

MARKET ANALYSIS OF REMITTANCE COSTS IN BELGIUM



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GLOSSARY

Term	Definition
Coverage	In the context of remittances, coverage refers to the extent and variety of remittance services available in a specific country or corridor. It encompasses the number of MTOs operating, the diversity of transfer and receiving methods offered, and the overall accessibility of these services to users.
Exchange rate margin	The difference between the exchange rate used by a service provider (like an MTO or bank) for a remittance transaction and the official market exchange rate. It represents an implicit cost to the sender or receiver of the remittance, as it affects the amount of money received after conversion ⁱ .
MTO (Money Transfer Operator)	A financial service provider usually regulated or licensed by the government, that unlike banks that offer a wider range of financial services (including loans, deposits, and investments) MTOs specialize primarily in facilitating domestic and international money transfers. MTOs offer varied methods for sending and receiving money, including online platforms, mobile apps, and physical agent locations.
Remittances	Personal monetary transfers, cross border or within the same country, made by migrants to individuals or communities with whom the migrant has links (IOM, 2019).
Remittance corridor	Remittance corridor is the specific route from which remittances are sent from one country (origin) to another (destination) ⁱⁱ . Each corridor has unique characteristics in terms of service providers, costs, and regulatory frameworks.
Service Fee	Or transfer fee, a charge levied by a remittance service provider for processing a remittance transaction. This fee can vary depending on the method of transfer, amount sent, and destination country ⁱⁱⁱ .
Transaction costs	The costs linked to sending money abroad through a remittance service provider (like a bank, MTOs) include the service fee, the exchange rate margin and any other incurred cost ^{iv} .
Withdrawal Fee	Fee charged when the recipient withdraws the remitted funds ^v . This fee can vary based on the method of withdrawal and the country of receipt, and it is separate from the service fee and exchange rate margin involved in the remittance transaction.

ⁱ CompareRemit, 2022. "What is a Mid-Market Exchange Rate?" Available at: <https://www.compareremit.com/money-transfer-tips/what-is-a-mid-market-exchange-rate/>

ⁱⁱ IMF. (2019). International Transactions in Remittances: Guide for Compilers and Users.

ⁱⁱⁱ The World Bank. (2023). Remittance Prices Worldwide Quarterly.

^{iv} Kpodar, K., & Amir Imam, P. (2022). How Do Transaction Costs Influence Remittances? IMF.

^v Forbes. "Bank Withdrawal Fees." Available at <https://www.forbes.com/advisor/ca/banking/bank-withdrawal-fees/>

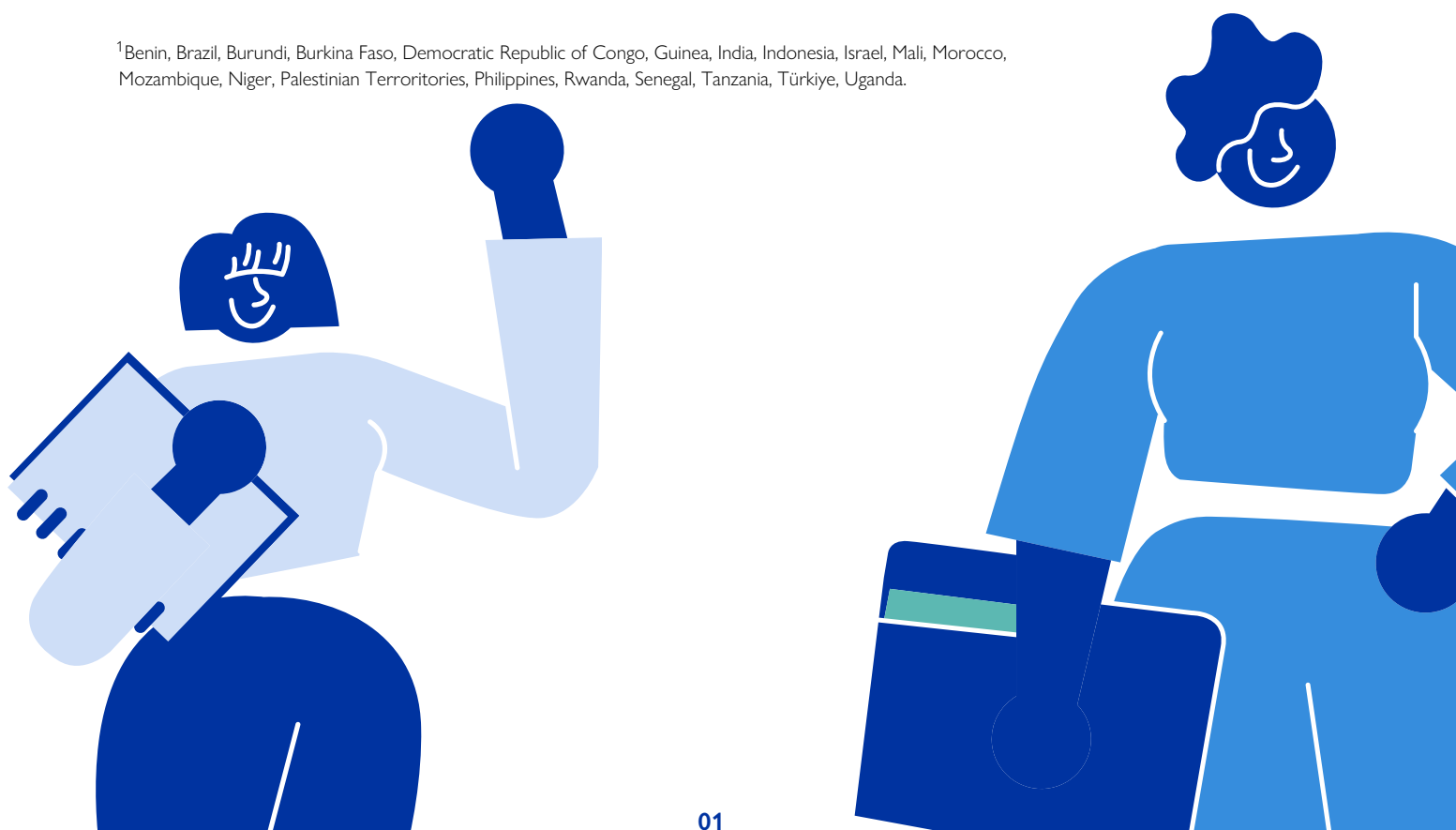
OVERVIEW

The International Organization for Migration (IOM), on behalf of the Belgian Directorate-General for Development Cooperation and Humanitarian Aid (DGD), is conducting a study on the costs of remittances in partner countries of the Belgian government. This research is a part of the O-REMIT Project, which seeks to identify cost-effective ways for diaspora and migrant communities in Belgium to send remittances and invest in their countries of origin. The aim is to deepen the understanding of how remittances are sent by migrant and diaspora populations in Belgium and the factors affecting these transactions. An important aspect of the research involves analyzing the costs associated with different formal methods compared to other channels. For this purpose, the O-REMIT team has carried out a market analysis, including mystery shopping, to gather insights on the transaction costs when using Money Transfer Operators (MTOs) for sending remittances from Belgium to its main corridors¹. The selection of the main corridors is based on the 14 government cooperation partner countries and prioritization efforts of the Belgian Development Cooperation.

