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Measuring the True Cost of Digital Financial Services

IN UGANDA



Despite evidence that reducing the cost of mobile money and other services is key to improving financial inclusion, and that transparent pricing is a key feature of well-functioning markets, little has been done to systematically monitor the true cost of conducting Digital Financial Services (DFS) transactions or the ease of finding provider's official fees. A study by Innovations for Poverty Action (IPA) in Uganda, Tanzania, and Bangladesh focused on three main areas: price transparency, monetary costs, and reliability.

This brief provides an overview of findings focused on Uganda.

Methodology

DESK REVIEW



Desk review of prices

Thorough review of listed transaction prices
(carried out in 2022, quarters 3-4)

16

countries across
Africa, Asia, and Latin America

33

major mobile money providers with
a combined **share of at least 80%**

We conducted customer care inquiries where providers did not display pricing information. In addition, IPA assessed a set of indicators on regulatory policies in terms of interoperability, pricing caps, pricing transparency, redress, and taxation.

Three main steps for data collection:



Collect price lists from website



Determine if taxes are explicitly included
in provider fees



Review to determine the applicable tax
rate where they are not included

Methodology

FIELDWORK WITH AGENTS



Fieldwork with agents

Fieldwork was conducted to capture costs beyond official fees (carried out in 2022). We worked with enumerators and local consumers in Bangladesh, Tanzania, and Uganda, who visited agents in locations from major cities to small rural communities.

We followed three different methods:



Professional mystery shopping visits by trained enumerators

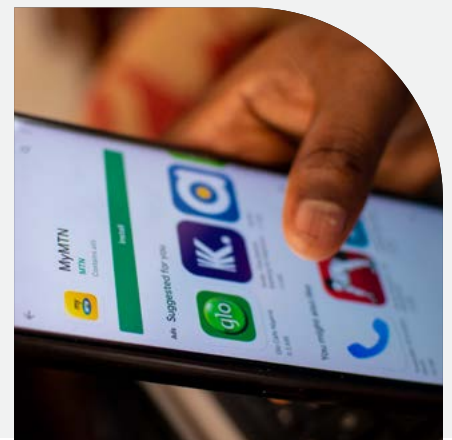


Intercept surveys with customers who completed a transaction



Mystery shopping visits by local customers

All three approaches were compared in terms of affordability, adaptability, reflection of real-world consumer decisions, data quality, and observer effects.



Methodology



WORK IN
UGANDA



Work in Uganda

Specifically for Uganda, we looked at the following:

2 mobile money providers – MTN and Airtel

49 locations for fieldwork – 10 urban locations in Mbarara and Kampala and 39 rural locations in Katakwi, Serere, Soroti, Amuria, Kaberamaido, Kibaale, Kagadi, and Kakumiro with a total of 409 agents (202 in urban areas and 207 in rural areas)

| TRANSACTION VALUES OF | |
|-----------------------|------------|
| UGX 15,000 | UGX 30,000 |
| USD \$4.03 | \$8.06 |

A total of

1,523 professional mystery shopping visits,

531 consumer intercept surveys, and

1,106 local consumer mystery shopping visits

Results

Price Transparency

Easy access to pricing information helps consumers make informed decisions and is key to a well-functioning mobile money market. Desk review and fieldwork evidence suggest significant variation between providers and individual agents in terms of the pricing information they disclose to customers.

Online availability of listed prices

- One of the two providers (MTN) included their prices and fees on their website, along with a link on their homepage. Airtel did not include a link to prices on their homepage at the time of data collection.
- ✓ It took our researchers an average of two minutes to find the listed fees online.

Public display of prices on location

- ✗ Agents publicly displayed price lists only 59 percent of our visits (lower than Bangladesh and Tanzania).
- 12 percent of agents informed consumers of transaction fees, highest of the three countries, but still uncommon.

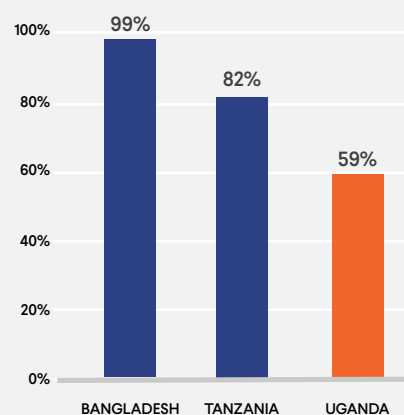
Disclosure of taxes

- One of the two providers (MTN) displays prices inclusive taxes.
- Two types of taxes are applied to mobile money transactions – the mobile money levy and excise tax – creating a somewhat complex taxation structure for consumers to interpret.

