UNCDF

Unlocking Public and Private Finance for the Poor

REPORT

The Impact of Mobile Money Taxation in Uganda

November 2021

1 Background

Mobile Money was introduced in Uganda in 2009, with 'Mobile Money' guidelines[1] issued by the Bank of Uganda (BoU) stipulating the approval process for the Mobile Money services, as well as the roles and responsibilities of all parties involved. The number of registered Mobile Money accounts rose to 31.3 million by the end of June 2021 from 30.5 million at the end of March 2021,[2] from a base of 552,047 registered Mobile Money accounts in 2009. The value of annual transactions has grown from approximately US$37.3 million in 2009 to $18.7 billion in 2020, with customer balances also increasing from approximately $1 million in 2009 to $144.2 million in 2020. The number of Mobile Money agents, key ecosystem actors supporting this growth, has grown from 53,550 in 2013 to 376,111 by 2020.[3]

Since the introduction of Mobile Money in Uganda, various regulations have been passed related to the functioning of mobile financial services. The Excise Duty (Amendment) Act 2018 introduced a Mobile Money tax of 0.5 percent on withdrawals (with effect from the 2018–19 financial year), together with an over the top (OTT) tax of 200 Ugandan Shillings (UGX) USD $0.056 charged per day to use social media applications such as Facebook, Twitter, and instant messaging and voice communication apps like WhatsApp. Effective July 1 2021, the OTT 'social media' tax was removed and replaced with a 12 percent tax on Internet data in the new financial year (2021-2022)[4].

Recently, in 2020, a new regulation to govern Mobile Money called the National Payments Systems Act (NPS) was introduced, followed by the National Payments Systems Regulations of 2021. The Bank of Uganda states the NPS aims to "promote the safety and efficiency of payment systems in Uganda, with a view to fostering financial sector stability and economic growth."[5]

Further deepening financial inclusion, Agency Banking was introduced in Uganda through the operationalization of the Financial Institutions (Amendment) Act 2016,[6] and the Financial Institutions (Agent Banking) Regulations, 2017[7]. Prior to this, the main service access points for banks were through their branches and Automated Teller Machine (ATM) networks.

Several studies have been conducted on the impacts of the 0.5 percent tax on Mobile Money withdrawals, with particular focus on the important role Mobile Money plays in advancing financial inclusion in Uganda. In 2020, the GSMA (formerly known as the Global System for Mobile Communications) examined the causes and consequences of Mobile Money taxation in sub-Saharan Africa (Côte d'Ivoire, Malawi, the Republic of the Congo and Uganda).[8] The study aimed to understand the motivation behind the proposal of these taxes and identify any unintended consequences of these taxes. In July 2021, the International Centre for Tax and Development, in a working paper titled 'There and Back Again: The making of Uganda's Mobile Money tax",[9] evaluated the appropriateness of the tax policymaking process that led to the adoption of a tax on Mobile Money transactions.

In line with its 'Leaving no one behind in the digital era' strategy, UNCDF partnered with PHB Development to further assess the effects of the Mobile Money withdrawal tax on consumer behaviour and digital financial inclusion in Uganda. The study uses quantitative and qualitative methods to analyse the economic impact of the taxation on Mobile Money.

1 Bank of Uganda, 'Mobile Money Guidelines', September 2013, https://archive.bou.or.ug/archive/opencms/bou/bou-downloads/supervision/Circulars_and_Guidance_Notes/2013/All/Mobile-Money-Guidelines.PDF, accessed 19 October 2021.
2 Uganda Communications Commission, 'Market Performance Report Q2 2021', 2021, https://www.ucc.co.ug/statistics-and-figures-2/, accessed 19 October 2021.
3 Bank of Uganda, 'Mobile Money Statistics', September 2021, https://www.bou.or.ug/bou/bouwebsite/bouwebsitecontent/PaymentSystems/DataStatistics-/Mobile-Money-Statistics.xlsx, accessed 19 October 2021.
4 https://www.monitor.co.ug/uganda/news/national/ott-tax-stops-today-3455434
5 Bank of Uganda, 'National Payment System (NPS) Policy Framework', https://www.bou.or.ug/bou/bouwebsite/PaymentSystems/NPS.html, accessed 19 October 2021.
6 Government of Uganda, 'Financial Institutions (Amendment) Act, 2016', 4 February 2016, https://www.bou.or.ug/bou/bouwebsite/bouwebsitecontent/acts/supervision_acts_regulations/FI_Act/Fin-Amendment-Act-2016.pdf, accessed 19 October 2021.
7 Bank of Uganda/Government of Uganda, 'Final Institutions (Agent Banking) Act, 2017', 14 July 2017, https://archive.bou.or.ug/archive/opencms/bou/bou-downloads/acts/other_acts_regulations/Agent-Banking-Regulations-2017.pdf, accessed 27 October 2021.
8 GSMA, 'The Causes and Consequences of Mobile Money Taxation: An examination of mobile money transaction taxes in sub-Saharan Africa', 18 June 2020, https://www.gsma.com/mobilefordevelopment/resources/the-causes-and-consequences-of-mobile-money-taxation-an-examination-of-mobile-money-transaction-taxes-in-sub-saharan-africa/, accessed 19 October 2021.
9 International Centre for Tax and Development, 'There and Back Again: The making of Uganda's Mobile Money tax', Working Paper 123, ICTD, July 2021, https://www.ictd.ac/publication/there-back-again-uganda-mobile-money-tax/, accessed 19 October 2021.

