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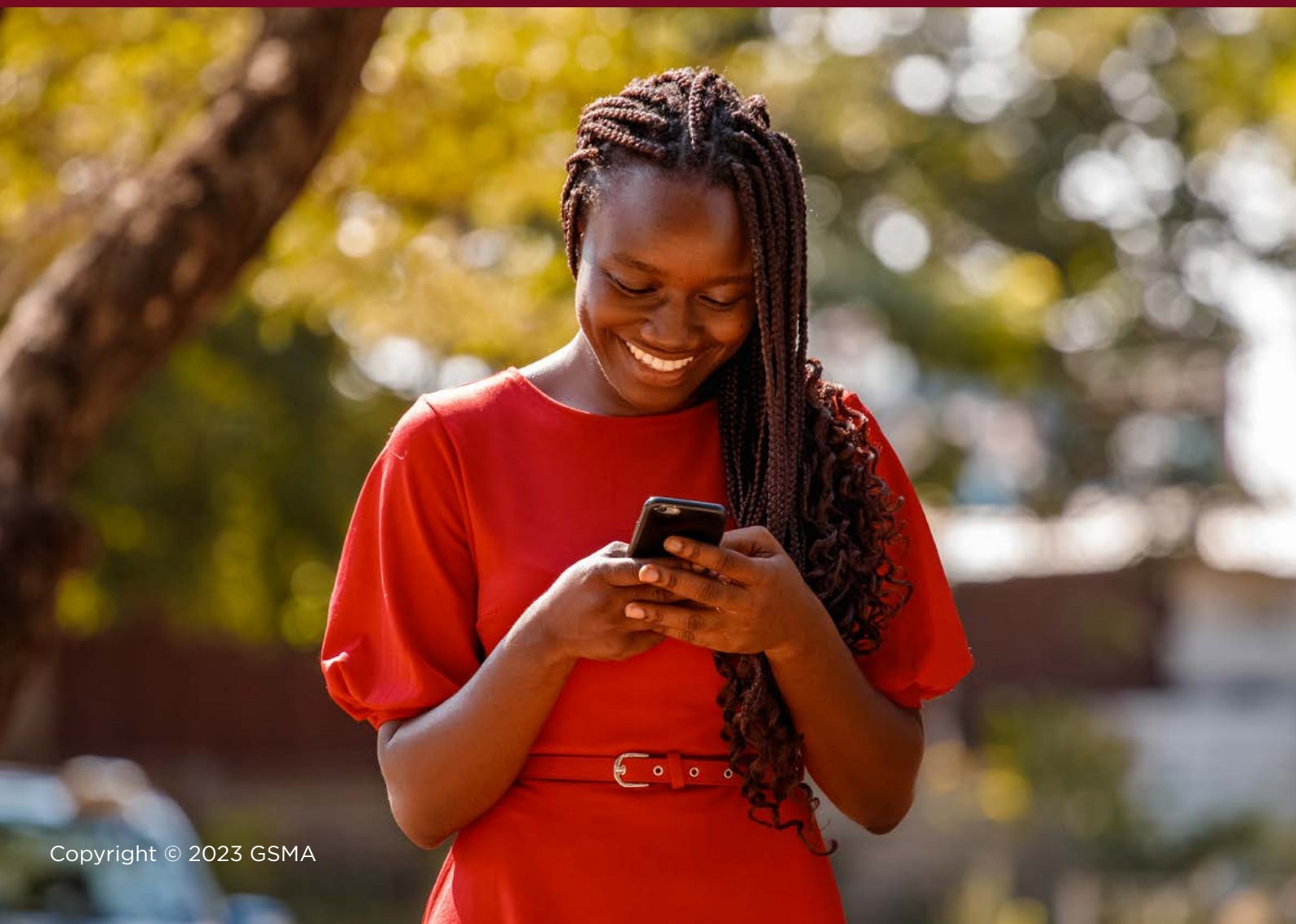
The E-levy in Ghana: Economic Impact Assessment

February 2023



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The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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Executive summary

This report analyses the impact of the E-levy on mobile money transactions in Ghana. The analysis covers the period from May 2021 to January 2023, in order to capture the evolution of demand and supply of mobile money services before and after the introduction of the E-levy in May 2022.

Advances in digital and mobile technology have delivered far-reaching economic and social benefits in Ghana and continued investment in telecoms infrastructure has laid the foundations for a vibrant technology ecosystem. Today, Ghana has over 18 million unique mobile subscribers and almost 10 million mobile internet subscribers – equivalent to almost 30% of the population, which is above the average of 25% mobile internet penetration in Sub-Saharan Africa.

Moreover, the development of the mobile money market in Ghana has been the catalyst of huge improvements in financial inclusion in the country, with the proportion of unbanked population falling from almost 60% in 2014 to 32% in 2021. This is largely thanks to the growth in access to mobile money, that reached more than 18 million active mobile money accounts or 56% of the population in 2021. The telecoms sector is committed to working with Ghanaian Authorities to build on these successes to increase internet and mobile money penetration and simultaneously, reduce the unbanked population to less than 10% of the total population – in line with regional leaders on financial inclusion such as Kenya.

Despite its positive impact on economic growth and financial inclusion, mobile services are subject to a high tax burden and the E-levy risks rolling back the hard-won gains in financial inclusion and produce a move back to cash. The evidence collected and analysed in this report shows that in the 9 months following the introduction of the E-levy, mobile money consumers in Ghana have turned away from using mobile money, with consequences for the financial inclusion of the poorest and most vulnerable, for the growth of the mobile money industry and for the wider Ghanaian economy and revenue mobilisation.

Transaction charges have increased as a result of the levy, and consumers have shown to be highly sensitive to this price change, reducing their access and use of mobile money services by 25% on average immediately after the implementation on the levy.

In May 2022, the number of transactions below 100 GHS reduced by 19%, those between 100 and 200 GHS contracted by 28% and the reduction was 48% for transactions above 200 GHS. Moreover, the effect has been persistent, with a contraction in volumes of over 20% still after 9 months, compared to pre-tax levels. Similarly, transaction values and mobile money revenues have fallen by up to 35% year-on-year, with revenues still remaining 20% lower than pre-tax level after 9 months.

Meanwhile, cash out transactions (which are exempted from the levy) have increased both in value and in volumes following the introduction of the levy, with an increase year-on-year of 25% in volumes and 61% in value – signalling that consumers are returning to cash-based transactions.

As a result of reduced demand in response to the introduction of the levy, the government's planned tax in-take was much lower than expected. Moreover, when taking into account not only the direct revenue from the levy, but also the loss resulting from lower taxes collected on mobile money revenues and the loss in GDP growth resulting from foregoing the benefits of access to mobile money, the net tax revenue for the government would be negative – by almost 1.4 billion GHS per year.

In order to balance fiscal policy and digital development objectives, while promoting fair and effective domestic revenue mobilisation in line with best principles of taxation, the Government of Ghana could consider reducing the E-levy and other sector-specific taxes, and increasing transparency and certainty to the tax process. The proposed approach is aligned with internally recognised best practice principles of taxation, including that broadening the base of consumption taxes is preferable to increasing the rate, in order to improve efficiency, achieve higher revenues in the medium term and encourage the formalisation of the economy.

