DETERMINANTS OF REMITTANCE PRICES: AN ECONOMETRIC ANALYSIS

By

Oya Ardic[1] and Harish Natarajan

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Abstract

Remittances are small value, cross-border, person-to-person transfers, and make up an essential source of income for millions of families. From a macroeconomic perspective, international remittances constitute a sizeable portion of GDPs of several economies. While remittances are crucial at both micro and macro levels, a remittance transaction is oftentimes quite complex for senders and receivers due to various reasons: remittance products are characterized by several features including speed, payment instrument used to send, payment instrument used to receive, how and where the receiver can access the funds, fees, foreign exchange conversion, etc. In addition, the transaction involves more than one jurisdiction and specific risks. Hence, in many instances, international remittances are quite costly while the amount sent is usually small as well as the incomes of senders and receivers. This paper analyzes the determinants of remittance prices using data from the World Bank's *Remittance Prices Worldwide* database using origin and destination specific control variables as well as other variables at the corridor level. Preliminary findings indicate statistically significant relationships between the cost and some corridor level variables such as having a border, distance, having a common language, which may indicate the possibility of hand carrying remittances or strength of migrant population. At the same time, financial sector variables such as the degree of competition in the remittance corridor and a sound enabling environment at the origin are also found to be statistically significant. Of specific note is the role of "digital MTOs" which seem to be related to lower prices.

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[1] Corresponding author: Oya Ardic, Sr. Financial Sector Specialist, World Bank. oardicalper@worldbank.org

1   INTRODUCTION

Remittances are small-value, cross-border, person-to-person transfers.[2] Remittances are an essential source of income for millions of families, many of whom are poor.

Until recently, the remittances industry was estimated to officially move close to $700 billion around the world, with more than ¾ sent to low-and-middle income countries in 2019. In the face of the COVID-19 pandemic, the financial resilience for millions of migrants and their families have been at risk. The most estimates by the World Bank in 2020 indicated a 7.2 percent decline on average, in remittance flows to lower and middle-income countries (LMICs) in 2020 with another 7.5 percent drop following in 2021.[3]

At the same time, some major remittance receiving countries have started reporting larger than average remittance inflows. On the upside, the projections for remittance inflows to East Asia and the Pacific have been improving and the inflows to these countries have been slowly going back to normal. A recent Washington Post article noted an improvement in remittances to Mexico, El Salvador, Nicaragua, Honduras and Guatemala.[4] Other news articles included rising remittance inflows to Bangladesh and Pakistan compared to the same periods of previous years. In addition, international money transfer operators like Western Union and MoneyGram, after reporting declines in earnings at the end of Q1 2020, reported an increase in earnings and a comeback for the international remittances markets at the end of Q2 2020. The declines observed initially following COVID-19 lockdowns, therefore, could be potentially due to the operational difficulties associated with the lockdowns and the temporary income loss for the migrants and not as long-lasting as was originally feared. More recent increases can be due to the inability to hand carry remittances due to travel restrictions. In any event, it seems further data on trends would be necessary before it is possible to conclude whether remittance flows would stay low once the situation normalizes.

Nonetheless, with expected declines in development aid and foreign direct investment, remittances are still considered an essential source of funding for many world economies and a lifeline for millions of families. While reducing the cost of sending remittances has been on the agenda of the international community for a while, it has become even more relevant with the crisis as reduced costs can mean a larger amount of remittances to be used by the receiving families to improve their well-being.

Reducing the cost of sending remittances has thus been on the agenda of the international community. The international development community began its efforts on remittance cost reduction in the late-2000s, when the General Principles for International Remittance Services were issued by the World Bank and Bank for International Settlements,[5] the 5x5 objectives were adopted by the G8 in the L'Aquila Summit and then by the G20, and many public and private sector initiatives were launched in this direction around the globe.

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[2] CPMI and the World Bank (2007).
[3] World Bank (2020a).
[4] See for example, here for the Washington Post article on Central America, and here for the Dhaka Tribune article for Bangladesh.
[5] CPMI and the World Bank (2007).

Building on these efforts, the UN Sustainable Development Goals (SDGs) set a target for cost reduction that is two-fold (SDG 10.c.1). Firstly, the average cost of remittance services globally should be lower than 3 percent by 2030 (it stood at 6.74 percent as of Q1 2020). Secondly, it should be possible to send remittances for a total cost of 5 percent or less in any given country-to-country corridor. As of Q1 2020, 31 percent of corridors were above the 5 percent cost target.[6]

In achieving SDG 10.c.1 on remittances and reducing the cost, policies and regulations and the resulting market conditions will play an important role. When regulators and policy makers create the right enabling environment, remittance service providers can leverage new technologies for the benefit of migrants and their families back home, for example, in the form of cost and time savings.