The data collected by the O-REMIT team from August to November 2023 provides a snapshot of the transaction costs at that time, offering detailed insights into the various MTOs, total costs, transfer speeds, and methods of sending and receiving remittances. While this data represents a specific period and should be considered in that context, it is a valuable resource due to the general scarcity of detailed information on transaction costs. This market analysis contributes to shedding light on the status of transaction costs from Belgium and encourages further examination to achieve the Sustainable Development Goal (SDG) 10.c of reducing transaction costs of migrant remittances to less than 3% and eliminating remittance corridors with costs higher than 5%.

The present document outlines the key findings from the market analysis data collected by the O-REMIT team and serves not only as a report on the current state of transaction costs from Belgium but also as benchmark for future comparison and studies.

¹Benin, Brazil, Burundi, Burkina Faso, Democratic Republic of Congo, Guinea, India, Indonesia, Israel, Mali, Morocco, Mozambique, Niger, Palestinian Territories, Philippines, Rwanda, Senegal, Tanzania, Türkiye, Uganda.



1. THE DATA

The data from the market analysis provides a comprehensive overview of remittance costs across 21 corridors², the methodology for data collection involved the O-REMIT team posing as customers and interacting with MTOs within each corridor resulting in a total of 743 individual records and associated transaction costs for the services provided by MTOs. In total 14 MTOs³ were covered, the total transaction costs are recorded as a percentage, benchmarked against a standard transaction amount of 200 euros. These transaction costs are dissected into two components: the service fee, which is also presented as a percentage of the 200-euro reference, and the exchange rate margin. The latter is the discrepancy between the MTO's exchange rate and the official exchange rate, calculated by evaluating the received amount in the local currency against what would be received at the official rate on the day the data was collected. Furthermore, the dataset offers disaggregated data per MTO, detailing the methods of transfer and receipt, and providing insights on the estimated time⁴ for the recipient to access the funds.

Data processing

The market analysis data required a need to address the presence of extreme values in transaction costs. For instance, some records showed negative transaction costs for certain MTOs, which are counterintuitive, while others displayed excessively high costs, nearing 50%. These outliers may actually indicate the existence of 'parallel' or 'grey' foreign exchange markets⁵, which are known to deviate significantly from official rates; or could be the result of exogenous shocks to the exchange rate, particular to the date on which the data was collected⁶. This phenomenon is not unique to the market analysis data but is also documented in the Remittance Prices Worldwide (RPW)⁷ data by the World Bank.

Such outliers can skew average calculations and potentially lead to inaccurate interpretations when analyzing the data by country or by MTO. While larger datasets such as longitudinal data can naturally mitigate the impact of these outliers (Wooldridge, 2013, p. 334), the market analysis dataset is a static snapshot. Therefore, to preserve the integrity of the data, the method adopted was to trim the top and bottom 1st percentiles of the data based on the variable of the exchange rate margin as this is the variable subject to outliers. The approach allows for the presentation of more reliable statistics, ensuring that the analysis remains robust and that minimal valuable information is lost (for more details on the process used in handling the data, please refer to Annex 1). Accordingly, the statistics presented in the following sections are based on the trimmed dataset.

² These constitute the 14 partner countries of the Belgian governmental cooperation (Benin, Burundi, Burkina Faso, Democratic Republic of Congo, Guinea, Mali, Morocco, Mozambique, Niger, Occupied Palestinian Territory, Rwanda, Senegal, Tanzania, Uganda) and 7 additional countries chosen by the O-REMIT team based on a variety of indicators, including but not limited to: remittance volume, diaspora size in Belgium, geographical spread. Therefore, it was chosen to add the following seven (7) countries: Brazil, India, Indonesia, Israel, Philippines, Thailand and Türkiye.

³ Atlantic Money, BELMoney, Money Gram, Money Trans, Paysend, Remitly, Ria, Sendwave, Skrill, SmallWorld, TapTap Send, Western Union, Wise, WorldRemit. Multiple factors were taken into account by the O-REMIT team when limiting the exercise to these 14 MTOs: license to operate in Belgium, ease-of-use (i.e. wide agent network, app, website), familiarity within diaspora communities (word-of-mouth), human resources O-REMIT team. Atlantic Money and BELMoney were only added to the collection exercise for India and Brazil respectively, as related diaspora communities have regularly mentioned to use these services.

⁴ It is important to note that the data offers a snapshot limited to the specific period of data collection. Additionally, variations in data collection dates may influence the results, particularly how some rates fluctuate.

⁵ A parallel or grey market is an unofficial foreign exchange market where currency transactions occur at rates different from the official ones, often developed in response to economic policies that set official exchange rates. It typically arises when there's a significant spread between the official and market exchange rates, often due to underlying economic issues like excessive fiscal stimulus or monetary financing. In such markets, participants seek better prices or access to foreign currency that is not available at the official rate. Over time, the parallel market may become the primary source of foreign currency for most economic agents, reflecting the market's response to central bank policies (Gray, 2021).

⁶ For example, in the wake of the tragic earthquake that occurred in Morocco in September, 2023 Western Union dropped transfer fees to support the relief efforts.

⁷ Link available at: <https://remittanceprices.worldbank.org/>

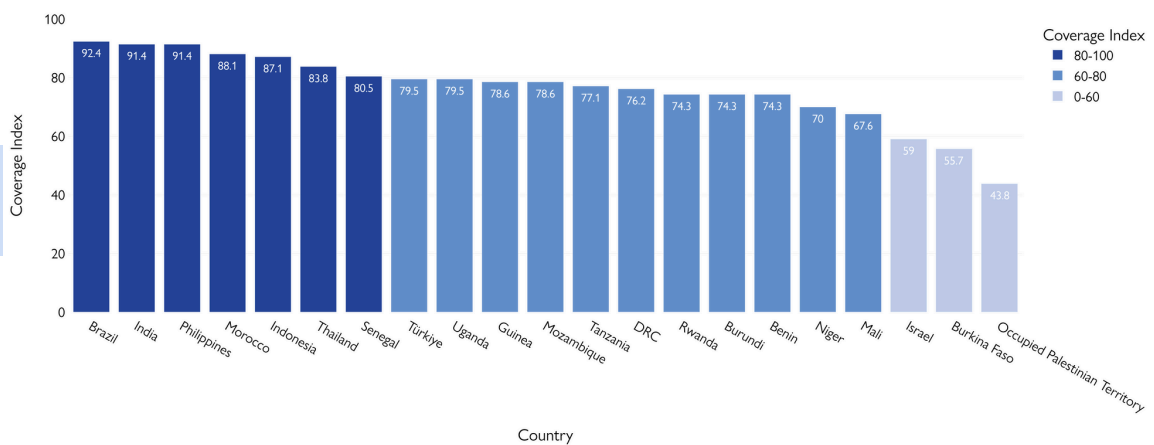


2. MTO COVERAGE

In the context of the market analysis, coverage refers to the variety of services provided by MTOs for sending and receiving money. A country is said to be well-covered when there's a diverse array of MTOs facilitating remittances, multiple transfer methods and when recipients have multiple ways to collect the funds. To assess this quantitatively, an "MTO coverage index" was constructed from the market analysis data. The index reflects the coverage extent by evaluating the number of MTOs operating within each corridor, the variety of transaction methods available, and the range of receiving options provided. By assigning weights to these components, a composite score for each country is estimated ranging from 0 to 100, which encapsulates and simplifies the comparative analysis between the different corridors. It's crucial to note that this coverage index is relative to the 21 corridors featured in the market analysis data. Detailed information on the methodology and variables used to construct the index can be found in Annex 4.