1. The mobile market in Ghana

1.1 Mobile connectivity and usage in Ghana

Advances in digital and mobile technology have delivered far-reaching economic and social benefits in Ghana and continued investment in telecoms infrastructure has laid the foundations for a vibrant technology ecosystem.

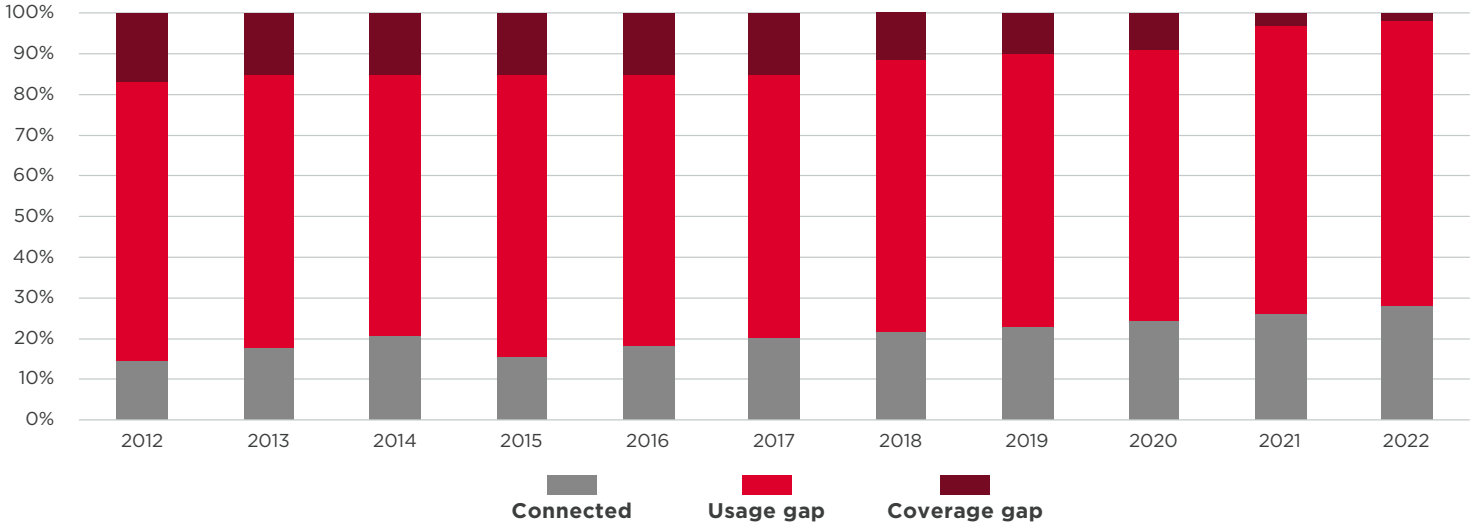
Mobile internet access has greatly improved in the past 20 years, with 3G networks covering 98% of the population in 2022. In 2005, only one in 10 people in Ghana subscribed to a mobile service. Today, Ghana has over 18 million unique mobile subscribers and almost 10 million mobile internet subscribers – equivalent to almost 30% of the population, which is above the average of 25% mobile internet penetration in Sub-Saharan Africa.[1]

Expanding connectivity has made digital one of Ghana's best-performing sectors, growing on average by 19% per year between 2014 and 2020.[2] However, key bottlenecks remain to Ghana's digital transformation and there remains a large usage gap, which means that over 70% of the population is unconnected to mobile internet despite being covered by a mobile network.

There are three main telecoms operators in Ghana: MTN Ghana, Vodafone Ghana, and Airtel Tigo that resulted by the merger of the two subsidiaries in 2016, becoming the second largest mobile operator in the country.

FIGURE 1

EVOLUTION OF MOBILE INTERNET CONNECTIVITY IN GHANA



Source: GSMA Intelligence Database 2023.

1 GSMA Intelligence Database and GSMA, Ghana country overview and SDGs, 2017.

2 https://www.worldbank.org/en/news/press-release/2022/04/28/afw-world-bank-provides-200-million-to-accelerate-ghana-digital-transformation-agenda-for-better-jobs.