In addition to these efforts, throughout 2020, the G20 made enhancing cross-border payments a priority. A task force, led by the FSB and CPMI, was established for this purpose, which identified seven frictions preventing faster, cheaper, more transparent and more inclusive cross-border payments. The task force also identified 19 building blocks for the private and public sector to work on in collaboration to enhance cross-border payments. Lastly, the task force constructed a Roadmap to address the key challenges and frictions. One particular action item under this Roadmap is to identify data, indicators and targets directly relating to the challenges put forth by the task force, namely, cost, speed, access, and transparency. The G20 is expected to endorse the targets in 2021.[7]

Meanwhile, innovative solutions have begun to change market conditions for remittances. The use of technology can help reduce the time to send and receive remittances. This includes time spent for travel and wait times. In a 2018 study in Albania, accounting for the implicit cost of time, the World Bank reports that if half of international remittances received in cash in Albania at the time were received via e-money instead, migrants and families could have saved up to $1.3 million annually while payment service providers could have saved up to $6.7 million.[8] In addition, innovative services, such as the use of mobile money for international remittance transfers, can lower fees for sending remittances, which is a large component of the cost. For example, in a 2016 study, GSMA notes the use of mobile technology reduces the cost of remittances in half, which was reaffirmed in 2018.[9]

Furthermore, the recent experience during the lockdowns induced by COVID-19 showed the importance of digital payment instruments for sending and receiving remittances. Remittance service providers (RSPs) had operational disruptions due to lockdowns. In some countries, RSP offices and agent locations had to be closed until remittances were declared essential services. In some others, RSPs had restricted office hours, and in many others, social distancing rules meant the number of customers serviced in RSP locations to be reduced significantly. These resulted in unavailability of some services, mostly cash based; as well as higher operational costs for RSPs. Pulse surveys with regulators and RSPs showed an increase

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[6] World Bank (2020b). Please note that data from Q1 2020 was used as it is the last quarter before the spread of COVID-19. In Q4 2020, the global average cost of sending $200 was recorded at 6.51 percent. In addition, 26 percent of corridors were above the 5 percent cost target in Q4 2020 (see World Bank, 2020c).
[7] FSB (2020a), CPMI (2020) and FSB (2020b)
[8] World Bank (2018).
[9] GSMA (2016) and GSMA (2018).

in the use of digital channels, and a decline in the average cost of sending remittances for the corridors that are surveyed.[10]

As such, it is important to understand whether the digitalization of remittance services may lead to a more efficient provision of remittance services, reducing their cost. The rest of this paper summarizes the findings of an econometric analysis with data from the *Remittance Prices Worldwide* (RPW) database of the World Bank, along with corridor-specific control variables and control variables specific to sending and receiving countries for this purpose. The findings of this paper indicate that digitalization may indeed matter for reducing costs. However, from a policy perspective, this needs to be evaluated carefully as certain groups of people may not always be amenable to using digital remittance services.

2   ANALYSIS

Table 1 provides some additional information on the breakdown of average cost of sending $200 as of Q1 2020 across all RSP types, banks and non-banks. In addition, a split of cost between its two components, transaction fee and foreign exchange margin are provided, based on the data from the World Bank's *Remittance Prices Worldwide (RPW)* database.[11] As observed in the table, on average, it is more costly to send $200 via banks as opposed to non-banks.[12] The difference in cost does not seem to stem from the foreign exchange margin, which seems to be similar for all RSP types around 2.14 – 2.23 percent of the amount sent, but rather the transaction fee charged by banks and non-banks, on average, is significantly different: 8.40 percent and 3.75 percent, respectively. At the same time, another differentiating factor is the speed of transaction: on average, it takes 69 hours to send $200 via banks vs. 16.5 hours to send via non-banks.[13] In addition, cost of sending remittances to different parts of the world vary (Figure 1).

Remittance costs can be related to different characteristics of the sending country and the recipient country as well as those specific to the corridor. For example, the number of migrants in the corridor, existence of a colonial relationship, a common language, a shared border and the distance between the sender and the receiver are corridor-specific factors that may influence the costs. A shared border may make it easier to frequently travel between the sending and the receiving countries and hence may reduce the need to use regulated remittance service providers if it is too costly to do so relative to traveling across the border. Similarly, the longer the distance between the two countries, the lower the chances of hand

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[10] For further information, please see *Remittance Prices Worldwide (RPW) Special Issues* available at http://remittanceprices.worldbank.org OR RPW Occasional Papers, No. 1.