Figure 1 presents the MTO coverage index scores across the 21 remittance corridors. The data paints a relatively positive picture, highlighting a considerable diversity of MTOs and remittance services available to these countries. Notably, one third of the countries in the index have achieved high scores of 80 or above, and over half have scores ranging from 60 to 80.

Figure 1: MTO Coverage Index Scores by Country
 Source: O-REMIT Market Analysis 2023

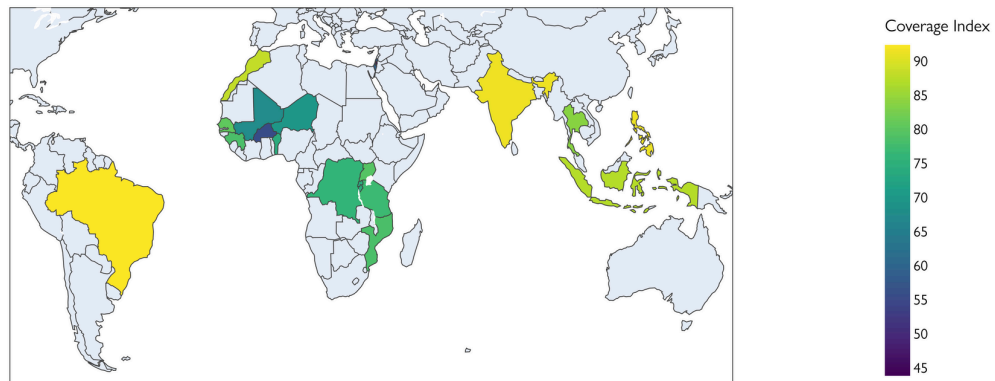


Similarly, an analysis of digital coverage, in the context of the market analysis meaning the extent and variety of digital remittance services available in a specific country or corridor, was conducted by initially dividing the data into digital and cash remittances and then applying the coverage index calculation specifically to the digital remittance data. This analysis revealed that the MTO digital coverage scores for most countries are relatively consistent with their non-digital coverage scores. It is observed that the Palestinian Territory exhibits significantly lower digital coverage scores than the other countries covered. This indicates a concerning scarcity of digital remittance options for this region. Furthermore, compared to the overall MTO coverage scores, fewer countries achieve high scores above 80 in digital coverage, while more countries fall below the 60 mark in this category (please refer to Annex 2).

Figure 2 overlays the MTO coverage index scores on a map. The map indicates that lower coverage scores are predominantly found in Sub-Saharan African countries. In contrast, India and Southeast Asia countries exhibit higher scores, likely due to the wider array of MTO options available for sending money to these regions. This geographical clustering suggests regional disparities in MTOs coverage, with certain areas benefiting relatively more from more diverse financial services.

Figure 2: Map - Coverage of MTOs per Country

Source: O-REMIT Market Analysis 2023

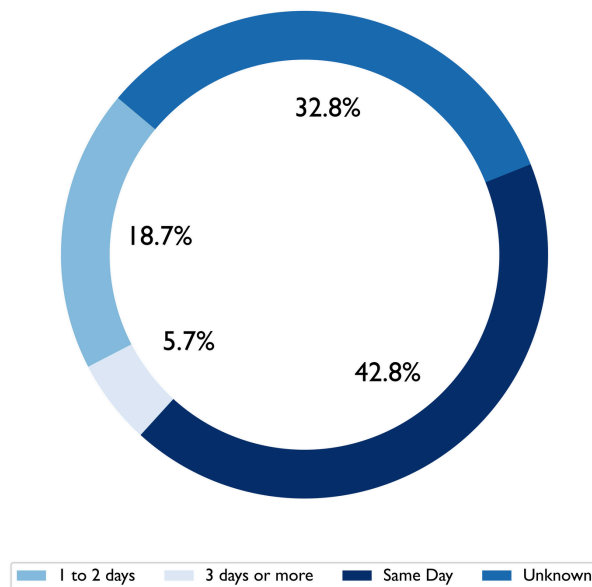


3. SPEED OF TRANSFERS

Figure 3 presents the transfer speeds across MTOs, revealing that data on speed of transfer is missing for a significant portion of MTOs, namely 32.8% of the 743 observations recorded by the O-REMIT team. This also highlights the challenges in gathering comprehensive data on this aspect as this information is not always provided or not known by MTOs. Interestingly, for a majority (42.8%) of MTOs, remittances are transferred on the same day, and only 5.7% of transactions take three days or more. If we were to exclude the 'Unknown' category from the graph, it would indicate that 63.7% of remittance transactions are same-day transfers. While these figures suggest efficient transfer speeds, the substantial missing data warrants caution in drawing firm conclusions. The data gap could influence the interpretation. Nonetheless, this data provides a valuable baseline to understand the speed of transfers of remittances from MTOs.

Figure 3: Speed of transfers

Source: O-REMIT Market Analysis 2023

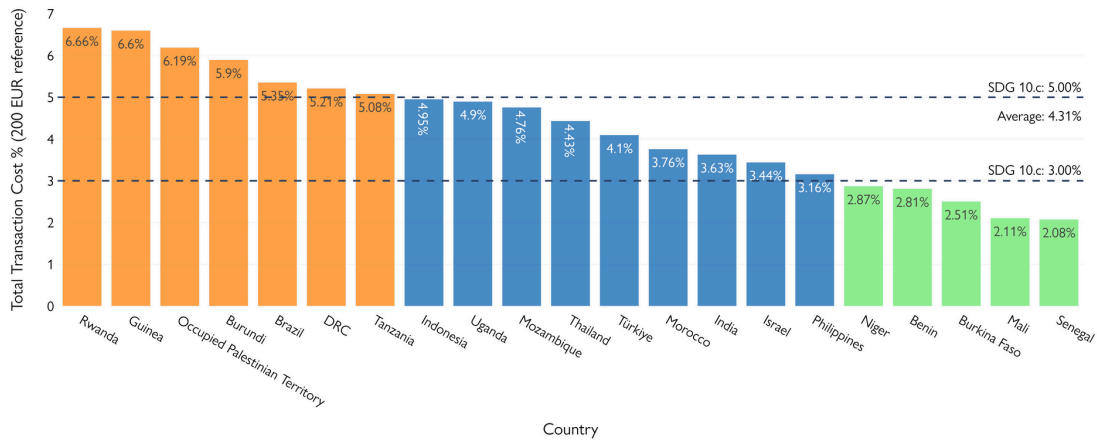


4. COSTS OF REMITTING FROM BELGIUM

Figure 4 displays the average total costs of remitting from Belgium, measured as a percentage of a 200-euro transaction. Among the 21 corridors analyzed, only 4 fall below the Sustainable Development Goal (SDG) 10.c target of reducing transaction costs to less than 3%, with the average cost of remitting from Belgium revolving around 4.30%. SDG 10.c also calls to eliminate all corridors with transaction costs above 5%. Notably, within the 21 corridors analyzed, 7 exceed this 5% threshold. Overall, the initial findings highlight the ongoing need for efforts to meet this SDG 10.c target by 2030.

Countries with the highest remittance costs include Rwanda, Guinea, and Palestinian Territories, whereas Senegal, Mali, and Burkina Faso feature among the lowest. This suggests a significant variation in remittance costs across different corridors.