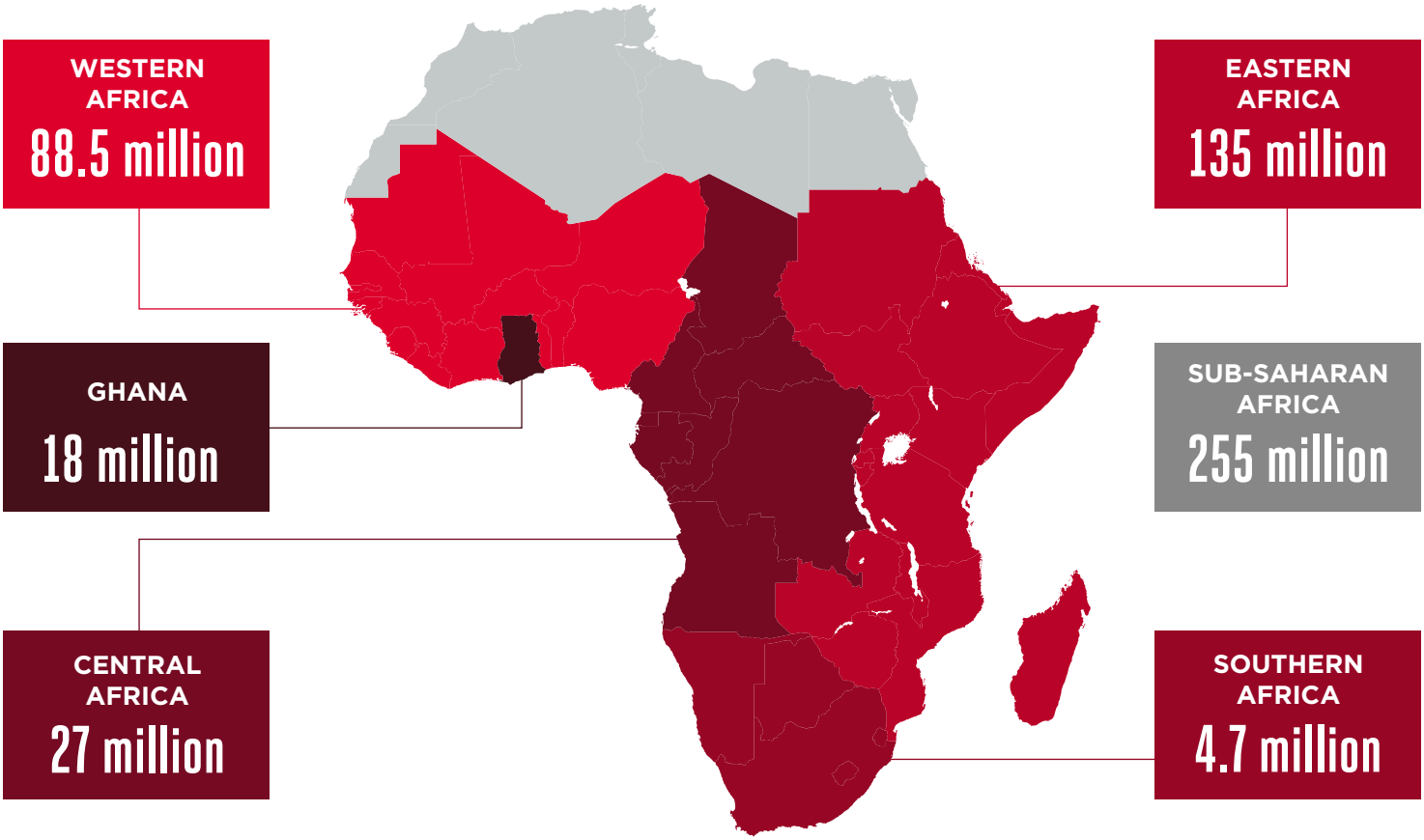
1.2 Evolution of mobile money in Ghana

Building on availability of mobile connectivity infrastructure and access to mobile services, mobile money services have flourished in Ghana and supported huge strides in financial inclusion. The number of mobile money accounts and transactions has been steadily increasing in recent years since MTN was the first mobile operator to launch in 2009, followed by Tigo and Airtel in 2012, and Vodafone in 2015.

At the end of 2021, there were more than 18 million active mobile money accounts (90 days), or 56% of the population, up from 4 million in 2017 and 350,000 in 2012.[3] In comparison, the total of West Africa had 88 million active mobile money accounts, making Ghana the 20% of the entire West Africa mobile money market despite accounting for only 7% of its population.[4]

FIGURE 2

ACTIVE MOBILE MONEY ACCOUNTS IN SSA



Source: GSMA Mobile Money metrics and Bank of Ghana.

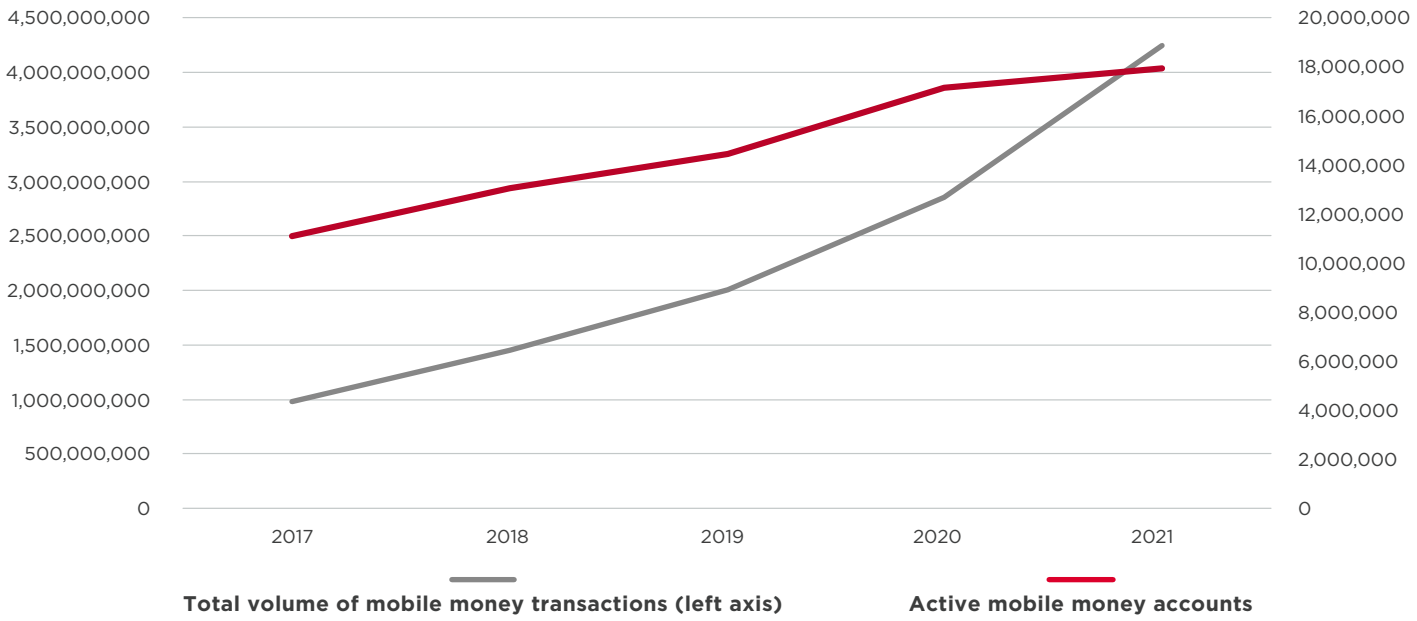
As well as an increase in the number of users, the volume and value of transactions have also increased significantly, with more than 4.5 billion transactions performed in 2021 for a total value of GHS 980 billion. Moreover, the sector employs a capillary network of 440+ thousand active agents.

3 Bank of Ghana Payments review 2021 and GSMA, Ghana country overview and SDGs, 2017.

4 https://www.gsma.com/mobilemoneymetrics/#global.

FIGURE 3

ACTIVE MOBILE MONEY ACCOUNTS AND TRANSACTION VOLUMES



Source: Bank of Ghana, Payments review 2021.

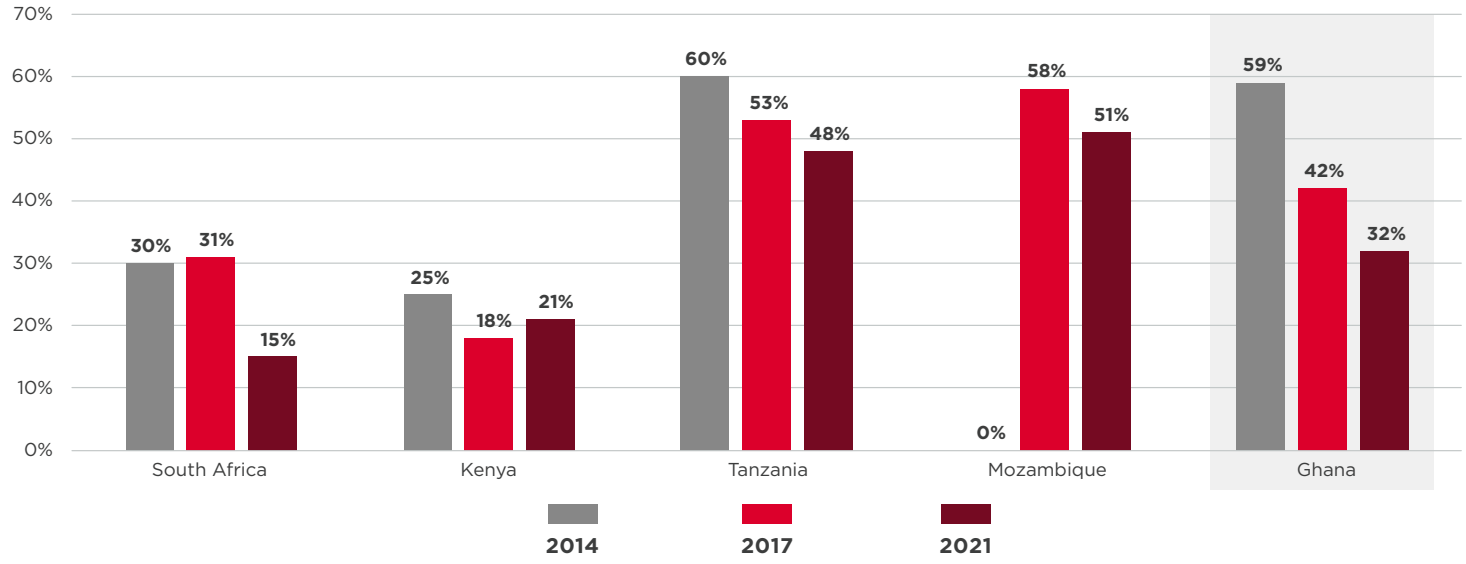
The development of the mobile money market in Ghana has been the catalyst of huge improvements in financial inclusion in the country, with the World Bank Findex reporting that the proportion of unbanked population has fallen in the country from almost 60% in 2014 to 32% in 2021, much lower that other countries such as Tanzania and Mozambique, although still catching up with Kenya (at 21%) and South Africa (15%).