2 Introduction

In 2018, mobile technologies and services generated 8.6 percent of Gross Domestic Product (GDP) in sub-Saharan Africa, a contribution that amounted to over $144 billion of economic value added.[10] With 31.3 million registered Mobile Money accounts and about $18.7 billion in annual transaction values, in 2018, the Government of Uganda introduced a 0.5 percent tax on all Mobile Money withdrawals under the Excise Duty (Amendment) Act 2018 (see Figure 2.1).[11]

Little is known about the impact of this tax in Uganda or that of similar taxes in other countries in sub-Saharan Africa. To address this knowledge gap, UNCDF partnered with PHB Development to conduct research using semi-structured interviews of a non-random sample [12] of 303 people in Western and Central Uganda. Results indicate the introduction of the tax on Mobile Money withdrawals has led wealthier and more urban users to switch to agent banking, [13] which is not subject to comparable taxes. Moreover, the results indicate a strong correlation between income level, urbanization, shifting from Mobile Money to agent banking and the use of agent banking as a mitigation mechanism. People with lower incomes seem far less likely to have switched to agent banking as a direct result of the tax than higher income groups, indicating that the burden of this tax falls disproportionately on the poor.

The study also looks at people's perceptions of digital financial services taxation, their awareness of current Mobile Money fees and taxes, and mitigation mechanisms. Qualitative interviews with stakeholders and key informants from different sectors indicate that the impact of mobile money withdrawal taxation on digitization of payments in the agriculture sector was significant, while the impact in other sectors was less apparent.

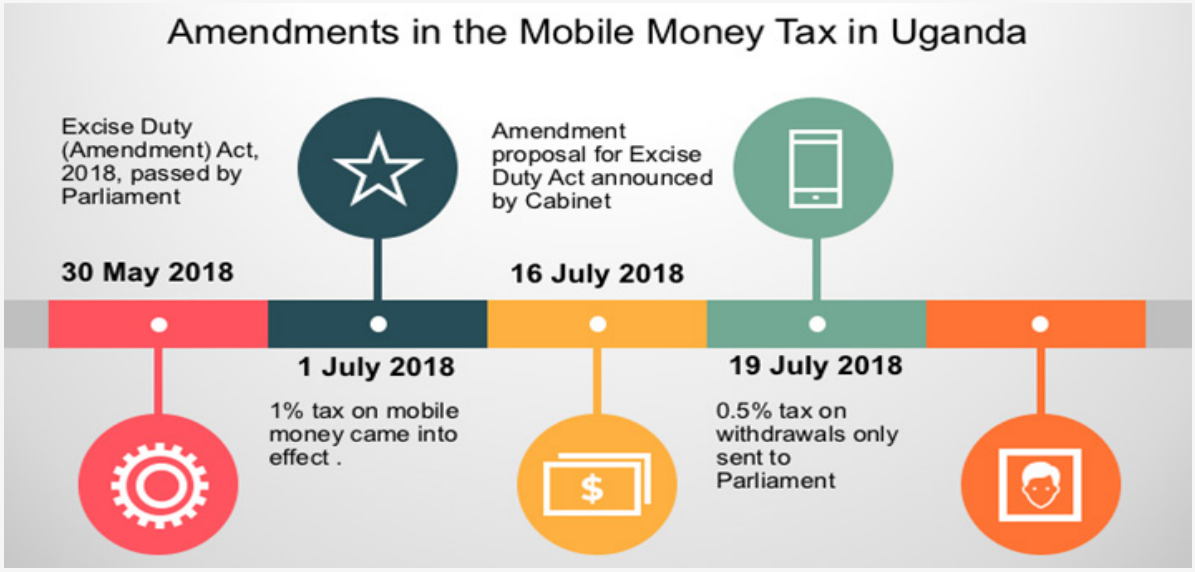


Figure 2.1. Introduction of the Mobile Money Tax in Uganda

In another project, UNCDF worked with the private sector in rural areas of Uganda to digitalize payments in agricultural value chains in coffee, dairy, maize, seed oil and tea, for four years (2014–2018).[14] This project aimed to improve financial inclusion amongst smallholder farmers and create efficiencies for agribusinesses and smallholder farmers.

This study investigates in the form of a case study, the impact of the tax on the work of UNCDF and partners in digitizing the tea and dairy value chains. The study revealed that Mobile Money payments in these value chains became prohibitively expensive for payers and payees as a direct result of the tax.

10 GSMA and GSMA Intelligence, 'The Mobile Economy, Sub-Saharan Africa, 2019', GSMA, 2019, https://data.gsmaintelligence.com/api-web/v2/research-file-download?id=45121567&file=2794-160719-ME-SSA.pdf, accessed 19 October 2021.

11 United Nations Capital Development Fund, 'Understanding the Consequences of Mobile Money Taxes in Uganda', UNCDF, Kampala, 29 August 2018, https://www.uncdf.org/article/3892/understanding-the-consequences-of-mobile-money-taxes-in-uganda, accessed 19 October 2021.

12 For a definition of non-random (also referred to as non-probability) sampling, see QuestionPro, 'Non-Probability Sampling: Definition, types, examples and advantages', https://www.questionpro.com/blog/non-probability-sampling/, accessed 19 October 2021.

13 For example, see United Nations Capital Development Fund, 'Agency Banking in Uganda: A new channel to increase financial inclusion', UNCDF, 5 March 2019, https://www.uncdf.org/article/4381/agency-banking-in-uganda-a-new-channel-to-increase-financial-inclusion, accessed 19 October 2021.

14 United Nations Capital Development Fund, 'Learnings from the Field: Digitizing payments in agricultural value chains in Uganda', UNCDF, Kampala, 16 October 2018, https://www.uncdf.org/article/4000/learnings-from-the-field-digitizing-payments-in-agricultural-value-chains-in-uganda, accessed 19 October 2021.