[11] Launched in September 2008, RPW monitors the cost incurred by remitters when sending money along major remittance corridors. Since Q2 2016, RPW covers 48 remittance sending countries and 105 receiving countries, for a total of 367 country corridors worldwide. RPW monitors the prices of those services in each corridor that account for 80-85 percent of the market share. Several other characteristics at service level are also collected, including the type of providers, the type of payment instrument used by the remitters, the type of disbursing instrument in the recipient country, and the speed of transaction.

[12] Consistent with this, Beck and Martinez Peria (2011) find a positive correlation between the share of bank service providers in each corridor and the average cost of remittances.

[13] For the purposes of this analysis, data on cost of sending $200 in remittances from the *Remittance Prices Worldwide (RPW)* database by the World Bank is used. RPW has data on a quarterly basis. The analysis here uses the dataset from Q1 2020, the latest available data prior to the disruptions in the remittances market due to the COVID-19 induced crisis.

carry across the border. Common language and colonial relationship may influence the migration patterns and can determine the scale of the market for international remittances as well as number of migrants.

The enabling environment of the financial sector in general, and payments in particular, in the sending and the receiving countries may also influence the cost. CPMI and the World Bank (2007) provide further details and describe the five general principles that ensure the safety and efficiency of international remittance services. These five principles are transparency and consumer protection, payment system infrastructure, legal and regulatory environment, market structure and competition, and governance and risk management (see Box 1).

Box 1: List of the General Principles and Related Roles[14]

General Principle 1: Transparency and Consumer Protection
The market for remittance services should be transparent and have adequate consumer protection.

General Principle 2: Payment System Infrastructure
Improvements to payment system infrastructure that have the potential to increase the efficiency of remittance services should be encouraged.

General Principle 3: Legal and Regulatory Environment
Remittance services should be supported by a sound, predictable, non-discriminatory and proportionate legal and regulatory framework in relevant jurisdictions.

General Principle 4: Market Structure and Competition
Competitive market conditions, including appropriate access to domestic payments infrastructures, should be fostered in the remittance industry.

General Principle 5: Governance and Risk Management
Remittance services should be supported by appropriate governance and risk management practices.

Roles of Remittance Service Providers and Public Authorities
    A. The role of remittance service providers. Remittance service providers should participate
    actively in the implementation of the General Principles.
    B. The role of public authorities. Public authorities should evaluate what action to take to achieve
    the public policy objectives through implementation of the General Principles.

Table 2 summarizes the findings from a regression analysis of the average cost of sending $200 at the corridor level and its two components (transaction fee and the foreign exchange margin the providers charge to the senders) using origin and destination fixed effects. The findings indicate that the farther away the sending and the receiving countries are, the higher the average cost of sending $200 in that corridor is. If the sending and receiving countries have a common official language, the average cost is lower. Slower speed of transactions, on average, is associated with a higher average cost. An analysis of the two components of the cost, fee and foreign exchange margin, shows that the average foreign exchange margin of sending $200 is positively related to the distance between the two ends of the corridor and lack of a common language while the average fee of sending $200 is also positively related

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[14] CPMI and World Bank (2007).

to distance and faster speed on average. At the same time, the number of services offered by digital MTOs in the corridor and the average fee are negatively related.[15]

To further analyze whether speed of transaction and digitalization of services are related to the cost of sending remittances, remittance services in each corridor are categorized as 'slow' and 'fast' whereby fast services are those with a speed of transaction up to one day and all others are classified as slow. Table 3 shows the findings of a regression analysis where the average cost of sending $200 via slow vs. fast services are used as dependent variables as well as the two cost components: fee and foreign exchange margin. The findings indicate that for slow services, the number of services offered by banks in the corridor is positively related to both the average cost and the average fee. At the same time, having a shared border is related to a lower average cost and a lower average fee. A larger number of services offered by all RSP types and as well as a larger number of services offered by digital MTOs in the corridor are related to lower average costs and average fees. Average foreign exchange margin for slow services does not seem to have any statistically significant relationship with corridor-specific control variables. For fast services, a longer distance between the origin and the destination is positively related to the average cost as well as its two components: average fee and average foreign exchange margin. At the same time, a larger number of services offered in the corridor, regardless of the type of the RSP, is related to a lower average cost and a lower average fee. Average fee for fast services is lower amongst countries with a colonial relationship.