Figure 4: Average cost of remitting from Belgium
 Source: O-REMIT Market Analysis 2023 - based on a 200€ transaction



When comparing the remittance costs in Figure 4 with MTO coverage in Figures 1 and 2, it is clear that greater MTO coverage does not always equate to lower remittance costs. For instance, Brazil has extensive coverage yet still incurs high remittance fees. An important caveat is that all the costs displayed in this report only reflect the service fee and exchange rate margin, excluding additional withdrawal fees in the destination country, consequently, the displayed costs are likely an underestimate of the true expense. Unfortunately, obtaining data on withdrawal fees is challenging, as MTOs often lack or withhold this information. The difference in the costs of remitting could stem from multiple factors, including remittance volumes, diaspora size, the receiving countries' financial infrastructure, volatility of the exchange rate, or other exogenous factors such as conflicts or natural disasters (Ahmed, Mughal, & Martinez Zarzoso, 2021, p. 2442; Beck, Janfils, & Kpodar, 2022, p. 15).

Figure 5 aims to provide a more detailed view by breaking down the average remittance cost into service fees and exchange rate margins (FX%).

Figure 5: Disaggregated average cost of remitting from Belgium
 Source: O-REMIT Market Analysis 2023

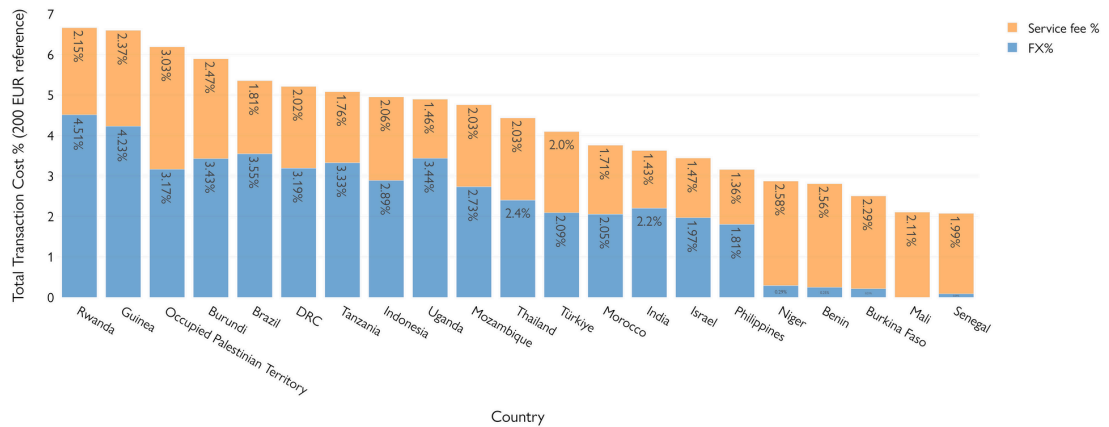


Figure 5 reveals that for most countries, the exchange rate margin (FX%) is typically higher than the service fee, except in countries with the lowest overall costs, where the exchange rate margin is notably low. The data potentially suggests that the exchange rate margin is the major cost factor when remitting, which can explain why MTOs are often secretive about their exchange rates, as observed by the O-REMIT team during the data collection. The observed low exchange rate margins in Niger, Benin, Burkina Faso, Mali and Senegal could potentially be linked to their membership in the West African Economic and Monetary Union (also known by its French acronym, UEMOA), which utilizes the CFA Franc. This currency's notable stability is largely due to its peg to the Euro. Such a peg to a currency like the Euro is instrumental in maintaining the exchange rate's stability, thereby potentially contributing to the lower exchange rate margins observed in these countries.

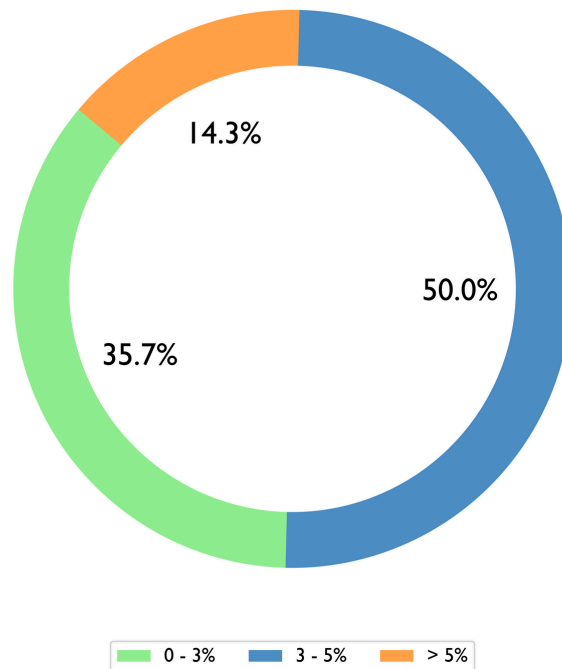
5. COSTS OF MTOS

The analysis of Figure 6 illustrates the average total costs of services provided by MTOs across 21 corridors, revealing a varied landscape of transaction costs. Notably, 35.7% out of the MTOs covered in the market analysis offer transaction costs below 3%, while a smaller fraction, 14.3%, have average costs that exceed the 5% threshold. Additionally, half of the MTOs register average transaction costs that fall between 3% and 5%. The generally lower transaction costs observed among MTOs may be associated with their extensive array of digital services. As will be shown in Figure 7, transaction costs for these digital services are lower when compared to agent-based services.

When comparing corridor-specific remittance costs (Figure 4) with the average total costs of MTOs (Figure 6), it becomes apparent that only a relatively small proportion of MTOs, 14.3%, have remittance costs exceeding 5%. In contrast, at the corridor level, the scenario is quite different: 7 out of the 21 corridors, which is about 33%, incur remittance costs higher than 5%. This indicates that while MTOs on average maintain relatively low remittance costs, the remittance costs at the corridor level are subject to high variability, influenced by unique factors specific to each corridor that ultimately impacts the fees MTOs apply to these corridors.

Figure 6:
Distribution of
average total
costs of MTOs

Source: O-REMIT
Market Analysis 2023

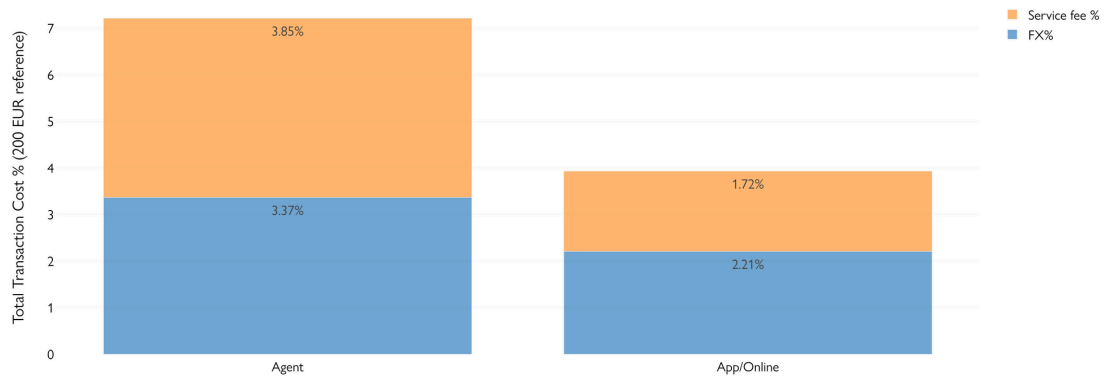


⁸ For a more detailed breakdown of the service fee and exchange rate margin by country, please refer to Annex 3.