3 Field research

3.1 Sampling and methodology

Field interviews were conducted in Central and Western Uganda from 16–26 March 2021. Purposive non-probability sampling was used, focused on capturing a wide range of different professions and income groups, as well as achieving a relatively proportionate gender and urban/rural balance. The geographical regions were selected for the same reasons (gender and rural/urban balance), in addition to allowing us to interview respondents with different perspectives within the timeframe allowed by the budget.

Figure 3.1. Field interview locations

The sample size was 303 individuals in 52 locations, 52 percent of whom were male and 48 percent female. Forty-five percent of respondents reported living in an urban area and 55 percent in rural areas. Table 1 shows the reported monthly income split, with 18 percent of respondents reporting a monthly income of under UGX 100,000 and 19 percent over UGX 1 million.

Table 3.1. Reported monthly income

Reported monthly income (UGX)	Number of respondents	Percent of respondents
Less than 100,000	54	18
100,000–250,000	75	26
250,000–500,000	60	20
500,000–1 million	50	17
Over 1 million	55	19
Total	**294***	**100**

*8 respondents provided no response

Each interview was conducted over 20–30 minutes, using a semi-structured questionnaire that focused on:

1. Awareness of the tax and behaviour change as a result of the tax
   a) Does this vary by demographic factors (e.g., gender, income, rural)?
2. Attitudes towards the tax and reasoning behind behaviour change
   a) Motivation behind any behaviour change (e.g., financial, political)
   b) Does this vary by demographic factors (e.g., gender, income, rural) or political views?
3. Knowledge of Mobile Money fees
   a) Are respondents able to distinguish between MM fees and taxes?
   b) Does this vary by demographic factors (e.g., gender, income, rural)?
4. Willingness to pay for financial services
   a) Does this vary for different used cases (e.g., remittances, Peer-to-Peer (P2P), Merchant payments)
   b) Does this vary by demographic factors (e.g., gender, income, rural)?

The data analysis included two types of tests for statistical significance. For categorical variables, the chi-squared test was used: for example, when comparing the percent of rural respondents supporting the tax versus the percent of urban people supporting the tax. For numerical variables, a two-sided t-test was used – for example, when comparing how much urban respondents are willing to pay for conducting a remittance transfer with how much rural respondents are willing to pay.

3.2

Results

Of those interviewed, 85 percent said they were aware of Mobile Money withdrawals being taxed by the government. Answers were strongly correlated with income level and location, with rural and lower-income respondents less likely to answer yes (reaching $p<0.01$, the highest significance level used in this study).

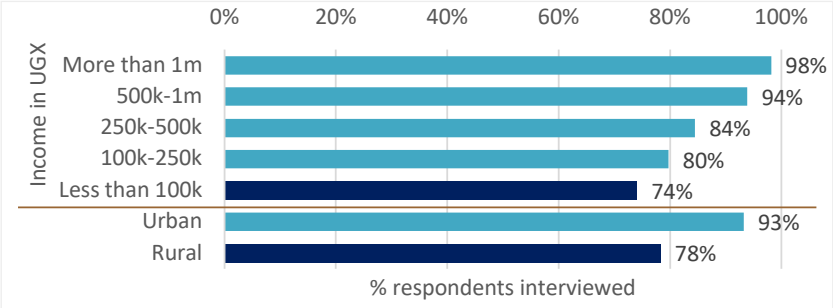


Figure 3.2. Awareness of taxation of Mobile Money withdrawals

When asked if they knew the size of the tax and how it is applied (to ascertain if they understood that it applied to withdrawals only), 46 percent of all respondents – but only 20 percent of the lowest income group – said that they had this knowledge. However, when asked to explain how the tax is applied, only 13 percent answered correctly, even allowing for a wide margin of error (responses were considered correct if they said anywhere between 0.1 percent to 0.9 percent tax on withdrawals). Among respondents who were Mobile Money agents, 34.3 percent demonstrated that they were aware of the 0.5 percent tax levied or its modalities.

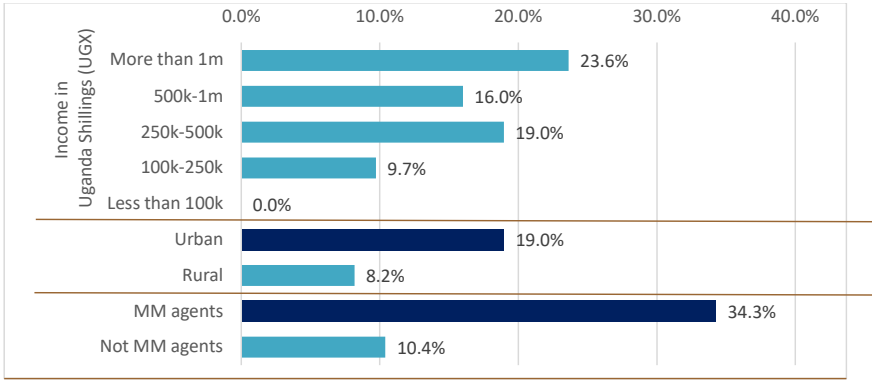


Figure 3.3. Respondents who know how the tax is applied (answers considered correct if between 0.1 percent and 0.9 percent on withdrawals).

Note: MM, Mobile Money.

The fact that only 13 percent of the respondents were aware of the size and modality of the tax may be explained by the limited information they are provided with by Mobile Money Operators (MMOs) while carrying out transactions. If a user initiates a withdrawal from an MTN Mobile Money account, s/he will receive a Unstructured Supplementary Service Data (USSD) text message confirmation prompt, which does not include taxes or MMO fees. After confirmation, the user receives a Short Message Service (SMS) text that bundles taxes and MMO fees, making it difficult for consumers to distinguish between the two. Airtel money users are slightly better informed. While the pre-withdrawal USSD prompt does not include MMO fees or taxes, the subsequent confirmation SMS does distinguish between the two.

