://doi.org/10.2307/1911408
- Singh, R. J., Haacker, M., Lee, K., & Le Goff, M. (2010). Determinants and macroeconomic impact of remittances in Sub-Saharan Africa. *Journal of African Economies*, 20(2), 312–340.
- Sirkeci, I., Cohen, J. H., & Ratha, D. (2012). *Migration and Remittances During the Global Financial Crisis and Beyond*. World Bank Publications.

Woodruff, C. M., & Zenteno, R. (2001). Remittances and microenterprises in Mexico. *UCSD, Graduate School of International Relations and Pacific Studies Working Paper*.

Table A1. Summary Statistics of the Variables included in the Study

Variable	Observation	Mean	Std. Dev.	Min	Max
Remittances (Logarithm)	3,470	5.99	2.20	0.00	11.16
Gov_Stability	3,906	7.54	2.03	1.00	12.00
SocioEco_Condition	3,918	5.59	2.21	0.00	12.00
Investment_Profile	3,918	7.38	2.44	0.00	12.00
Internal_Conflict	3,918	8.83	2.36	0.00	12.00
External_Conflict	3,918	9.74	1.95	0.00	12.00
Corruption	3,918	2.98	1.35	0.00	6.00
Military_Politics	3,918	3.77	1.81	0.00	6.00
Religious_Tension	3,918	4.61	1.33	0.00	6.00
Law&Order	3,918	3.64	1.46	0.00	6.00
Ethnic_Tension	3,918	3.92	1.40	0.00	6.00
Democractic					
Accountability	3,918	3.94	1.60	0.00	6.00
Bureaucracy_Quality	3,918	2.16	1.18	0.00	4.00
GDP_growth	3,953	3.47	4.69	-42.45	49.45
Inflation	3,656	39.03	490.80	-30.86	23773.10
Invest_GDP	3,718	22.25	6.68	0.29	59.61
Credit_GDP	3,505	46.21	44.94	0.19	308.98
TradeOpenness	3,800	76.85	48.13	0.17	442.62
Exchange_Rate	3,993	746.98	6839.86	0.00	393362.00
FinancialOpenness	3,466	0.56	0.35	0.06	1.00

Table A2: Correlation Matrix (Remittances Inflows and Institutional Quality)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Remittances (Logarithm)	1												
Gov_Stability	0.095	1											
SocioEco_Condition	0.215	0.187	1										
Investment_Profile	0.283	0.509	0.587	1									
Internal_Conflict	0.105	0.423	0.476	0.488	1								
External_Conflict	0.081	0.298	0.282	0.354	0.623	1							
Corruption	0.055	0.102	0.585	0.290	0.460	0.321	1						
Military_Politics	0.185	0.201	0.587	0.521	0.639	0.454	0.585	1					
Religious_Tension	-0.079	0.117	0.279	0.232	0.480	0.379	0.343	0.427	1				
Law&Order	0.167	0.338	0.617	0.474	0.683	0.418	0.658	0.650	0.342	1			
Ethnic_Tension	0.113	0.264	0.328	0.278	0.578	0.384	0.350	0.435	0.415	0.476	1		
Democractic Accountability	0.281	0.157	0.460	0.515	0.500	0.418	0.548	0.638	0.318	0.520	0.304	1	
Bureaucracy_Quality	0.277	0.201	0.694	0.522	0.519	0.368	0.687	0.677	0.278	0.676	0.338	0.66	1