A further analysis of average costs by the type of RSP (MTOs vs. banks) reveals that the average cost of sending $200 by MTOs and the average cost of sending $200 by banks are both negatively related to the number of services offered in the corridor by any provider type, but are also negatively related to a larger number of MTOs and banks , respectively. While the average cost of sending by banks does not have a statistically significant relationship to the number of services offered by digital MTOs, it is lower for higher speed on average. At the same time, the average cost of sending by MTOs is positively associated with the distance but negatively associated with the number of services offered by digital MTOs in the corridor (Table 4).

Table 5 summarizes the findings from regressions of the average cost of sending $200 via cash, bank account transfer or payment cards using corridor-specific controls and origin and destination fixed effects. The average cost of sending $200 via cash is positively related to distance and is negatively related to the number of services offered in the corridor and the number of services offered in the corridor by MTOs. In addition, it is higher if there are a larger number of services offered by digital MTOs in the corridor. The average cost of sending $200 via bank account transfer is negatively associated with the number of services offered in the corridor and the number of migrants in the corridor. In addition, it increases with slower average speed in the corridor. The average cost of sending $200 via payment cards is negatively related to a shared border and the number of services offered by banks in the corridor.

On the receiving side, the funds can be disbursed in cash, to a bank account or to a mobile wallet. Table 6 shows the findings of a regression analysis of the average cost of sending $200 to disburse in cash, to a bank account and to a mobile wallet. The average cost of sending $200 to a mobile wallet is not related to any corridor-specific control variable in a statistically significant way. The average cost of sending $200

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[15] "Digital" MTOs are those non-bank innovative service providers that provide remittance services which are funded by non-cash payment instruments.

to be disbursed in cash decreases with the number of services offered in the corridor and the number of services offered by MTOs in the corridor, while it increases with distance and with the number of services offered by digital MTOs in the corridor. The average cost of sending $200 to a bank account increases with slower speed and decreases with the number of services offered by digital MTOs in the corridor.

Table 7 uses only recipient fixed effects and adds sender-specific control variables to the analysis. The sender-specific controls that turned out to be statistically significant for the average cost and the average fee of sending $200 include a negative relation with better infrastructure, better legal & regulatory frameworks for payments and a positive relation with the existence of restrictions on outward person-to-person (P2P) transfers imposed by the sender. In addition, share of services in the corridor offered by digital MTOs is negatively related to the average cost and the average fee. The average foreign exchange margin of sending $200 does not have a statistically significant relationship with any of these control variables, however, it is positively related to the sender having a floating exchange rate regime.

Box 2: Cost of Sending Remittances to Africa

Sub- Saharan Africa has consistently been the costliest region to send remittances to, with costs at 8.10 percent for sending $200 in Q4 2020, 1.59 percentage points higher than the global average. This implies that, on average, senders to Sub-Saharan Africa paid $3.18 more for sending $200. In addition, intra-regional corridors in Sub-Saharan Africa have also been among the most expensive: such corridors originating from Tanzania, Angola, Nigeria, South Africa and Cameroon have had the highest costs.

The results from a regression analysis supports these findings: after controlling for various corridor-level, destination-level and origin-level factors, country of origin and/or country of destination being in Sub-Saharan Africa are positively related to the average cost of remittances in a corridor (Table B1).

Table B1. Cost of sending $200 in remittances - Sub-Saharan Africa

	(1)
Average speed of transaction (hours)	0.0007***
	[0.000]
No. of services offered in the corridor	-0.0004*
	[0.000]
No. of migrants	-0.0017***
	[0.001]
Distance (log)	0.0048*
	[0.002]
Shared border (0/1)	-0.0139
	[0.010]
Colonial relation (0/1)	-0.0016
	[0.005]
Common official language (0/1)	-0.0022
	[0.004]
Region for origin country - SSA (0/1)	0.0525***
	[0.015]
Region for destination country - SSA (0/1)	0.0150***
	[0.005]

GDP per capita of sender (log)	-0.0139*
	[0.008]
GDP per capita of destination (log)	0.0087***
	[0.002]
Population of sender (log)	-0.0000
	[0.001]
Population of destination (log)	-0.0024**
	[0.001]
Constant	0.0430**
	[0.020]
Observations	294
R-squared	0.489

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

At the same time, a closer examination of the services to Sub-Saharan Africa reveals that sending digitally was 2.45 percentage points cheaper in Q4 2020. However, this presents its own challenges. Transaction account ownership, phone ownership, digital literacy and internet affordability is not necessarily equally distributed across Sub-Saharan Africa. A forthcoming World Bank study notes[16] that several factors contribute to high remittance costs in Sub-Saharan Africa, including the slow pace of legal reforms in accommodating innovative business models for delivering remittances, cost of compliance, informal migration, availability of cost-efficient digital channels, and rural infrastructure.