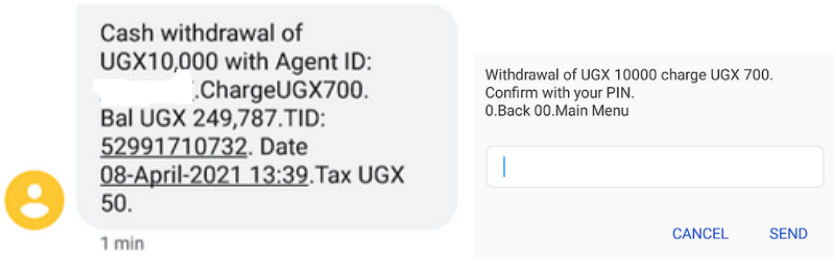


Figure 3.4. MTN USSD withdrawal prompt and SMS confirmation

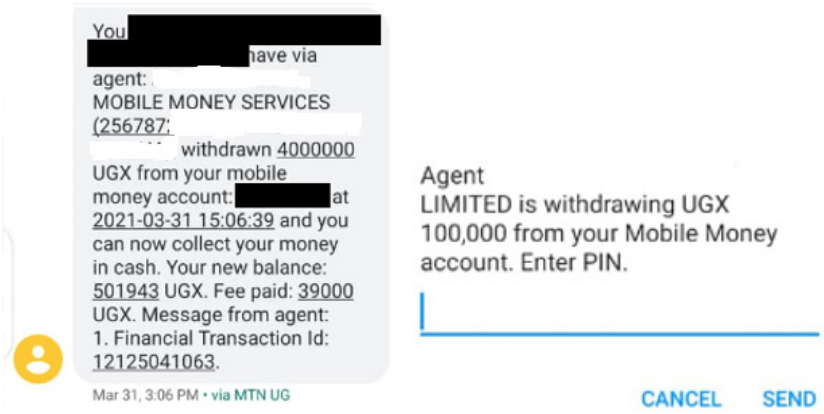


Figure 3.5. Airtel USSD withdrawal prompt and SMS confirmation

After explaining how the tax works – 0.5 percent of the total amount, only applied to withdrawals – we asked respondents if they felt the tax was reasonable. Sixty-two percent said they felt the tax is unreasonable, with most stating their main reason as feeling the tax is too high. For example, one respondent said the tax is "expensive for poor people. The little money deducted can do a lot here." Similarly, another respondent said, "...it is okay to be taxed but this tax is on the higher side for the common people."

Within the withdrawal range of UGX 60,000–500,000, the tax is UGX 625–2,500 or 17–24 percent of the total fee charged. This proportion increases further on the higher bands (see Table 2).

Table 3.2. Withdrawal fees and tax amounts for various levels of withdrawal (UGX)

Withdrawal amount		Airtel	MTN	Airtel	Airtel	MTN	MTN
From	To	Withdrawal fee	Withdrawal fee	Max tax amount	Max tax % of fees	Max tax amount	Max tax % of fees
500	2,500	330	350	13	3.79%	13	3.57%
2,501	5,000	440	450	25	4.42%	25	4.35%
5,001	15,000	700	750	75	5.88%	75	6.38%
15,001	30,000	880	950	150	9.80%	150	9.38%
30,001	45,000	1,210	1,300	225	11.63%	225	10.59%
45,001	60,000	1,500	1,600	300	13.04%	300	11.32%

Withdrawal amount		Airtel	MTN	Airtel	Airtel	MTN	MTN
From	To	Withdrawal fee	Withdrawal fee	Max tax amount	Max tax % of fees	Max tax amount	Max tax % of fees
60,001	125,000	1,925	2,050	625	17.61%	625	17.01%
125,001	250,000	3,575	3,750	1,250	21.46%	1,250	20.49%
250,001	500,000	7,000	7,350	2,500	23.81%	2,500	22.52%
500,001	1,000,000	12,500	13,000	5,000	27.03%	5,000	25.97%
1,000,001	2,000,000	12,500	16,000	10,000	42.55%	10,000	36.70%
2,000,001	4,000,000	12,500	19,000	20,000	59.70%	20,000	49.69%
4,000,001	7,000,000	12,500	22,000	35,000	72.16%	35,000	60.09%

When asked if the introduction of the 0.5 percent tax on withdrawals changed how much they use Mobile Money, 38 percent of respondents claimed they use it less, 44 percent the same and 17.8 percent more. After asking this question, enumerators asked follow-up questions to determine the reason behind the behaviour change.

The central theme emerging amongst those who claimed they use Mobile Money more or the same amount as before was that they had no alternatives. One respondent, for example, said moving away from Mobile Money is not possible for her: "We can't move away from it because we don't have banks here and it's what people use to pay." Another claimed the government can increase taxes as much as they like, moving away from Mobile Money would still be impossible: "There is no alternative for me, no matter how much they push (increases taxes/fees)."

Meanwhile, the main theme among respondents who claimed they use Mobile Money less as a result of the tax (38 percent) is that they switched to alternatives such as agent banking or cash. Some respondents switched back to cash, explaining that "the tax is so high that sometimes I have to get a boda-boda (motorcycle taxi) to deliver the cash physically." Another respondent said they "...switched to the bank system because of the expensive tax. Withdrawals there are cheaper than MM withdrawals."

Access to alternatives to Mobile Money seems to be a challenge for respondents: 27 percent claimed they started using agent banking as a direct result of the tax, but this was disproportionately true of high income and urban respondents. Figure 3.6 shows that the highest income respondents are five times more likely to claim they increased their use of agent banking as a direct result of the tax than the lowest income group ($p<0.01$). Urban respondents were more than twice as likely to claim they increased their use than rural respondents ($p<0.01$), and men (31 percent) were more likely than women (22 percent, ($p<0.01$)).