Government policy will determine the pace that Ghana can achieve financial inclusion outcomes similar to those of South Africa and Kenya. Thus policy choices including those governing mobile money should seek to accelerate financial inclusion in Ghana. The telecoms sector is committed to working with Ghanaian Authorities to build on these successes to increase internet and mobile money penetration and simultaneously, reduce the unbanked population to less than 10% of the total population – in line with regional leaders on financial inclusion such as Kenya.[5]

5 Kenya's FinAccess Household Survey report : https://finaccess.knbs.or.ke.

FIGURE 4

PROPORTION OF UNBANKED POPULATION



Source: World Bank Findex 2021.

1.3 The benefits of mobile services, mobile money and their economic impact

Mobile is a key driver of economic growth and digital transformation of governments and has the potential to drive economic recovery in Ghana. Established evidence shows that a 10% increase in mobile broadband penetration leads to a 2.5% increase in GDP,[6] and the annual GDP per capita growth rate is one percentage point higher following successful mobile money adoption.[7] Furthermore, digitalising government payments could save about 0.8% to 1.1% of GDP each year, by widening the tax base by driving efficiency in government payments.[8]

Mobile money drives development of the financial sector through financial inclusion, reduction of cash holdings and increasing the money multiplier; deepening financial access through complementary services to retail banking, international money transfers, digital credit and insurance.

Moreover, evidence shows that where access to mobile money grows, the numbers of households living in poverty drops, driven primarily by female-headed households where women's occupations moved from subsistence farming to business and retail occupations and a boost in savings.[9]

6 ITU. How broadband, digitization and ICT regulation impact the global economy: Global econometric modelling. November 2020.

7 https://www.vodafone.com/sites/default/files/2022-10/digital-finance-platforms-to-empower-all.pdf. See also : I. Mbiti and D. N. Neil, Mobile Banking: The Impact of M-Pesa in Kenya, 2014; World Bank, Information and Communications for Development 2012: Maximizing Mobile, Chapter 4 ; J. Aron, Mobile Money and the Economy: A Review of the Evidence, 2016.

8 Edquist et al. (2018).

9 https://www.poverty-action.org/study/long-term-effects-access-mobile-money-kenya.

1.4 Ghana's mobile market performance and the digital agenda

Despite progress, Ghana lags behind several neighbouring countries in the performance of the mobile market. The GSMA Mobile Connectivity Index measures countries' performance on various connectivity indicators from infrastructure to consumer readiness, and while Ghana ranks above regional averages, it is underperforming with respect to regional digital leaders such as South Africa.

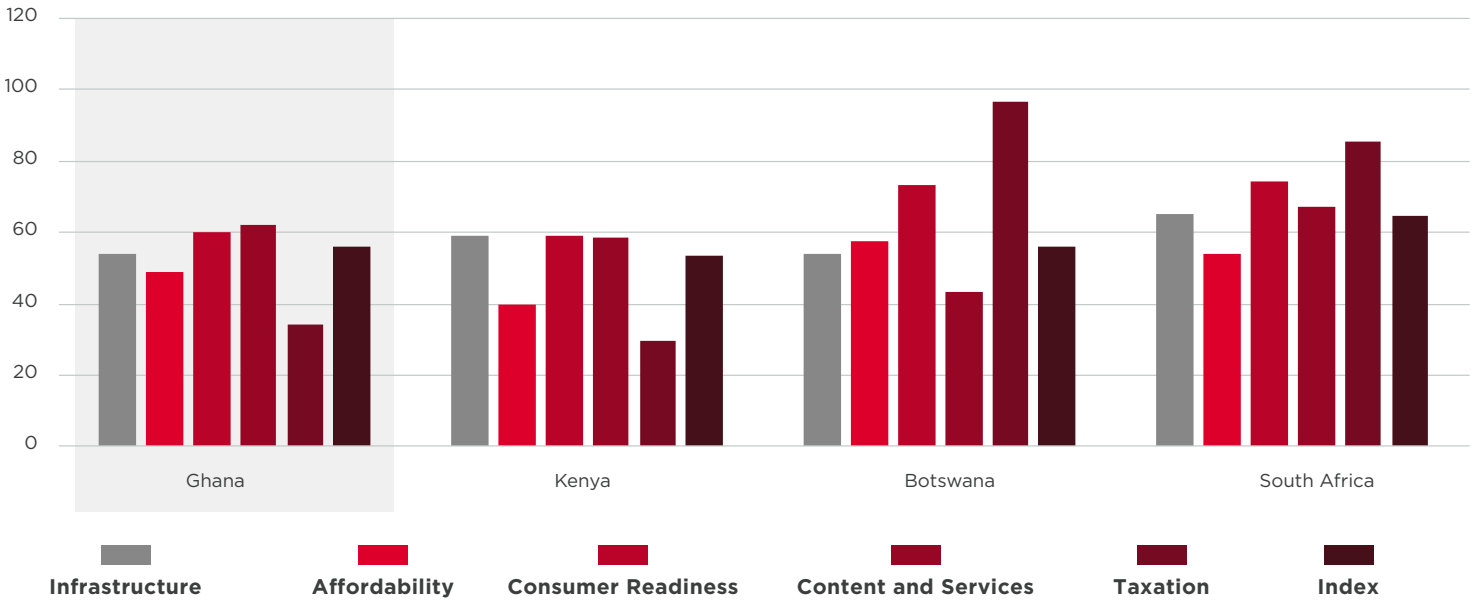
Recognising the strategic importance of the sector, the Government established a digital strategy, launched as part of 'Ghana Beyond Aid' in 2019, to position Ghana as the leader in ICT innovation in Sub-Saharan Africa through fostering the development of the ICT sector, reducing the digital divide and digitalising government services.[10] Moreover, the Government's Digital Financial Services policy seeks to increase financial inclusion through and ensure all Ghanaians have access to a large and broad range of quality and affordable digital financial services.[11]