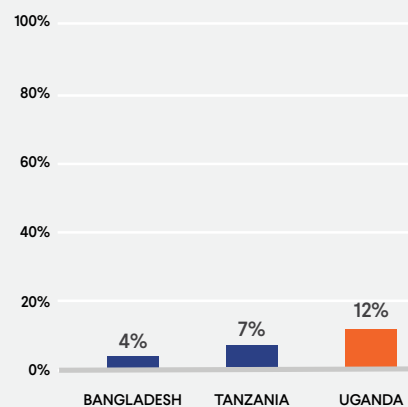
Fieldwork data suggests price lists are often posted at agent locations but agents rarely verbally disclose prices to customers.



PRICE LIST DISPLAYED
Percentage of agents



VERBAL DISCLOSURE OF PRICE
Percentage of agents



Monetary Costs

Mobile money transaction fees in Uganda are among the highest of countries included in our study. Specifically, Uganda's average fee for cash-out services is 4.4 percent, second only to Tanzania's rate of 8.6 percent. Taxes contribute significantly to the overall high cost of mobile money transactions in Uganda. Fieldwork data found that 19 percent of transactions in Uganda resulted in overcharging, the highest of all three countries.

Costs by transaction type

- ✓ As with most countries, Uganda does not charge a fee for cash-in services.
- ✗ Second-highest fees for cash-out services.
- ✓ On- and off-network transfers have equal fees, indicative of a good interoperability structure.

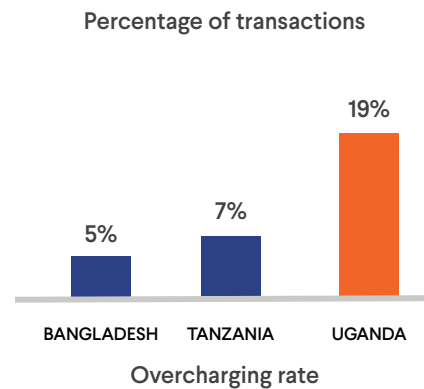
Fee structures

- ✗ As with many providers in Sub-Saharan Africa, pricing structures tend to be regressive.

Overcharging

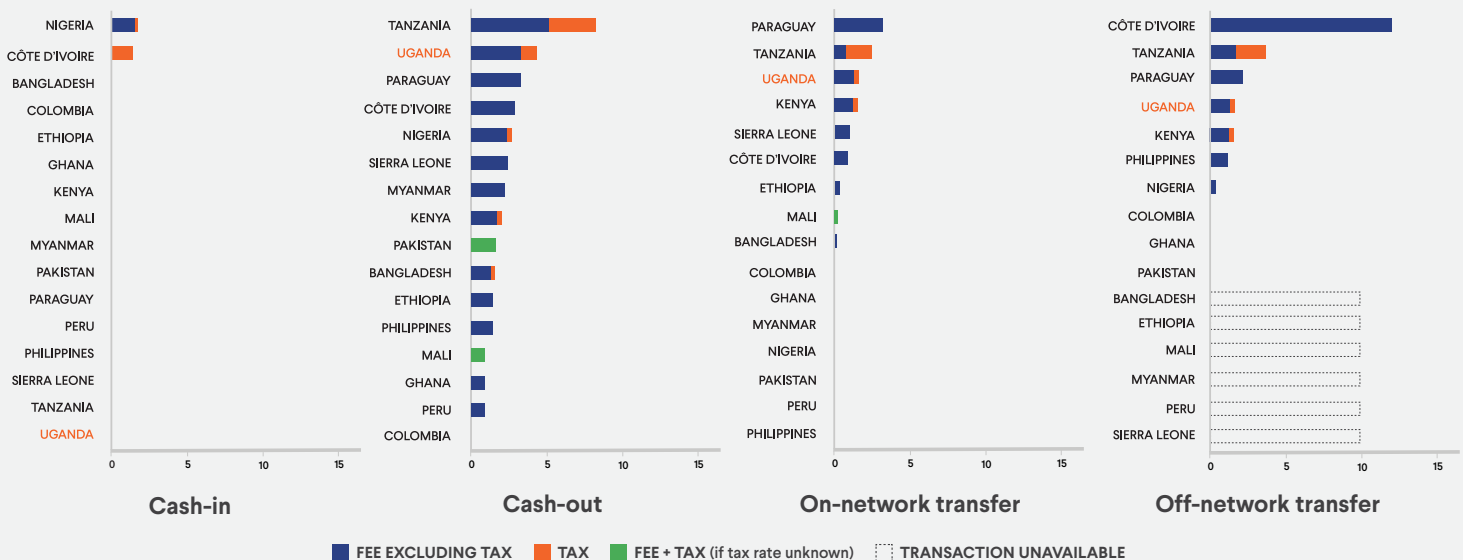
- ✗ 19 percent of transactions subject to overcharging, much higher than Bangladesh and Tanzania.
- Overcharging rates are similar in urban and rural areas.