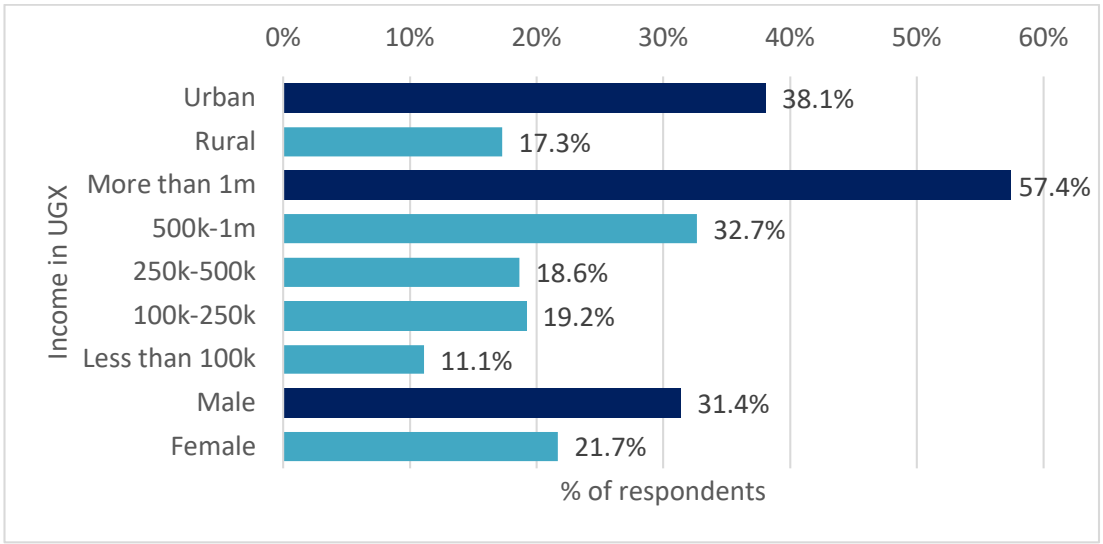


Figure 3.6. Did you start using agency banking more as a direct result of the tax?

These results indicate that the lowest income groups in Uganda were disproportionately affected by the withdrawal tax, compared with higher income groups who can better access alternatives or other means of payment where a similar tax is not applied. The results in Figure 3.7 support this conclusion, showing a drastic decrease in average transaction value after the tax was introduced – from around UGX 54,000 in Q2 2018 to just under UGX 29,000 in Q4, a decrease of over 50 percent. Higher-income users, more likely to engage in higher-value transactions, seem to have migrated away from Mobile Money.

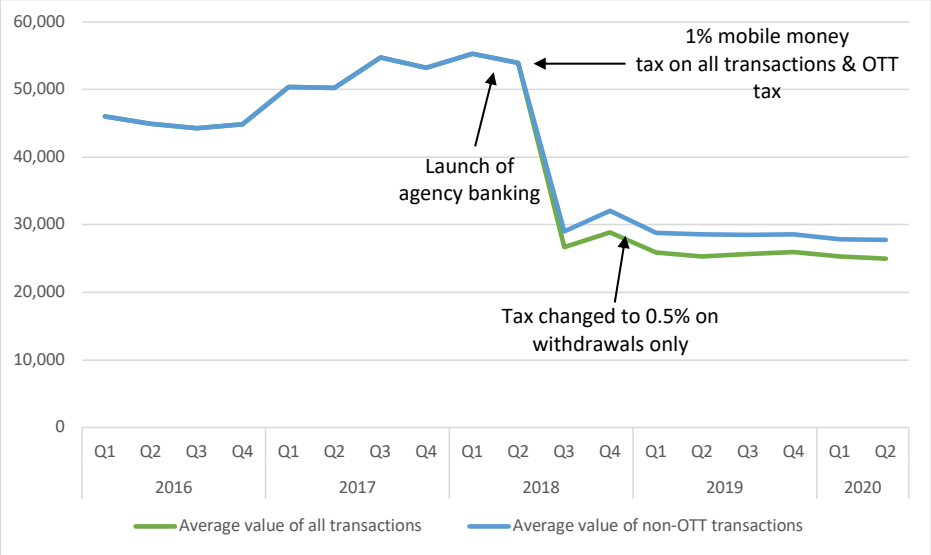


Figure 3.7. Mobile Money Average Transaction Value (UGX)[15]

This sharp drop in average transaction value can only partly be explained by the fact the 'over the top' (OTT) tax was introduced along with the 1 percent tax. This was a tax of UGX 200 per day and users could choose to pay on a daily, weekly, monthly, quarterly or annual basis. As we were only able to access reliable data on the total amount of OTT tax collected per month and not on the number or average size of OTT transactions, we assume all transactions take place daily, maximizing the negative impact on the average value of transactions. The drop in the average value of non-OTT transactions remains significant, dropping from an average of close to UGX 54,000 in Q2 2018 to an average of just over UGX 32,000 in Q4[16] 2018 – a decrease of over 40 percent.

Lastly, by looking at the growth in agent banking since its introduction in 2018, it may be inferred that some of the users are likely previous Mobile Money users. The total value of Mobile Money transactions peaked at UGX 6.9 trillion in 2018 and dropped by around UGX 1 trillion in the months following the tax. Table 3 shows that the monthly value of agent banking transactions stood at UGX 2.5 trillion in June 2020, having grown by 171 percent from the previous year.