10 GoG (2019) Ghana Beyond Aid: Charter and Strategy Document, Government of Ghana.

11 https://mofep.gov.gh/sites/default/files/acts/Ghana_DFS_Policy.pdf

FIGURE 5

GHANA ENABLER SCORES COMPARED TO TOP 5 SSA COUNTRIES ON GSMA MCI

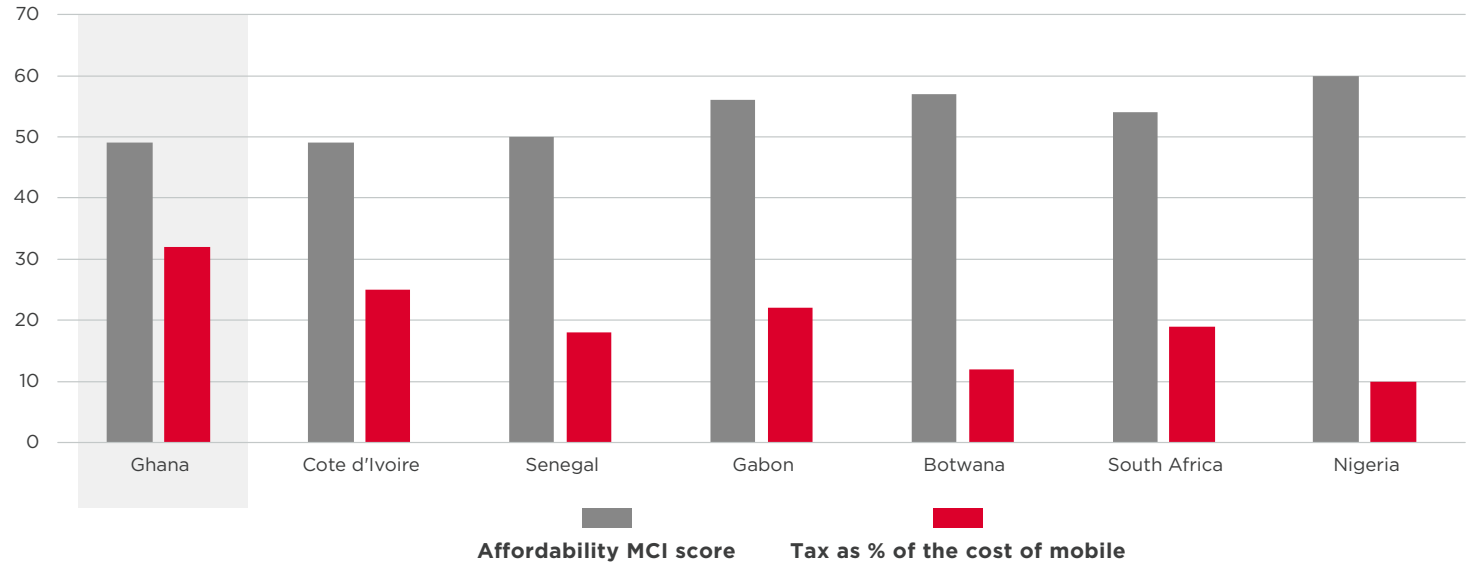


Source: GSMA Mobile Connectivity Index 2022.

A more enabling policy and regulatory environment could support the closing of the usage gap in Ghana, where mobile operators have already invested in network coverage throughout the country. For example, ccomparing affordability of mobile services and tax policies across neighbouring countries, there is evidence that Ghana's low score could be due to the tax regime and the corresponding low affordability of mobile and mobile money services. In the graph below, Ghana scores lowest on the affordability score, and has the highest proportion of tax as a percentage of the cost of an entry-level handset and a 1GB data package.