Fieldwork results show Uganda's overcharging rate is significantly higher than in Tanzania or Bangladesh.



Note: Averages reported across consumer surveys and professional mystery shopping visits.

Official mobile money fees by country



Note: Fees are an average of the leading mobile money providers in each country as of December 31, 2022, weighted by mobile money market share at a standard reference value equal to approximately 15x the World Bank estimate of mean income of the bottom 40 percent of the population. For Uganda, this reference value is UGX 31,000.

Reliability

The opportunity cost of time is a significant non-monetary cost consumers face when making mobile money transactions. Fieldwork data suggests that only three fifths of attempted mobile money transactions with agents in Uganda are successful, and that the opportunity cost of time spent attempting transactions is much larger than the direct monetary costs consumers face.

Presence of agents

- Agents are present at their location 79 percent of the time, a higher rate than in Tanzania but lower than Bangladesh’s rate.

Transaction completion

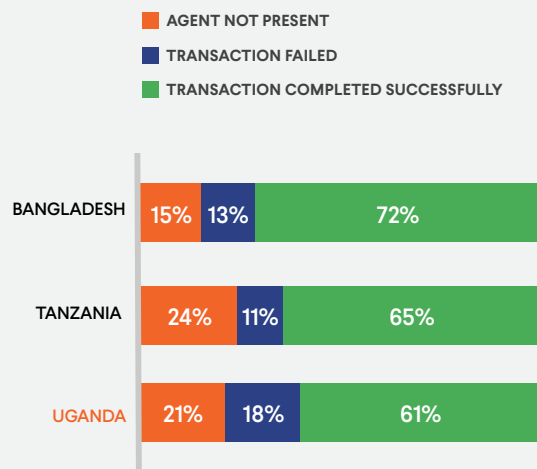
- ✘ 18 percent of attempted transactions result in failure with the agent present, highest of the three countries.
- Liquidity constraints are a common reason for failed transactions among urban agents. In rural areas, service limitations are the most common reason for failed transactions by far.
- ✘ Ugandan consumers require 42 minutes on average to complete one successful transaction, higher than Tanzania and Bangladesh. When converted to monetary terms, this represents nearly triple the direct monetary cost of these transactions.

Fieldwork data suggests Ugandan consumers require an average of 42 minutes to complete one successful transaction when accounting for travel time and failed transactions. When converted to monetary terms, the opportunity cost of time is nearly triple the direct monetary cost of completing transactions.

| | BANGLADESH | TANZANIA | UGANDA |
|-----------------------------|------------|------------|-------------------|
| Average time cost | 40 minutes | 31 minutes | 42 minutes |
| Average time cost (USD)* | \$0.34 | \$0.69 | \$0.31 |
| Average monetary cost (USD) | \$0.19 | \$0.07 | \$0.11 |

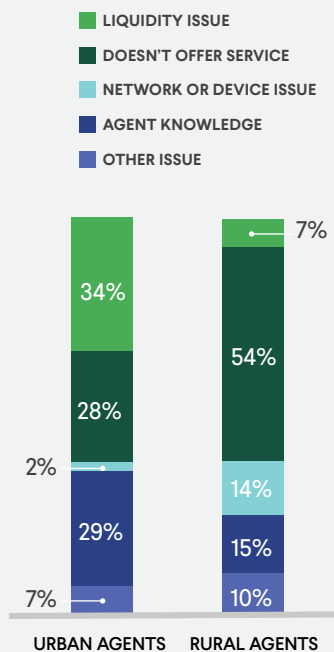
* Time cost converted to monetary terms using average low skill wage rates.

Two fifths of attempted transactions in our Uganda fieldwork were unsuccessful either because the agent was not present or the transaction failed.



Note: Data from mystery shopping visits only.

Liquidity constraints are a common issue causing transactions to fail, second to service limitations.



Note: Ugandan data only. Average across all methods.