Table 3.3. Growth in agent banking from 2019–2020[17]

Indicator	As of 30 June 2020	Year on Year % Growth
Number of interoperable agents connected	7,600	41
Monthly volume of transactions (UGX, millions)	2.4	400
Monthly value of transactions (UGX, trillions)	2.5	171

15 Sources: Public Bank of Uganda data and Uganda Revenue Authority data on OTT tax revenue.
16 We compare with Q4 instead of Q3, allowing for an adjustment period after the tax introduction. Comparing with Q3 results in a 46.3% drop.
17 CEO East Africa, 'Q&A: 2 years, 7,600 agents and over UGX2.5 trillion transacted, agent banking is unstoppable', CEO Company News, Uganda, https://www.ceo.co.ug/2-years-7600-agents-and-over-ugx2-5-trillion-transacted-agent-banking-is-the-future-and-it-is-unstoppable/, accessed 21 October 2021.

4 Impact on Agriculture and the Formalization of the Economy

Interviews with key stakeholders (government, non-governmental organizations (NGOs), private sector, etc.) revealed a consensus centred around the regressive nature of the tax and its impacts on the agriculture sector. Stakeholders from other sectors (refugee payments, energy, transportation, NGOs) claimed limited impact, mostly focused on the volatility of the regulatory environment. For example, a representative from one of the largest institutions engaged in cash transfers to refugees said, "the way it was introduced was pretty shocking for everyone. We realized that the regulatory environment is fairly volatile here in Uganda." He added that his institution is currently looking into doing more Mobile Money transfers in refugee settlements, and the volatile regulatory framework is a stronger consideration than the tax in that context.

Yo! Uganda, one of the largest aggregators in Uganda whose solutions leverage mobile platforms such as Mobile Money, SMS, USSD and Interactive Voice Response to deliver value to customers, says demand for digital payments has largely remained inelastic. Agriculture is the exception, where Yo! Uganda is running proof of concept projects in a range of different value chains targeting hundreds of thousands of monthly payments from large companies to farmers and workers. Examples include one of the largest coffee companies in Uganda, where around 9,000 farmers were already being paid digitally, and one of the largest seed oil companies, where around 15,000 were being paid digitally. These projects, according to the aggregator, were cancelled immediately when the tax was introduced, as a direct result of the tax.

In the four years leading to 2018, UNCDF designed and trialled different bulk payment solutions within five agricultural value chains across Uganda: coffee, dairy, maize, seed oil and tea. Working with key stakeholders in each value chain, UNCDF identified challenges to better understand how digitization would reduce or remove those pain points, leading to greater operational efficiencies. UNCDF was involved in these digitization projects with the end goal of digitizing payments to several hundred thousand workers and farmers. The project was founded on available evidence suggesting that digitization of payments would not only help promote financial inclusion for payees, but also help formalize the Ugandan economy, and in turn leading to increased productivity and tax revenue. All agriculture value chain digitization projects were cancelled or put on hold because of the tax.

To shed light on how the tax affected agriculture value chains, we looked at case studies from the tea and dairy value chains. In the tea value chain, the tax pushed the price of digital payments to a level at which the payer found it cheaper to revert to cash airdrops on a bi-weekly basis.[18] In the dairy value chain, we used activity-based costing to establish the cost of cash and digital payments for all central actors in the value chain (off-takers, co-operatives, and farmers). This enabled us to compare different payment modalities to see if actors are faced with positive financial value propositions. We conclude that taxation shifted the value proposition for Mobile Money payments for all parties from positive to negative. The value proposition for agency banking payments, however, was positive.

18 Video of cash airdrops in the Tea Value chain in Western Uganda - https://www.youtube.com/watch?v=EIcbwjDfekE

Figure 4.1. Tea growers at Kiko Tea Estate receive their payments via mobile money (2018)

4.1

Tea value chain case study

The Ugandan tea value chain employs over 240,000 farmers and casual labourers who are predominantly paid in cash. As part of its Mobile Money for the Poor (MM4P) programme, UNCDF selected tea as a focus area for digitization and partnered with one of the largest tea companies in Uganda to conduct a pilot study. The company was making payments by flying bags of cash from Entebbe to their estates in eastern Uganda and dropping them out of an aeroplane and wanted to reduce risk and decrease costs by digitizing their 14,000 monthly payments.

By 2018, the project was at the end of a pilot phase, with around 80 percent of workers in the pilot estate receiving digital payments. Scale-up planning was underway. An innovative model was being tested, where Airtel Uganda waived its margin on salary withdrawals, significantly lowering the price point for the tea company. Airtel hoped that workers would use other Airtel services more because of receiving their salaries through Airtel Money. Preliminary results were promising.

The pilot phase, as well as scale-up planning, ended immediately when the 1 percent tax was introduced. It led to a price increase the company deemed unacceptable – increasing the price of Airtel money payments well beyond the cost of cash payments (see Figures 4.2 and 4.3). The cost of paying farmers and workers via airdrop totalled around UGX 9 million per pay period, while the tax increased the cost of Airtel money payments from around UGX 5 million to close to UGX 15 million.