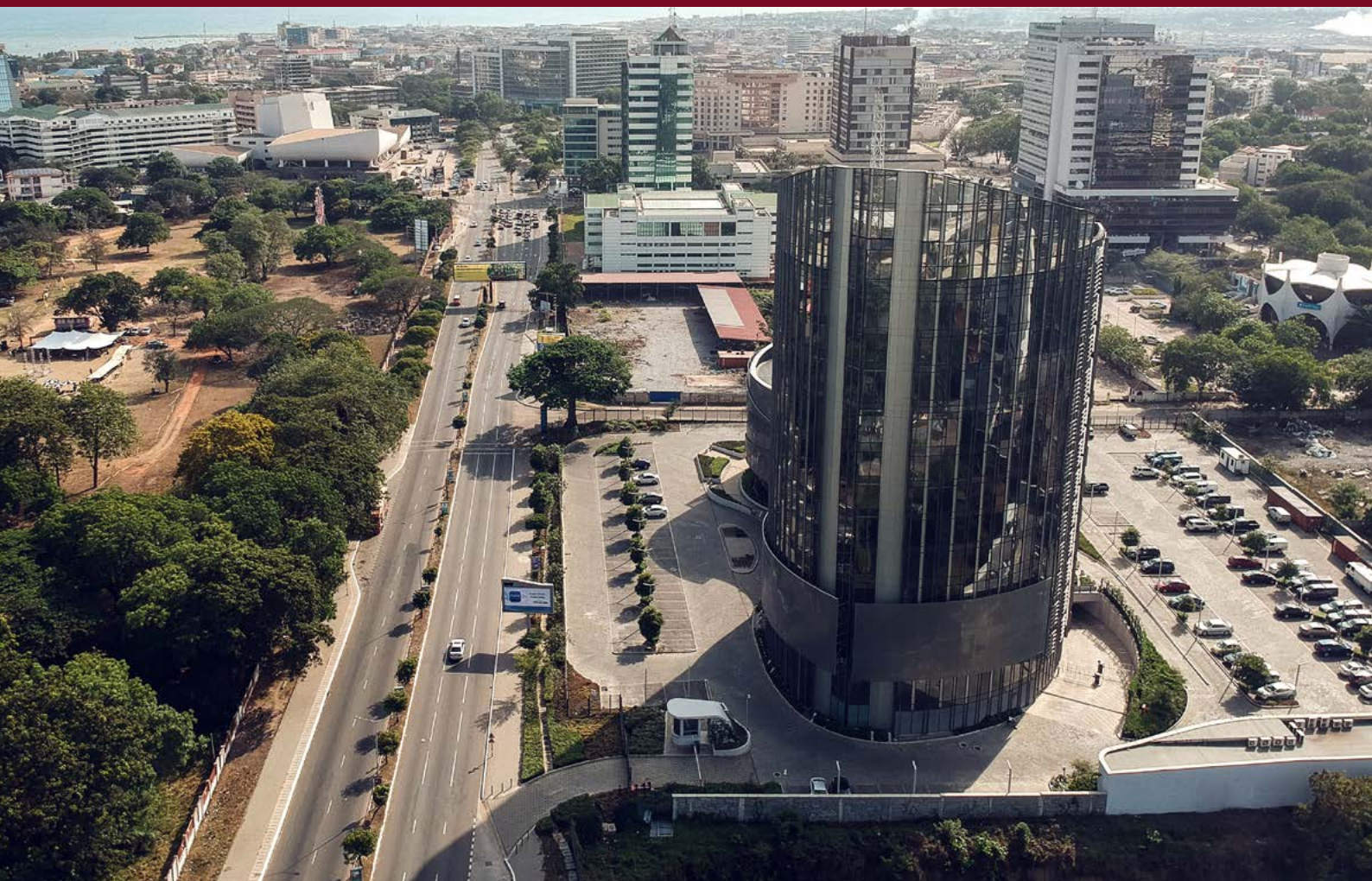
FIGURE 6

TAX POLICY AND PERFORMANCE ON THE GSMA MOBILE CONNECTIVITY INDEX



Source: GSMA Mobile Connectivity Index and GSMA Tax Database.

2. Mobile taxation and the mobile economy in Ghana



2.1 Macro-economic and development overview

Ghana is a lower middle income country, according to the World Bank income classification.[12] It is projected to growtat 2.8% of GDP in 2023 – an estimate that has been revised downward given the global economic headwinds as well as domestic issues affecting macro-economic stability.[13] After several years of sustained growth, helped by a strong mineral and mining sector, and relative low inflation, Ghana has faced challenges during the Covid crisis and has experience rampant inflation in the double-digits in the past year, leading to tightening of monetary policy. Moreover, the country is facing fiscal pressures given worsened debt dynamics, and the need for a fiscal adjustment program to restore debt sustainability in the country.[14]

TABLE 1

GHANA'S DEVELOPMENT INDICATORS

Total population (million)*	**32.1**
Proportion of adults 15+ (%)	**62.7**
Rural population (%)	**42.0**
GDP growth (%)*	**3.6**
GNI per capita, Atlas method (current US$)	**2,280**
GDP per capita (current US$)	**2,369**
Financial inclusion	**68.2**
Net bilateral aid flows from DAC donors, total (current US$)	**672,169,996**

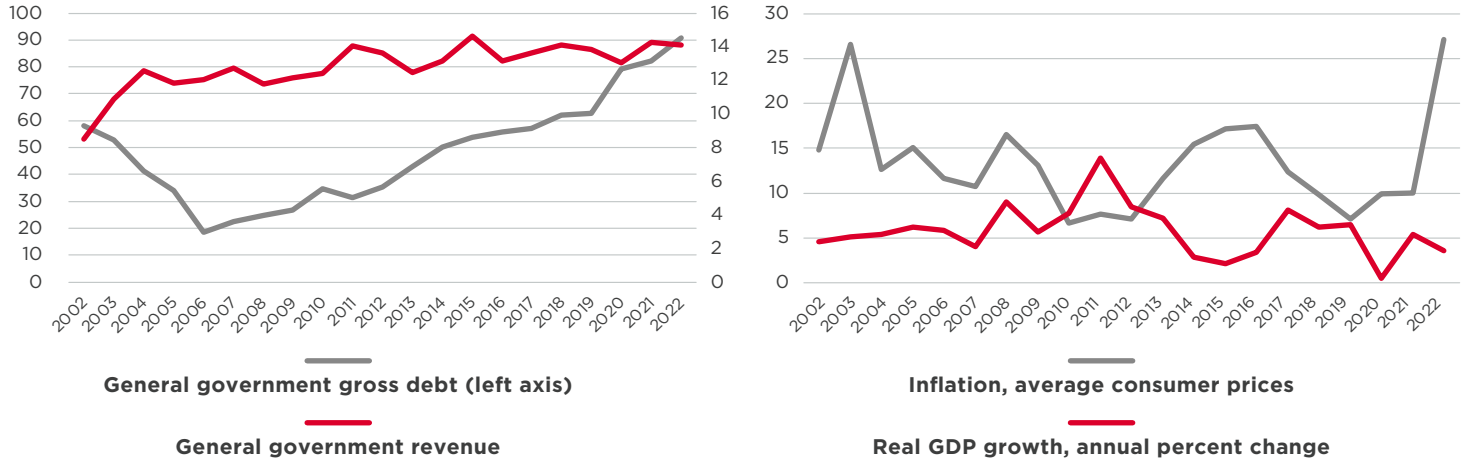
Source: IMF World Economic Outlook 2023, World Development Indicators 2021. Data for 2021. Data for 2022 indicated by *.
Financial inclusion is measured by Account ownership at a financial institution or with a mobile-money-service provider (% of population ages 15+).

As a result of the macroeconomic crisis, the Government of Ghana recently reached an agreement with the IMF on an economic reform program that will be supported under a $3 billion extended credit facility, with the goal to reestablish macroeconomic stability, debt sustainability, and create the foundations for higher and inclusive growth over the medium-term.[15]

12 https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2022-2023.
13 IMF, World Economic Outlook, Jan 2023.
14 https://documents.worldbank.org/en/publication/documents-reports/documentdetail/395721560318628665/fourth-ghana-economic-update-enhancing-financial-inclusion-africa-region
15 https://www.imf.org/en/Countries/GHA#countrydata

FIGURE 7

EVOLUTION OF GOVERNMENT REVENUE, DEBT, GDP AND INFLATION IN GHANA



Source: IMF World Economic Outlook 2023.

2.2 The contribution of mobile to Ghana's economy and tax revenues

The macroeconomic context and pressures on domestic revenue mobilisation, have increased urgency to find alternative tax revenue.[16] The high level of formalisation of the mobile sector and the fact that raising indirect taxes on mobile services is convenient and easy to administer, means that mobile consumers and operators in Ghana are subject to a substantial tax burden, increasingly driven by sector-specific taxes and fees, and that the sector's contribution to government tax revenue is high and greater than its relative size in the economy.

Information and Communication services account for 4.3% for the distribution of GDP in Ghana. In comparison mining accounts for 14.2% and agriculture overall for 22.1%.[17] In addition to its contribution to GDP, mobile contributed 6,100 direct jobs and over 1.2 million indirect jobs and the sector's investment in the country amounted to almost 2 billion GHS in capital expenditure. However, mobile's total tax contribution amounted to GHS 4.3 billion, or 7.7% of government revenues.[18]

Various taxes and fees apply to the mobile sector in Ghana, including several sector-specific ones listed in table below. While the National Fiscal Stabilisation Levy is not labelled as sector-specific, it only applies to selected sectors.[19]

16 ATAF's ATO 2021.

17 Ghana Statistical Services. www.statsghana.gov.gh

18 Ghana Telecoms Chamber, Total tax contribution report, 2022. See also: GSMA, Digital Inclusion and Mobile Sector Taxation in Ghana, 2015.

19 The National Fiscal Stabilisation Levy is applied to selected sectors, including telecoms, banking, mining, insurance and shipping and the Government has proposed to extend it to further sectors in 2023.