Selected Descriptive Statistics

| | URBAN | RURAL | MALE AGENTS | FEMALE AGENTS | OVERALL |
|--|----------|----------|-------------|---------------|---------|
| Agent Characteristics | | | | | |
| Percent female | 75.3*** | 54.91*** | | | 64.90 |
| Percent dedicated (no business besides providing agent services) | 60.84 | 52.60 | 49.58* | 60.45* | 56.64 |
| Percent exclusive (only serve one provider) | 6.63*** | 58.96*** | 36.13 | 31.82 | 33.33 |
| Mean customers per hour | 1.45*** | 1.91*** | 1.94* | 1.63* | 1.75 |
| Male customers | 0.76*** | 1.22*** | 1.30*** | 0.91*** | 1.06 |
| Female customers | 0.68 | 0.69 | 0.64 | 0.71 | 0.69 |
| Mean number of other agents within 200m | 14.41*** | 7.53*** | 9.99*** | 11.39*** | 10.9 |
| Presence rate | 79.11*** | 87.08*** | Unavailable | Unavailable | 81.39 |
| Success rate (conditional on presence) | 82.65*** | 76.27*** | 78.09** | 81.56** | 80.39 |
| Mean security score (1-10) | 7.49** | 7.63** | 7.56 | 7.54 | 7.55 |
| Mean privacy score (1-10) | 7.93*** | 7.47*** | 7.46*** | 7.80*** | 7.68 |

Stars used to indicate significance of differences between urban/rural and between male/female. The same significance stars are displayed for urban and rural columns, and for male and female columns. * p < 0.10, ** p < 0.05, *** p < 0.01



| | URBAN | RURAL | MALE AGENTS | FEMALE AGENTS | OVERALL |
|---|----------|----------|-------------|---------------|---------|
| Customer characteristics | | | | | |
| Percent female | 46.02*** | 33.51*** | | | 39.47 |
| Percent who saved money using mobile money in last 12 months | 43.07*** | 25.74*** | 35.27 | 32.03 | 33.99 |
| Mean number of interactions with agent in last 90 days (incl. business and personal) | 7.70 | 9.01 | 8.89 | 7.98 | 8.55 |
| In the past 90 days, percent who made any... | | | | | |
| - Cash-in at agent | 57.82*** | 85.79*** | 77.96*** | 64.06*** | 72.47 |
| - Cash-out at agent | 57.52*** | 92.76*** | 79.58*** | 70.46*** | 75.98 |
| - Over-the-counter transfer at agent | 47.49*** | 69.17*** | 63.34*** | 51.96*** | 58.85 |
| - Any account-to-account transfer with agent assistance | 55.46*** | 81.23*** | 74.01*** | 61.21*** | 68.96 |
| - On-network account-to-account transfer without agent | 52.21*** | 78.82*** | 72.62*** | 56.23*** | 66.15 |
| - Off-network account-to-account transfer without agent | 11.21 | 13.67 | 14.15* | 9.96* | 12.50 |
| Percent who used mobile money for merchant payments at least some of the time in last 12 months | 57.79*** | 38.56*** | 49.76 | 48.94 | 49.43 |
| Percent who experienced a significant challenge with a mobile money agent in the last 90 days | 15.58 | 15.28 | 16.02 | 14.29 | 15.38 |
| Percent with outstanding debt on mobile money account | 10.32 | 6.25 | 8.66 | 9.71 | 9.11 |

Stars used to indicate significance of differences between urban/rural and between male/female. The same significance stars are displayed for urban and rural columns, and for male and male columns. * p < 0.10, ** p < 0.05, *** p < 0.01

| | URBAN | RURAL | MALE AGENTS | FEMALE AGENTS | OVERALL |
|--|--------|--------|-------------|---------------|---------|
| Transaction characteristics | | | | | |
| Median transaction amount (local currency) | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Transaction types | | | | | |
| Cash-in | 39.90 | 34.43 | 38.28 | 33.74 | 36.70 |
| Cash-out | 37.31 | 39.93 | 36.30 | 43.56 | 38.84 |
| Over-the-counter transfer (any type) | 22.80 | 24.91 | 25.08 | 22.09 | 23.03 |
| Account-to-account transfer (agent assisted) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other | 0.00 | 0.73 | 0.33 | 0.61 | 0.43 |
| Total | 100% | 100% | 100% | 100% | 100% |

Stars used to indicate significance of differences between urban/rural and between male/female. The same significance stars are displayed for urban and rural columns, and for male and male columns. * p < 0.10, ** p < 0.05, *** p < 0.01