Figure 7 delves into the average remittance costs by type of MTO, distinguishing between agencies and Apps/Online⁹. It is evident that agencies incur notably higher costs compared to App/Online MTOs. The average total cost for agent MTOs stands at 7.22%, with the service fee constituting the bulk of this expense. In contrast, App/Online MTOs average at a significantly lower 3.93%. This disparity of 3.29 percentage points indicates that agents are about 83% more expensive relative to App/Online MTOs, highlighting the cost-effectiveness of digital remittance platforms. This trend aligns with the broader shift towards digital financial solutions in reducing transaction costs.

Figure 7: Average cost of remitting from Belgium by type of MTO

Source: O-REMIT
Market Analysis 2023



During the analysis of the market analysis data, it was notable that some MTOs can have total costs as high as 12.25% or as low as 1%. These significant discrepancies are particularly concerning especially from the perspective of migrants, who may face higher remittance costs depending on the corridor and service they use to send remittances. This situation is compounded in environments where information is imperfect and transparency around service costs is lacking, posing additional challenges for migrants in making cost-effective remittance choices.

6. CASH VS DIGITAL REMITTANCES

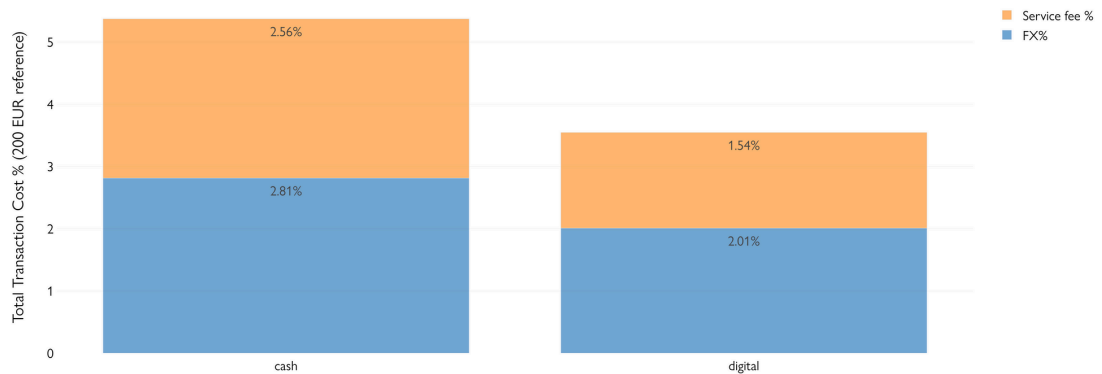
Distinguishing between digital and cash remittances is crucial for understanding the cost disparities between these two methods. Consistent with the World Bank's definition, for the present analysis a digital remittance is defined as a transfer that is initiated using an online or self-assisted method and received into a transaction account, such as a bank account, a non-bank deposit account, or a mobile money/e-money account (The World Bank, 2023, p. 7).

Figure 8 presents a comparative analysis of the average costs associated with cash versus digital remittances, breaking down the costs into service fees and exchange rate margins (FX%). This comparison reveals that, on average, cash remittances tend to be significantly more expensive than digital remittances.

⁹ The distinction between types of MTO in the analysis was made to capture the nuances in transaction costs within the MTO remittance industry. In section 5, we differentiate between Agent and App/Online MTOs, recognizing that many MTOs offer both digital and agent-based services. This categorization is critical as it reflects the diverse operational models within MTOs and highlights how the choice between online and physical services can impact transaction costs. In section 6, we categorize remittances as either cash or digital based on the method of transaction and reception. This differentiation is essential to understand the cost disparities that arise from the mode of transaction. An MTO classified as App/Online MTOs in the first section may offer cash collection and therefore the transaction would be categorized as cash in the next section, other MTOs operating through agents may facilitate digital transactions, and therefore these transactions would be categorized as digital in the next section. Therefore, the main difference between these two categorizations lies in the focus: one on the operational model of MTOs (agency vs. App/Online) and the other on the transaction method (cash vs. digital).

Figure 8: Average total cost of cash vs digital remittances

Source: O-REMIT Market Analysis 2023



Cash remittances, on average, account for 5.37% of the total transaction costs, while digital remittances average at 3.55%. This indicates that cash-based remittances are, on average, 51% more costly than their digital counterparts. Consistent with previous findings, the exchange rate margin constitutes the major portion of the total costs for both types of remittances. This difference in costs could be attributed to factors such as the additional overheads in cash handling, physical infrastructure costs for cash-based services, and potentially higher risks associated with cash transactions. This underscores the impact of the digital divide on the cost-effectiveness of remittance services and highlights the potential benefits of digital financial inclusion.

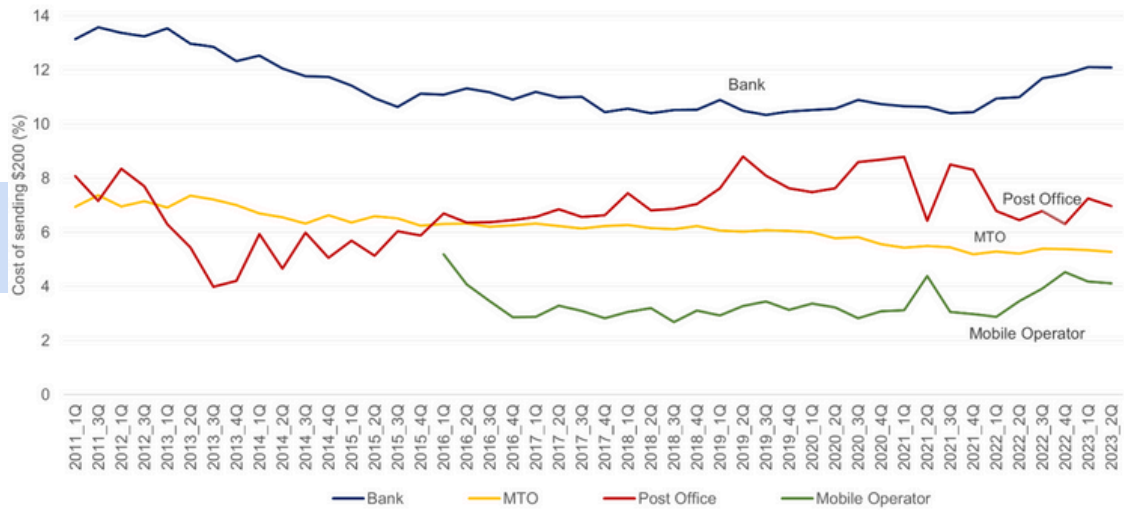
7. COSTS OF BANKS

The market analysis aimed to collect transaction cost data for 4 major banks in Belgium¹⁰, complementing the information obtained from MTOs. However, gathering precise transaction cost data from banks proved challenging. When approached for information, banks typically referred to their tariff documents, which contained a broad range of financial details but often lacked specific mention of the exchange rate applied to transactions. Additionally, identifying the applicable service fee from these documents was not straightforward, complicating the assessment of accurate bank transaction costs.