TABLE 2

TAXES APPLIED ON THE MOBILE SECTOR IN GHANA

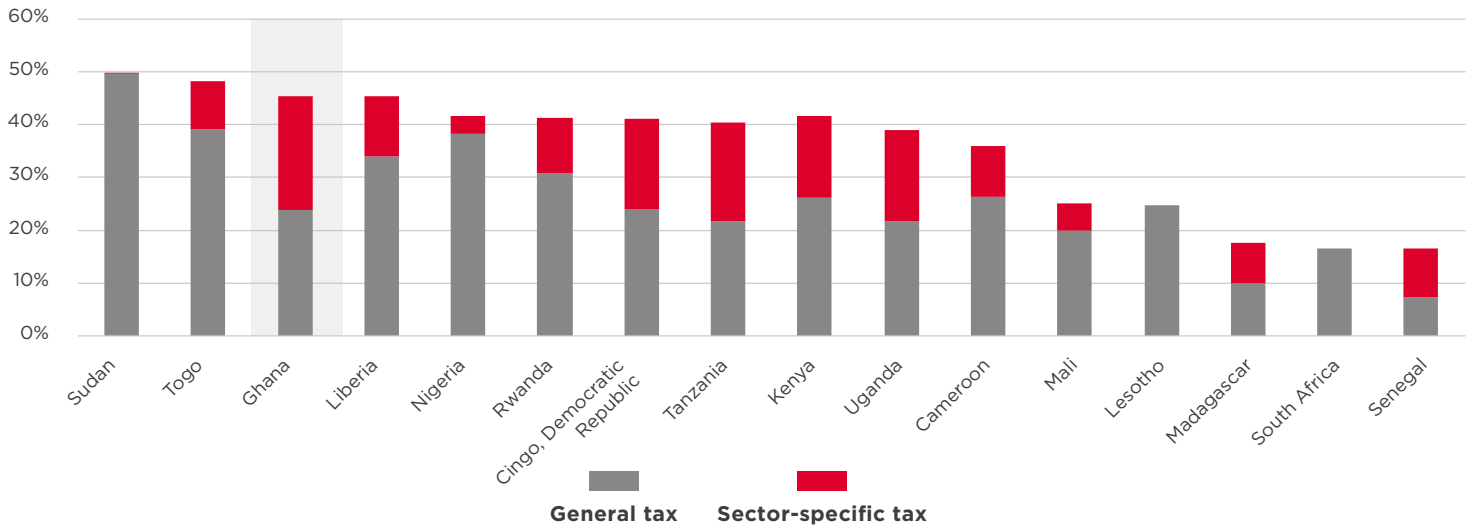
Tax name	Tax type	Tax base	Tax rate
Pay-as-you-earn (PAYE)	Employment tax	Employee salaries	0-30%
SSNIT	Employment tax	Employee salaries	13.5%
1% NCA revenue share *	Regulatory fee	Revenues	1%
Numbering fee *	Regulatory fee	Per phone number	Up to %0.50 per number
GIFEC 1% share *	Regulatory fee	Revenues	1%
NCA 6% cents share *	Regulatory fee	Revenues	0.06%
Microwave frequency *	Regulatory fee	Fixed amount	Per link
VAT	Value added tax	Imported equipment, devices and services	15%
Witholding tax	Witholding tax	Calls, SMS, data, activation and interconnection	3%, 7% , 7.5%
Customs duty	Customs duty	Handsets, SIM cards, network equipment	0-30%
Communication service tax*	Excise	Calls, SMS, data, activation and interconnection	5%
Get FUND levy	Excise	Revenues	2.5%
National health insurance levy	Excise	Revenues	2.5%
COVID levy	Excise	Revenues	1%
E-levy on mobile money*	Excise	Mobile money P2G transaction value and withdrawal value	1%
National fiscal stabilization levy	Rent tax	Profit	2.5%
Corporation tax	Corporation tax	Profit	25%

Source: GSMA and operator data. Sector-specific taxes are indicated by *.

This complex tax system results in an overall tax burden on the mobile sector in Ghana that amounts to almost 46% of total mobile revenues – much higher than regional peers – with 22% of revenues going to sector-specific taxes and fees. This discourages further investment and curtails overall growth of the telecoms sector.

FIGURE 8

TAXES AND FEES AS A PROPORTION OF MARKET REVENUE, SELECTED COUNTRIES IN SSA

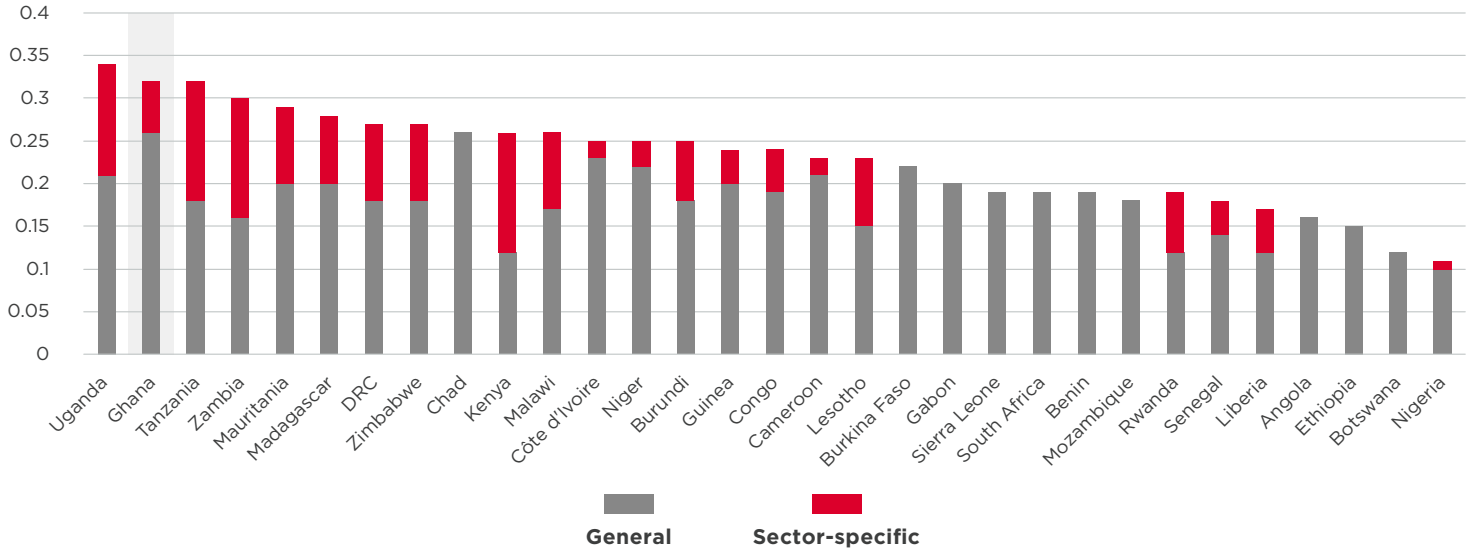


Source: GSMA analysis and mobile operator data. Data for 2021.