3   SUMMARY AND DISCUSSION

The analysis results indicate that a sizable presence of digital MTOs seems to be negatively related to the average cost of sending $200 as well as the average fee, but not to the average foreign exchange margin. At the same time, sending via cash and receiving in cash is more costly with a sizeable presence of digital MTOs. In addition, sending via banks is on average more costly with slower speed on average and with a sizeable presence of digital MTOs in the corridor.

These imply that a wider availability of remittance services provided by digital MTOs seem to matter for the remittance cost reduction efforts. As such, digital MTOs may see it more attractive to enter corridors that are dominated by slow and high-cost services.

Directions for further research include understanding the factors related to cost of sending remittances to small states and fragile and conflict affected states as two additional groups of countries where remittance costs have traditionally been larger than average.

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[16] World Bank (forthcoming). *Policy Implications for the high costs of cross border remittances in Sub-Saharan Africa.*

At the same time, the recent work led by the FSB and the CPMI[17] identifies three additional challenges to cross-border payments besides cost: speed, access and transparency. Further empirical research to identify some of the underlying relationships among the four challenges and other factors identified as the building blocks (e.g. legal and regulatory frameworks, underlying infrastructure, etc.) will be useful for target setting purposes as well as making informed policy decisions.

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World Bank (forthcoming). *Policy Implications for the High Costs of Cross Border Remittances in Sub-Saharan Africa*.

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[17] FSB (2020a), FSB (2020b) and CPMI (2020)

ANNEX - TABLES & FIGURES

Table 1. Selected summary statistics: sending $200 in remittances

	All Providers	Banks	Non-banks
Average total cost	6.74%	10.55%	5.99%
Average transaction fee	4.52%	8.40%	3.75%
Average foreign exchange margin	2.22%	2.14%	2.23%
Speed of transaction (average, hours)	25.13	68.73	16.50

Source: Remittance Prices Worldwide, Q1 2020, World Bank

Table 2. Cost of sending $200 in remittances, origin & destination fixed effects

	(1)	(2)	(3)
	Average cost of sending $200	Average fee of sending $200	Average FX margin of sending $200
Average speed of transaction (hours)	0.0002*	0.0002**	0.0000
	[0.000]	[0.000]	[0.000]
No. of services offered by banks	-0.0000	0.0005	-0.0005
	[0.001]	[0.000]	[0.000]
No. services offered by "digital" MTOs	-0.0010	-0.0013**	0.0004
	[0.001]	[0.001]	[0.001]
No. of migrants	-0.0003	-0.0002	-0.0001
	[0.000]	[0.000]	[0.000]
Distance (log)	0.0107***	0.0048**	0.0059***
	[0.003]	[0.002]	[0.002]
Shared border (0/1)	0.0043	-0.0007	0.0051
	[0.008]	[0.004]	[0.007]
Colonial relation (0/1)	-0.0021	-0.0032	0.0011
	[0.005]	[0.003]	[0.003]
Common official language (0/1)	-0.0085**	-0.0032	-0.0053**
	[0.004]	[0.002]	[0.003]
Constant	-0.0177	0.0048	-0.0226
	[0.028]	[0.020]	[0.018]
Observations	304	304	304
R-squared	0.884	0.926	0.710

Robust standard errors in brackets

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3. Cost of sending $200 in remittances: slow vs. fast services, origin & destination fixed effects