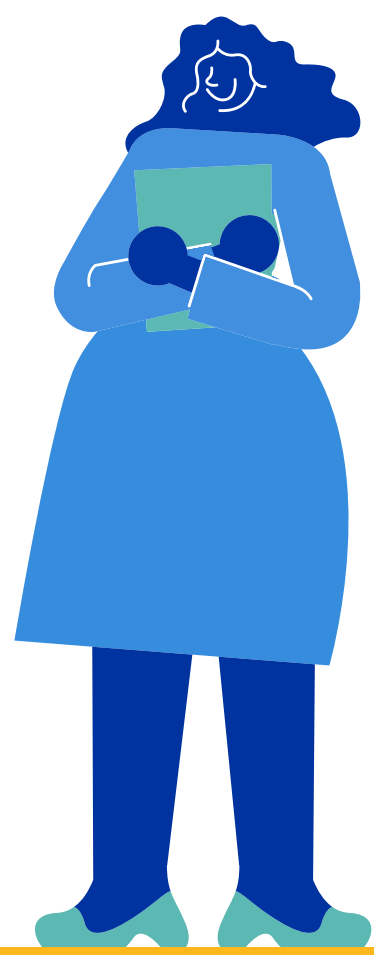
Despite these obstacles, a notable observation from the bank tariff documents was that service fees alone for international transfers were relatively high, ranging from 6 to 14 euros for the 21 corridors. These fees on their own already represent 3% to 7% of the total transaction cost, even before considering additional fees or costs associated with currency exchange rates. This preliminary analysis suggests that bank transaction costs are, on average, higher than those of MTOs for Belgium. This can be corroborated by The World Bank's Remittance Prices Quarterly 2023 report (Page 16), which indicates that globally, from 2011-2023, banks have consistently incurred total transaction costs well above 10%, in contrast to MTOs, whose costs have generally ranged between 4% and 8%. This disparity underscores a significant difference in the cost-efficiency of these two types of remittance service providers.

¹⁰BNP Fortis, ING, KBC, Belfius CBC

Figure 9: Total cost by type of remittance service provider
 Source: The World Bank Remittance Prices Quarterly 2023



The observed costs suggest that banks might not be the most cost-effective option for sending remittances around the 200 euros benchmark. However, this may not necessarily hold true for larger transaction amounts. While banks may not be the preferred choice for smaller remittances, their services could be more competitive and appealing for larger transfers, where the flat nature of certain fees has a lesser impact on the overall cost percentage.



CONCLUDING REMARKS

The market analysis part of the O-REMIT project, implemented by the International Organization for Migration (IOM) on behalf of the Belgian Directorate-General for Development Cooperation and Humanitarian Aid, offers a comprehensive exploration of remittance transaction costs from Belgium to various international corridors. The market analysis, encompassing data collection from August to November 2023, has yielded critical insights into the dynamics of transaction costs in the realm of international money transfers from Belgium, a field where data is considerably lacking. The key takeaways from this extensive market analysis, which included interactions with 14 Money Transfer Operators (MTOs) across 21 corridors, are as follows:

The Sub-Saharan Africa region experiences relatively lower MTO coverage for sending remittances from Belgium, in contrast to India and Southeast Asia, which have the highest relative MTO coverage scores.

Out of 743 recorded observations, 63.7 percent of remittances are reported to be delivered on the same day.

Among the 21 remittance corridors analyzed from Belgium, only 4 have average transaction costs of less than 3 percent while the average transaction cost among the corridors is 4.30 percent lower than SDG 10.c 2030 target.

SDG 10.c also calls to eliminate all corridors with transaction costs above 5 percent, 7 of the 21 corridors analyzed exceed the 5 percent threshold.

For most corridors, the exchange rate margin (FX%) is the major cost factor affecting total costs of remittances.

Agents are on average 83 percent more expensive than app/online MTOs.

Cash remittances are on average 51 percent more expensive than digital remittances.

On average, banks have significantly higher total transaction costs than MTOs.

This report highlights the pressing need for more detailed data on the transaction costs associated with remittances from Belgium. During the development of the report, it was notable the significant data gap on transaction costs of remittances in Belgium, highlighting the critical role of data like the one generated by this market analysis. Although the data provides a snapshot limited to the specific period of data collection, it crucially points to Belgium's challenges in meeting the SDG 10.c. This goal strives to reduce transaction costs below 3% and to eliminate corridors with costs above 5% by 2030. These efforts are aimed at enhancing the accessibility, affordability, and transparency of remittance transactions for the benefit of migrant and diaspora communities. The findings make it evident that concerted actions are necessary to meet these international targets and support the financial well-being of migrant communities.



REFERENCES

- Ahmed, J., Mughal, M., & Martinez Zarzoso, I. (2021). *Sending money home: Transaction cost and remittances to developing countries*. The World Economy.
- Beck, T., Janfils, M., & Kpodar, K. (2022). *What Explains Remittance Fees? Panel Evidence*. IMF.
- Čížek, P. (2008). *General Trimmed Estimation: Robust Approach to nonlinear and limited dependent variable models*. Cambridge University Press.
- Gray, S. T. (2021). *Recognizing Reality: Unification of Official and Parallel Market Exchange Rates*. International Monetary Fund.
- IOM. (2019). *Glossary on Migration*.
- The World Bank. (2023). *Remittance Prices Worldwide Quarterly*.
- Wooldridge, J. M. (2013). *Introductory Econometrics A modern approach, 5th Edition*.



ANNEX 1: DATA PROCESSING

As highlighted in section I, the chosen methodology involved trimming the top and bottom one percentile of the dataset. This approach was adopted to ensure that the averages and statistics presented are as accurate as possible. This method effectively minimizes the potential for error, providing a more reliable analysis.

Table 1: Descriptive statistics pre-trimmed dataset

	Date	Send Amount	Received Amount	Official FX Infor € 200	FX%	Service fee € ln(given by the MTO)	Service fee %	Total Fee %	estimated_exchange_MTO
count	743	743.0	7.430000e+02	7.430000e+02	743.000000	743.000000	743.000000	743.000000	743.000000
mean	2023-09-08 18:18:53.781964800	200.0	4.137344e+05	4.277411e+05	0.024505	3.920606	0.019603	0.044108	2068.672063
min	2023-08-17 00:00:00	200.0	1.935600e+02	2.000000e+02	-0.108485	0.000000	0.000000	-0.088485	0.967800
25%	2023-08-31 00:00:00	200.0	5.718280e+03	5.781587e+03	0.003115	1.900000	0.009500	0.021478	28.591400
50%	2023-09-06 00:00:00	200.0	1.781578e+04	1.781690e+04	0.020966	3.500000	0.017500	0.036277	89.078900
75%	2023-09-15 00:00:00	200.0	4.648369e+05	5.315895e+05	0.034630	5.000000	0.025000	0.056056	2324.184300
max	2023-11-17 00:00:00	200.0	3.284577e+06	3.364580e+06	0.482147	18.000000	0.090000	0.482147	16422.885400
std	NaN	0.0	8.219996e+05	8.502637e+05	0.031006	3.359392	0.016797	0.036065	4109.998171

The table above showcases that the variable FX%, representing the exchange rate margin, displays a wide range of values from -10.8% to 48.2% (min and max in the table). These figures clearly indicate outliers within the exchange rate margin, which could significantly impact the interpretation of the data. This is evident when examining the distribution of the total fees; the data exhibits a leftward skew and a high degree of kurtosis, confirming the presence of these extreme values in the dataset.