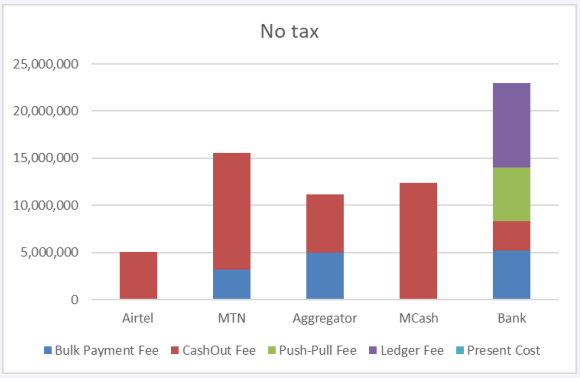


Figure 4.2. Cost of digital payments without 1 percent tax (UGX)

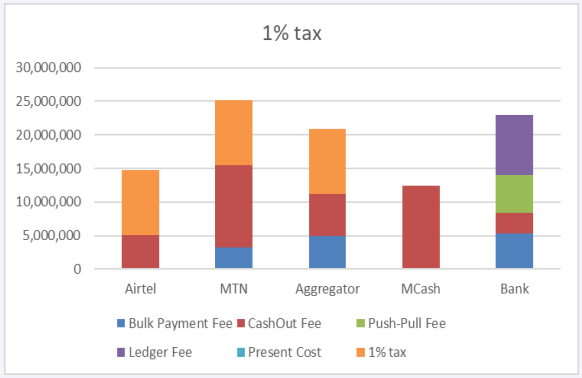


Figure 4.3. Cost of digital payments including 1 percent tax (UGX)

The Ugandan government later reduced the tax from 1 percent on all transactions to 0.5 percent, applied only to withdrawals. However, this reduction failed to reduce the cost of digital payments to a point where it would make financial sense for the tea company to digitalize. The cost of paying via airdrop was just under UGX 1,000 per payment, compared to UGX 2,321 with the 1 percent tax. The cost of payment with the 0.5 percent tax on withdrawals only was UGX 1,229. The tea company management felt that in addition to this price point being too high, the volatile regulatory environment created too much risk. The digitization drive itself required a lot of effort and, according to the tea company management team, there was no way to know whether the government would increase the 0.5 percent later.

As the tea company found it prohibitively costly to pay the tax on behalf of its workers and farmers, the latter would have to bear the cost. We conducted 28 qualitative interviews with workers and staff, which revealed strong opposition to bearing this cost. Only three respondents said the benefits of Airtel Money exceeded the tax and that they would still like to get paid via Airtel Money. The worker union, meanwhile, strongly objected to workers bearing the responsibility to pay the tax, stating that if the company "...isn't going to pay the tax for the workers, then workers should revert to the airdrop."

4.2

Dairy value chain case study

Financial Sector Deepening Uganda (FSDU) was interested in helping to digitalize payments in the Ugandan dairy value chain and partnered with PHB Development to conduct a feasibility study in 2017. Value Proposition Mapping methodology was used to analyse the value propositions different players in the value chain are faced with concerning cash payments, digital payments, and other forms of payments such as agent banking.

The methodology borrows from traditional activity-based costing by mapping user behaviour on a month-on-month basis over the course of a year. Virtually all sales and purchases are recorded, including where the transactions took place as well as the associated transport and time costs. Additionally, the cost of the risk interviewees place on travelling with cash is incorporated. These data are then used to calculate a per-activity and per-transaction average cost of cash, which allows for a comparison with the cost of using Mobile Money or an agent.

Three off-taker partners participated in the study (Amos dairies, Brookside, Pearl Dairy Farms), seven cooperatives, and a non-random sample of 43 farmers, traders, and merchants. Off-takers currently pay into cooperatives' bank accounts on a bi-weekly basis. Usually, a cooperative management member then travels to the bank, withdraws the money and travels with the cash back to the cooperative and pays the farmers. The farmers then travel back to their farms with the cash. Both the cooperatives and the farmers face significant risk due to being forced to travel with cash.

The cooperatives interviewed placed an average value of around UGX 200,000 per pay period on this risk. Transport costs, meanwhile, average around UGX 20,000, leading to a total cost of cash of UGX 220,000 per pay period. If cooperatives were to digitalize payments to their farmers, they would eliminate these costs but incur new costs in the form of transfer fees and withdrawal fees. If the cooperative, rather than the farmers, would assume these costs, they would be faced with a negative value proposition (see Figure 4.4). Both Mobile Money and bank payments would be more expensive than their current cost of cash. If cooperatives were to take on only the transfer costs, they would be faced with positive value propositions.

Figure 4.4. Cost per transaction for cooperatives making payments (UGX)

Farmers are faced with a positive value proposition for Mobile Money payments – but only marginally. As farmers have limited use cases for Mobile Money, other than using it to store money safely,[19] the only relevant financial benefit is the cost of risk. If farmers switch to Mobile Money or agent banking payments, they will still have to travel to an agent to withdraw money (usually located close to the cooperative), which means they will face similar costs of time and transportation as before.

Farmers are faced with an average cash-out cost of UGX 4,100 compared to a cost of risk of UGX 4,110, meaning they have a marginally positive value proposition for accepting Mobile Money payments. When the 0.5 percent withdrawal tax is factored into the calculation, the value proposition quickly becomes negative – the average withdrawal cost is UGX 5,920 compared with a cost of cash risk of UGX 4,100. However, when considering receiving payments via agent banking, farmers are faced with a very positive value proposition. Using the Equity Bank agent banking fee structure, farmers are faced with an average withdrawal fee of UGX 2,290, compared with a cost of risk of UGX 4,110.

Table 4.1. Value propositions: cash compared to Mobile Money and agent banking

	% of total income	Cost of Cash (risk + time + transport)	Cost of Cash (risk only)	Cost of Cash-out	Value Proposition
Dairy sales (Mobile Money)	42.95	17,060	4,110	4,100	+2.50%
Dairy sales (Mobile Money with 0.5% tax)	42.95	17,060	4,110	5,920	-44%
Dairy sales (Agent banking: Equity)	42.95	17,060	4,110	2,290	+55.70%

As a result of the tax, the report recommended that FSDU should focus on moving dairy farmers towards agent banking payments rather than Mobile Money payments.

19 The Value Proposition Mapping shows farmers have a negative value proposition for all major payment types except domestic remittances.