	Slow Services						Fast Services					
	Average cost of sending $200		Average fee of sending $200		Average FX margin of sending $200		Average cost of sending $200		Average fee of sending $200		Average FX margin of sending $200	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
No. of services offered	-0.0013**		-0.0009*		-0.0004		-0.0006*		-0.0005**		-0.0002	
	[0.001]		[0.000]		[0.000]		[0.000]		[0.000]		[0.000]	
No. of services offered by banks	0.0030**	0.0016	0.0025**	0.0016	0.0005	0.0000	-0.0001	-0.0009	0.0002	-0.0004	-0.0003	-0.0005
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
No. services offered by "digital" MTOs		-0.0030*		-0.0026*		-0.0004		-0.0007		-0.0009		0.0001
		[0.002]		[0.001]		[0.001]		[0.001]		[0.001]		[0.001]
No. of migrants	-0.0036	-0.0032	-0.0019	-0.0013	-0.0017	-0.0019	-0.0000	0.0000	0.0000	0.0001	-0.0000	-0.0000
	[0.005]	[0.005]	[0.003]	[0.004]	[0.003]	[0.003]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Distance (log)	-0.0063	-0.0025	-0.0032	-0.0009	-0.0031	-0.0017	0.0075**	0.0096***	0.0026	0.0038*	0.0049**	0.0058***
	[0.006]	[0.006]	[0.005]	[0.004]	[0.004]	[0.004]	[0.003]	[0.003]	[0.002]	[0.002]	[0.002]	[0.002]
Shared border (0/1)	-0.0356**	-0.0345**	-0.0271**	-0.0262**	-0.0085	-0.0084	-0.0048	-0.0044	-0.0057	-0.0055	0.0009	0.0011
	[0.015]	[0.016]	[0.011]	[0.011]	[0.010]	[0.011]	[0.011]	[0.011]	[0.005]	[0.005]	[0.008]	[0.008]
Colonial relation (0/1)	0.0039	0.0013	0.0023	0.0004	0.0016	0.0009	-0.0049	-0.0059	-0.0047	-0.0055*	-0.0002	-0.0004
	[0.009]	[0.009]	[0.007]	[0.007]	[0.005]	[0.005]	[0.005]	[0.005]	[0.003]	[0.003]	[0.003]	[0.003]
Common official language (0/1)	0.0027	0.0023	0.0045	0.0049	-0.0018	-0.0025	-0.0039	-0.0047	-0.0008	-0.0010	-0.0032	-0.0037
	[0.006]	[0.006]	[0.005]	[0.005]	[0.005]	[0.004]	[0.003]	[0.003]	[0.002]	[0.002]	[0.003]	[0.003]
Constant	0.1362**	0.0929*	0.0839*	0.0572	0.0523	0.0357	0.0164	-0.0062	0.0277	0.0140	-0.0113	-0.0203
	[0.059]	[0.047]	[0.044]	[0.036]	[0.039]	[0.032]	[0.028]	[0.025]	[0.019]	[0.017]	[0.021]	[0.018]
Observations	208	208	208	208	208	208	304	304	304	304	304	304
R-squared	0.887	0.886	0.910	0.911	0.614	0.611	0.801	0.799	0.847	0.846	0.704	0.703

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 4. Cost of sending $200 in remittances by type of RSP (MTOs vs banks), origin & destination fixed effects

	Average cost of sending $200 by MTOs				Average cost of sending $200 by banks			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Average speed of transaction (hours)	-0.0000	-0.0001	-0.0001	-0.0001	0.0008**	0.0010**	0.0005	0.0005
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
No. of migrants	-0.0001	-0.0001	-0.0001	-0.0001	0.0026	0.0015	0.0015	0.0003
	[0.000]	[0.000]	[0.000]	[0.000]	[0.008]	[0.008]	[0.008]	[0.008]
Distance (log)	0.0059*	0.0084***	0.0052	0.0071**	-0.0075	-0.0000	-0.0079	-0.0029
	[0.003]	[0.003]	[0.003]	[0.003]	[0.011]	[0.010]	[0.011]	[0.010]
Shared border (0/1)	-0.0061	-0.0055	-0.0074	-0.0072	-0.0228	-0.0180	-0.0287	-0.0292
	[0.011]	[0.011]	[0.010]	[0.010]	[0.019]	[0.019]	[0.020]	[0.020]
Colonial relation (0/1)	-0.0026	-0.0035	-0.0026	-0.0039	-0.0063	-0.0059	-0.0087	-0.0104
	[0.005]	[0.005]	[0.005]	[0.005]	[0.013]	[0.013]	[0.013]	[0.014]
Common official language (0/1)	-0.0031	-0.0045	-0.0028	-0.0032	-0.0081	-0.0125	-0.0074	-0.0094
	[0.003]	[0.003]	[0.003]	[0.003]	[0.011]	[0.010]	[0.011]	[0.012]
No. of services offered by all RSPs	-0.0006**				-0.0017**			
	[0.000]				[0.001]			
No. of services offered by banks		-0.0006				-0.0031**		
		[0.001]				[0.002]		
No. of services offered by MTOs			-0.0007**				-0.0015	
			[0.000]				[0.001]	
No. of services offered by "digital" MTOs				-0.0014*				-0.0013
				[0.001]				[0.003]
Constant	0.0272	-0.0004	0.0330	0.0115	0.1625*	0.0814	0.1639	0.1052
	[0.026]	[0.024]	[0.028]	[0.024]	[0.093]	[0.079]	[0.099]	[0.083]
Observations	304	304	304	304	174	174	174	174
R-squared	0.762	0.758	0.761	0.759	0.859	0.857	0.856	0.852