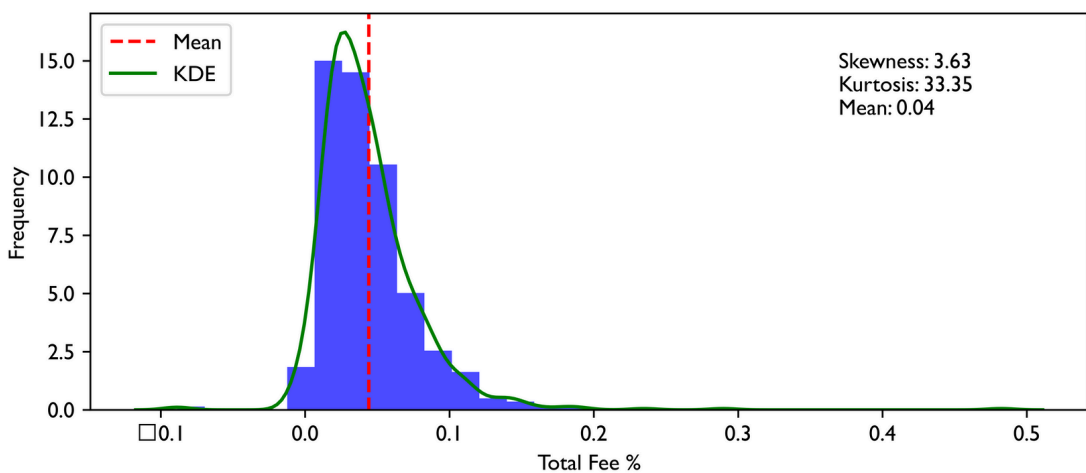


Figure 10:
Distribution of
Total Fee % - Pre
trimmed data

Source: O-REMIT Market
Analysis 2023

A common approach to managing outliers involves using standard deviations to trim the data. However, this method is typically applied to normally distributed data that is not skewed. Given the skewed nature of the current dataset, a more appropriate strategy is to trim the data at the 1st percentile from both the top and bottom ends (Čížek, 2008). The table below presents the descriptive statistics after applying this trimming process:

Table 2: Descriptive statistics trimmed dataset

	Date	Send Amount	Received Amount	Official FX Infor € 200	FX%	Service fee € ln(given by the MTO)	Service fee %	Total Fee %	estimated_exchange_MTO
count		729	7.290000e+02	7.290000e+02	729.000000	729.000000	729.000000	729.000000	729.000000
mean	2023-09-08 16:33:34.814814720	200.0	4.054410e+05	4.188565e+05	0.023320	3.896447	0.019482	0.042802	2027.204779
min	2023-08-17 00:00:00	200.0	1.935600e+02	2.000000e+02	-0.001062	0.000000	0.000000	-0.000053	0.967800
25%	2023-08-31 00:00:00	200.0	5.705960e+03	5.781587e+03	0.004635	1.900000	0.009500	0.021687	28.529800
50%	2023-09-06 00:00:00	200.0	1.778109e+04	1.781690e+04	0.020966	3.500000	0.017500	0.036226	88.905450
75%	2023-09-15 00:00:00	200.0	2.532280e+05	2.584058e+05	0.034410	5.000000	0.025000	0.055899	1266.140000
max	2023-11-17 00:00:00	200.0	3.284577e+06	3.364580e+06	0.103014	18.000000	0.090000	0.190895	16422.885400
std	NaN	0.0	8.186793e+05	8.459687e+05	0.021372	3.326275	0.016631	0.028274	4093.396725

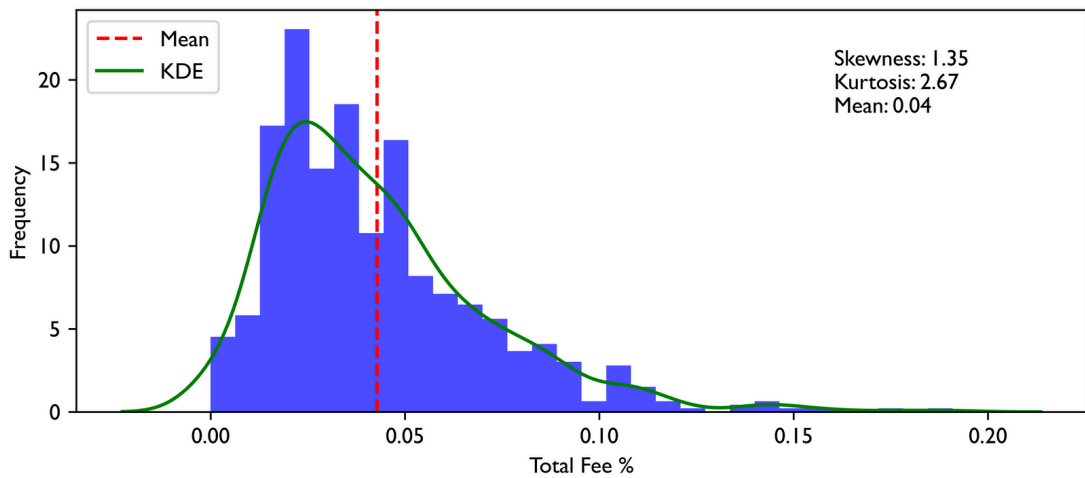


Figure 11: Distribution of Total Fee % - trimmed data

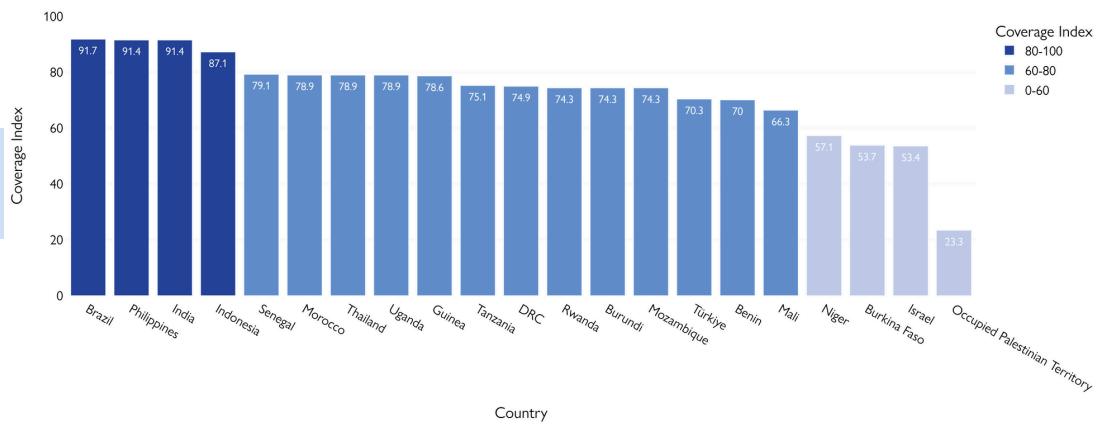
Source: O-REMIT Market Analysis 2023

The trimmed data shows a notable impact on the distribution of total costs, resulting in a less skewed dataset with reduced kurtosis while it is also notable that now the min and max values in the exchange rate margin are no longer as extreme. This adjustment reduced the total observations from 743 to 729, with a minimal effect on the average total fee. However, at the country level, the impact is more pronounced, as illustrated by the case of Türkiye where before dealing with the outliers, the average total cost for sending remittances to Türkiye was 5.39%, which dropped to 4.1% post-trimming. This significant change underscores how outliers can skew averages, leading to potential misinterpretations if the data is left untreated.