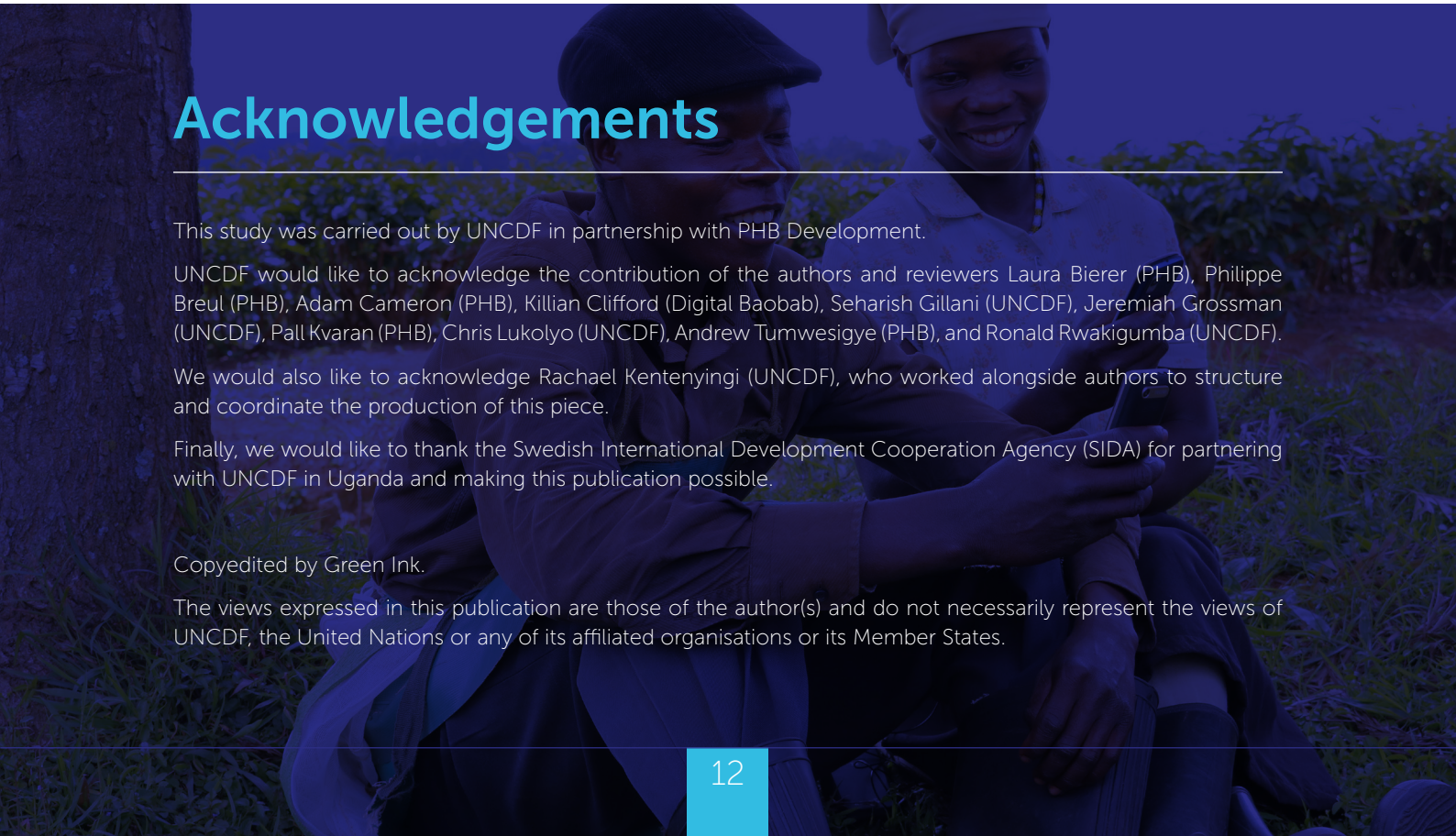
5 Conclusions

This report has provided indicative evidence, from 303 interviews in central and western Uganda, that the burden of the 0.5 percent tax on Mobile Money withdrawals has been disproportionally felt by some of the poorest people. Findings indicate a strong correlation between income levels and migration to agent banking as a direct result of the tax. These results are triangulated using data from the Central Bank of Uganda and Uganda Revenue Authority, showing that the average non-OTT transaction value has dropped by over 40 percent after the tax was introduced, indicating higher value transactions have migrated to cash and/or agent banking – where withdrawals are not taxed.

Aside from these results highlighting the regressive nature of the tax, this report argues the tax has had a negative impact on the formalization of the Ugandan economy. Payments in several agriculture value chains were in the process of being digitalized, with the eventual goal of digitizing hundreds of thousands of payments. These initiatives were discontinued as a direct result of the tax, with payments mostly reverting to cash payments.

The findings from this study provide a glimpse of the potential impact of the Mobile Money tax in Uganda. These findings may be further validated in a follow-up and more comprehensive study commissioned by UNCDF or other development partners.

More importantly, the findings from this study indicate that there may be trade-offs between two of the government's key agendas, namely effective domestic revenue mobilization and financial inclusion. This study presents an opportunity for government and development partners to explore tax policy alternatives to the current Mobile Money tax that strike a better balance between these government priorities.



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The UNCDF strategy 'Leaving no one behind in the digital era' is based on over a decade of experience in digital financial inclusion in Africa, Asia and the Pacific. UNCDF leverages digital finance in support of the Sustainable Development Goals (SDGs)to achieve the vision of promoting digital economies that leave no one behind. The goal of UNCDF is to empower millions of people by 2024 to use services daily that leverage innovation and technology and contribute to the SDGs. To achieve this vision UNCDF uses a market development approach and continuously seeks to address underlying market dysfunctions that exclude people living in the last mile.

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