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 5. Cost of sending $200 in remittances by payment instrument used, origin & destination fixed effects

	Average cost of sending $200					
	Cash		Bank Account Transfer		Payment Cards	
	(1)	(2)	(3)	(4)	(5)	(6)
Average speed of transaction (hours)	0.0001	0.0001	0.0005***	0.0005***	0.0000	0.0000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
No. of services offered by all RSPs	-0.0013**		-0.0007*		-0.0003	
	[0.001]		[0.000]		[0.000]	
No. of services offered by banks	0.0002	-0.0012	0.0013	0.0005	-0.0018**	-0.0021***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
No. of services offered by "digital" MTOs	0.0024*	0.0023*	-0.0002	-0.0004	-0.0001	-0.0001
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
No. of migrants	0.0004	0.0004	-0.0066*	-0.0066*	-0.0001	-0.0001
	[0.000]	[0.000]	[0.004]	[0.004]	[0.000]	[0.000]
Distance (log)	0.0073**	0.0074**	0.0028	0.0031	-0.0038	-0.0038
	[0.004]	[0.004]	[0.005]	[0.005]	[0.005]	[0.005]
Shared border (0/1)	-0.0090	-0.0090	-0.0081	-0.0081	-0.0120*	-0.0119*
	[0.012]	[0.012]	[0.009]	[0.009]	[0.007]	[0.007]
Colonial relation (0/1)	-0.0096	-0.0095	0.0022	0.0021	0.0064	0.0064
	[0.007]	[0.007]	[0.006]	[0.006]	[0.005]	[0.005]
Common official language (0/1)	-0.0016	-0.0016	-0.0083	-0.0084	-0.0055	-0.0055
	[0.004]	[0.004]	[0.006]	[0.006]	[0.004]	[0.004]
No. of services offered by MTOs		-0.0013**		-0.0007		-0.0004
		[0.001]		[0.000]		[0.000]
Constant	0.0293	0.0291	0.0444	0.0413	0.0996**	0.0997**
	[0.033]	[0.033]	[0.046]	[0.046]	[0.041]	[0.042]
Observations	299	299	266	266	262	262
R-squared	0.766	0.766	0.903	0.902	0.811	0.811

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Cost of sending $200 in remittances by disbursing instrument, origin & destination fixed effects

	Disbursing in cash		Average cost of sending $200 Received in a bank account		Received in a mobile wallet	
	(1)	(2)	(3)	(4)	(5)	(6)
Average speed of transaction (hours)	0.0000	0.0000	0.0006***	0.0006***	0.0006	0.0006
	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]	[0.001]
No. of services offered	-0.0010**		-0.0002		0.0002	
	[0.000]		[0.001]		[0.001]	
No. of services offered by banks	0.0000	-0.0010	0.0003	0.0001	0.0019	0.0021
	[0.001]	[0.001]	[0.001]	[0.001]	[0.003]	[0.002]
No. of services offered by "digital" MTOs	0.0017*	0.0017	-0.0032*	-0.0032*	-0.0006	-0.0006
	[0.001]	[0.001]	[0.002]	[0.002]	[0.003]	[0.003]
No. of migrants	0.0001	0.0001	-0.0009	-0.0009	-0.0024	-0.0024
	[0.000]	[0.000]	[0.001]	[0.001]	[0.006]	[0.006]
Distance (log)	0.0074**	0.0076**	0.0018	0.0019	0.0223	0.0222
	[0.004]	[0.004]	[0.006]	[0.006]	[0.014]	[0.014]
Shared border (0/1)	-0.0070	-0.0070	-0.0152	-0.0151	-0.0020	-0.0019
	[0.012]	[0.012]	[0.011]	[0.011]	[0.023]	[0.023]
Colonial relation (0/1)	-0.0077	-0.0077	0.0046	0.0045	-0.0048	-0.0048
	[0.006]	[0.006]	[0.007]	[0.006]	[0.009]	[0.009]
Common official language (0/1)	-0.0030	-0.0030	-0.0085	-0.0086	-0.0066	-0.0066
	[0.004]	[0.004]	[0.006]	[0.006]	[0.016]	[0.016]
No. of services offered by MTOs		-0.0010**		-0.0002		0.0001
		[0.000]		[0.001]		[0.001]
Constant	0.0207	0.0194	0.0479	0.0469	-0.1450	-0.1439
	[0.031]	[0.031]	[0.055]	[0.055]	[0.125]	[0.124]
Observations	300	300	238	238	69	69
R-squared	0.740	0.739	0.921	0.921	0.818	0.818