ANNEX 2: DIGITAL MTO COVERAGE

Figure 12: Digital MTO Coverage Index Scores by Country

Source: O-REMIT Market Analysis 2023



ANNEX 3: BREAKDOWN OF THE SERVICE FEE AND EXCHANGE RATE MARGIN BY COUNTRY

Figure 13: Average cost of remitting from Belgium - Exchange rate margin

Source: O-REMIT Market Analysis 2023

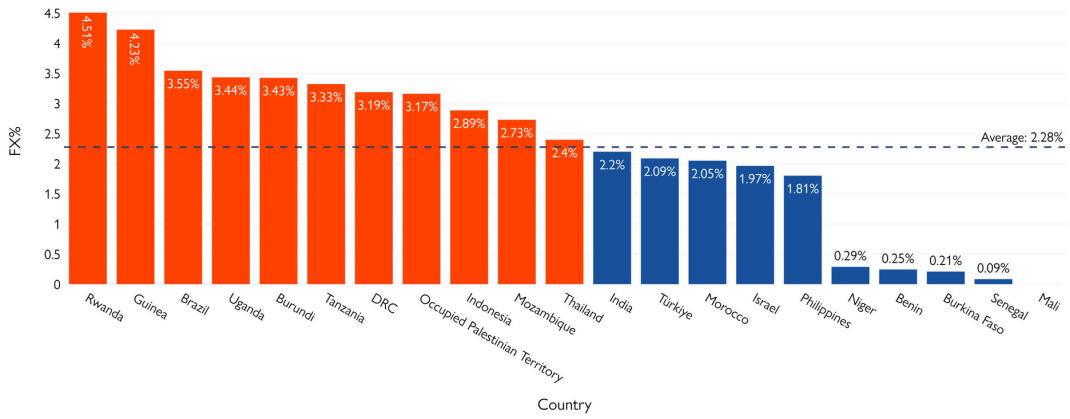
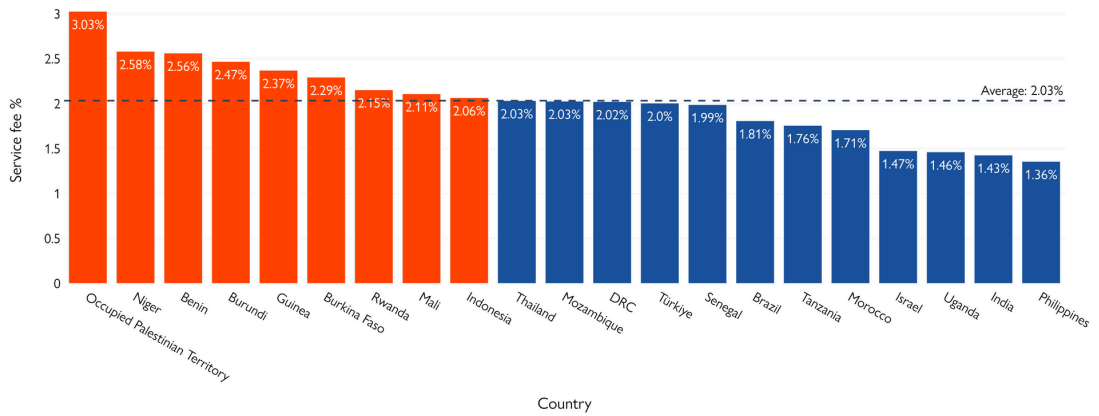


Figure 14: Average cost of remitting from Belgium - Service fee

Source: O-REMIT Market Analysis 2023



ANNEX 4: THE MTO COVERAGE INDEX

To develop the MTO coverage index from the market analysis dataset, three key variables were selected to embody the concept of remittance service coverage: "MTO", "Transfer Method", and "Receiving Method". These variables effectively capture the essential aspects that determine the extent of remittance service coverage in a country. Each variable represents a critical dimension: the diversity and number of MTOs available, the variety of methods for sending money, and the options for receiving funds. By assigning weights to these variables, a simple equation was formulated to calculate an overall coverage score. This score quantitatively reflects how relatively well a country is serviced in terms of remittance options, providing a clear, aggregated view of MTOs coverage. The equation to calculate the index score is the following:

$$(1) \quad C_i = \left(W_T * \frac{T_i}{T_{max}} + W_R * \frac{R_i}{R_{max}} + W_M * \frac{M_i}{M_{max}} \right) * 100$$

C_i indicates the coverage score of country i , T_i indicates the number of transfer methods in country i consequently R_i and M_i represent the number of receiving methods and number of MTOs in country i . The subscript max in T_{max} , R_{max} and M_{max} represent the total transfer methods, receiving methods and MTOs for the whole dataset. Lastly, W represents the weights assigned to each component. By calculating the coverage index as showcased in Equation 1 it's possible to provide a weighted average of the different aspects of MTO remittance coverage, normalized by the total number across all corridors, and then scaled to a score between 0 and 100.

The MTO coverage index, as defined by Equation (1), is a relative measure based on the total number of transfer methods, receiving methods, and MTOs. This relative nature is important for interpreting the results. While the market analysis covered 14 MTOs, there are additional MTOs operating in Belgium that offer remittance services to the countries included in the study. Ideally, a more exhaustive version of the MTO Coverage Index could be developed using the total number of MTOs in Belgium, not just those captured in the dataset. However, as of the moment of writing, there isn't a comprehensive dataset available that provides such extensive information for Belgium. Additionally, details about transfer and receiving methods are typically proprietary to the MTOs. This is the reason behind the mystery shopping/market analysis approach used by the O-REMIT team and the World Bank to gather information on transaction costs. One potential area for future development would be to develop the automated collection of data on transaction costs from MTOs¹¹ and other remittance service providers. Such an advancement would enhance the data quality and completeness, significantly improving the accuracy and breadth of the coverage index. This, in turn, would provide a more detailed and accurate depiction of the remittance landscape in Belgium.

The variable weights and rationale for the index can be found in the following table:

¹¹ By the use of APIs or web scraping techniques that would allow for more frequent data collection or alternatively and more ideally by partnerships with the remittance service providers through the National Bank of Belgium.

Table 3: MTO coverage index composition

Variable	Total # in the dataset	Weight	Rationale
MTOs	14	60%	The number of MTOs is crucial for coverage. More MTOs mean increased competition, potentially better services, and rates for consumers. This factor is weighted heavily (60%) because the presence of multiple MTOs directly enhances the accessibility and diversity of remittance services in a country.
Transfer methods	5	20%	Transfer methods represent the flexibility in how remittances can be sent, reflecting technological advancement and user convenience. This component is given a 20% weight, acknowledging its importance in providing options to remitters while balancing the more critical factor of MTO variety and the relatively low total number of transfer methods in the dataset.
Receiving Methods	6	20%	The variety of receiving methods is essential for ensuring recipients can conveniently access funds. This component is also given a 20% weight, acknowledging its importance in facilitating remittance services while balancing the more critical factor of MTO variety and the relatively low total number of receiving methods in the dataset.