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 7. Cost of sending $200 in remittances, destination fixed effects

	(1) Average cost of sending $200	(2) Average fee for sending $200	(3) Average FX margin for sending $200
Average speed of transaction (hours)	0.0005***	0.0007***	-0.0002**
	[0.000]	[0.000]	[0.000]
No. of migrants	-0.0016**	-0.0015***	-0.0001
	[0.001]	[0.000]	[0.000]
Distance (log)	0.0104	0.0071	0.0033
	[0.007]	[0.006]	[0.002]
Shared border (0/1)	-0.0164	-0.0025	-0.0138*
	[0.015]	[0.013]	[0.008]
Colonial relation (0/1)	0.0031	0.0041	-0.0010
	[0.009]	[0.007]	[0.004]
Common official language (0/1)	-0.0214**	-0.0078	-0.0135***
	[0.009]	[0.007]	[0.004]
Share of services offered by "digital" MTOs	-0.0006***	-0.0006***	0.0000
	[0.000]	[0.000]	[0.000]
GDP per capita of sender (log)	-0.0030	-0.0056	0.0027
	[0.014]	[0.013]	[0.007]
Population of sender (log)	-0.0042	-0.0022	-0.0020
	[0.005]	[0.004]	[0.002]
Infrastructure of the sender	-0.0022**	-0.0017*	-0.0005
	[0.001]	[0.001]	[0.000]
Bank concentration index, sender	-0.0002	-0.0001	-0.0001
	[0.000]	[0.000]	[0.000]
PAFI regulatory index, sender	-0.0005**	-0.0003**	-0.0001
	[0.000]	[0.000]	[0.000]
Floating exchange rate, sender (de facto) (0,1)	0.0265	0.0019	0.0245**
	[0.021]	[0.022]	[0.009]
Restrictions on outward P2P transfers, sender (0/1)	0.0323***	0.0247***	0.0076
	[0.011]	[0.009]	[0.006]
Constant	0.1939***	0.1595**	0.0344
	[0.072]	[0.069]	[0.035]
Observations	113	113	113
R-squared	0.833	0.848	0.789

Robust standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Figure 1. Sending $200: Average Total Cost, by Region
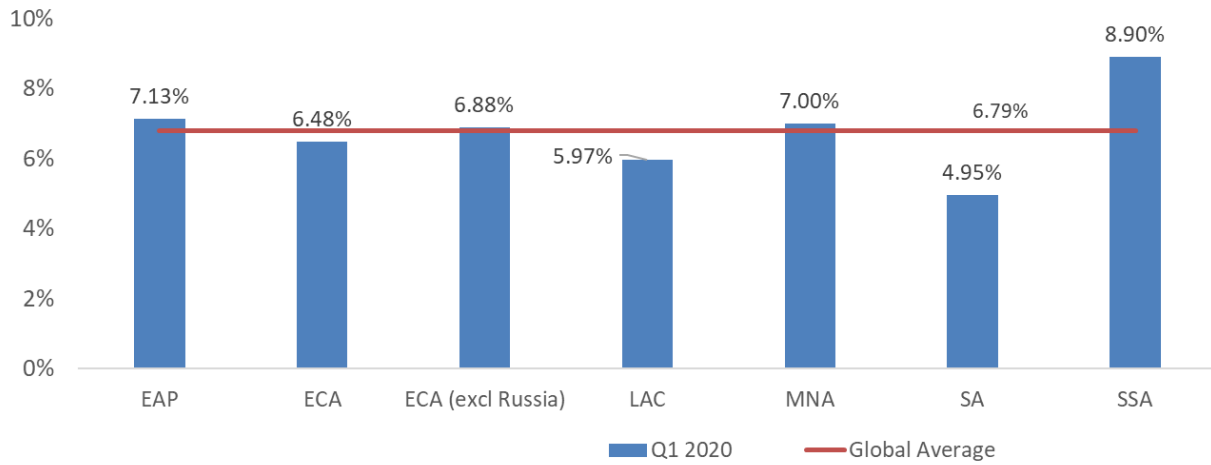
Note: Costs expressed in terms of % of the amount sent. The cost of sending remittances has two components: transaction fee and foreign exchange margin. The difference between total cost and foreign exchange margin in the charts above represent the transaction fee charged by the remittance service providers. Source: Remittance Prices Worldwide, World Bank.