The high tax burden on mobile consumers, especially in the form of the Communication Service Tax, means that Ghanian mobile consumers are amongst the higher taxed in SSA, with the cost of tax constituting more than 30% of their mobile expenses.

FIGURE 9

TAX AS A PROPORTION OF THE MONTHLY COST OF AN ENTRY-LEVEL HANDSET AND 1 GB OF DATA BASKET IN SSA

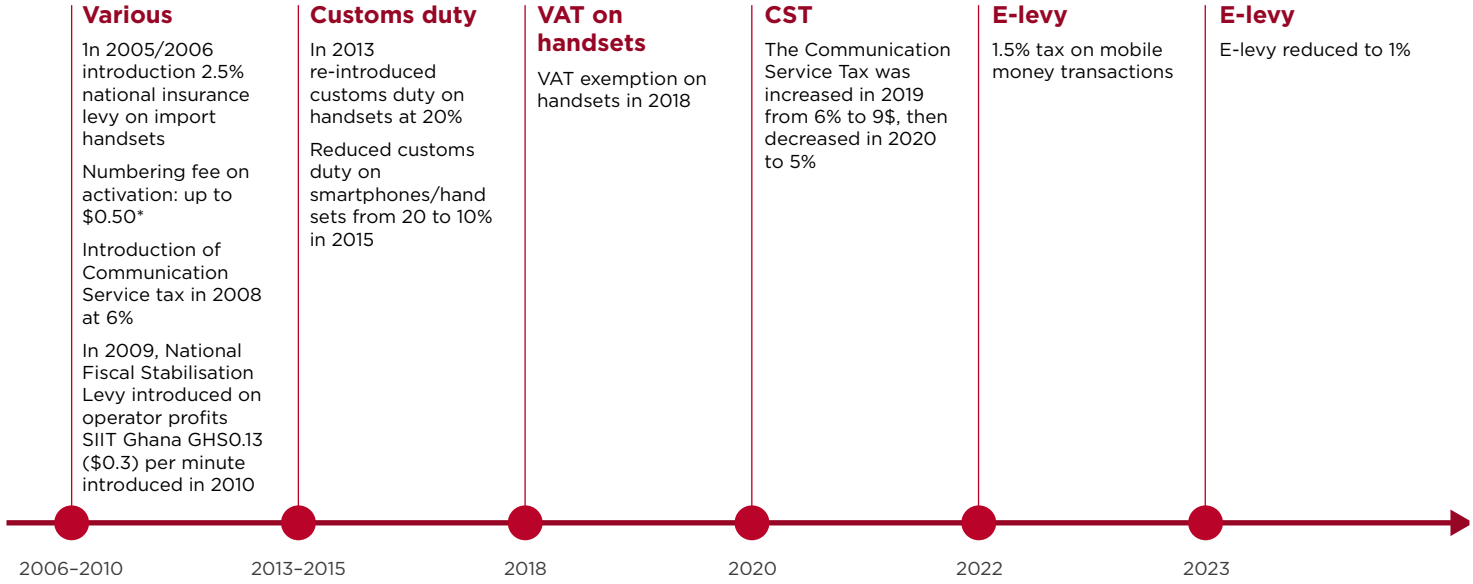


Source: GSMA analysis. Data for 2022.

In addition to the high tax burden, the tax governance environment is volatile for mobile operators in Ghana, with frequent tax changes and tax assessments creating uncertainty for MNOs and undermining the case for further investment. In previous years, a traffic monitoring system was proposed but not implemented[20] and many successive reforms in the tax regime have increased the complexity and volatility of the business environment.

FIGURE 10

TIMELINE OF TAX REFORMS ON MOBILE



Source: GSMA Tax Database.

20 World Bank, Ghana Digital Economy Diagnostics, 2019. And: https://www.ecofinagency.com/telecom/2410-39145-ghana-launches-common-platform-for-telecom-traffic-monitoring.

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3. E-levy impact analysis

3.1 Implementation of the E-levy

The levy was initially proposed by the Minister of Finance in the 2022 Budget Statement and Economic Policy of the Government in November 2021, with the rate of 1.75% of transaction value.[21] The Bill was passed into law in March 2022 at the revised rate of 1.5%.[22]

The E-levy was implemented in May 2022, with a rate of 1.5% on electronic transfers above 100 GHS (approximately 7 USD).[23] The threshold was intended to protect lower-income consumers, however it appears to have had limited impact, as will be shown below, since the exemptions only applies to the cumulative daily value of transactions. Cash-out (withdrawals) are exempt, as well as merchant payments (P2B) and payments to government (P2G) and electronic bank transfers below 20,000 GHS.[24]

In November 2022, the government announced the 2023 Budget which contained the reduction of the headline rate to 1% and the removal of the 100 GHS threshold. The reduction took effect in January 2023, while the removal of the 100 GHS threshold was rejected by Parliament.[25][26]

3.2 Price impact

Mobile money person to person (P2P) transactions were subject to the E-levy at 1.50% of the value. However the cumulative transfer of 100 GHS per day was exempt, meaning that each mobile money account would not pay the levy for the initial amount of 100 GHS for the first transaction of the day.

Before the levy was introduced, AirtelTigo Money & MTN MoMo were charging fees of 1% for most transaction values; with the fee of 0.50 GHS for transactions below 50 GHS and capped at GHS 10 for transactions over GHS 1000. [27] While Vodafone Cash did not have any charge at all for P2P transactions.

When the levy was introduced, the fees charged by Airtel Tigo Money & MTN Mobile money reduced to 0.75% for most transactions. Including the levy rate of 1.50%, this implies an increase in prices of 125% for most transactions.

TABLE 3

BREAKDOWN OF FEES AND E-LEVY RATES BY TRANSACTION, AFTER INTRODUCTION OF THE LEVY

Transaction amount (GHS)	Fee	E-levy
GHS 1- GHS 50	GHS 0.38	
GHS 50 – GHS 100	0.75% of the specific transaction value	
GHS 100 – 1,000	0.75% of the specific transaction value	1.5% of the transaction value after the daily cumulative GHS100 nontaxable threshold
Above GHS 1,000	GHS7.5	GHS1.5% of the transaction value after the daily cumulative GHS100 nontaxable threshold

Source: https://mtn.com.gh/e-levy-faqs/ accessed Jan 2023 and in Nov 2022, applying both off-net and on-net.

21 https://mofep.gov.gh/publications/budget-statements/2022.

22 Electronic Transfer Act 2022.

23 100 GHS were equivalent to approximately 13 USD in May 2022 and 8 USD in Jan 2023; and 200 GHS were respectively 26 and 16 USD. The Ghanaian currency is denoted with GHS or Cedi.

24 https://gra.gov.gh/E-levy-faq/.

25 https://www.ghanaweb.com/GhanaHomePage/business/1-5-E-Levy-reduction-What-it-means-for-Ghanaians-1693826.

26 Ghana Ministry of Finance, 2023 Draft Budget Speech, November 2022.

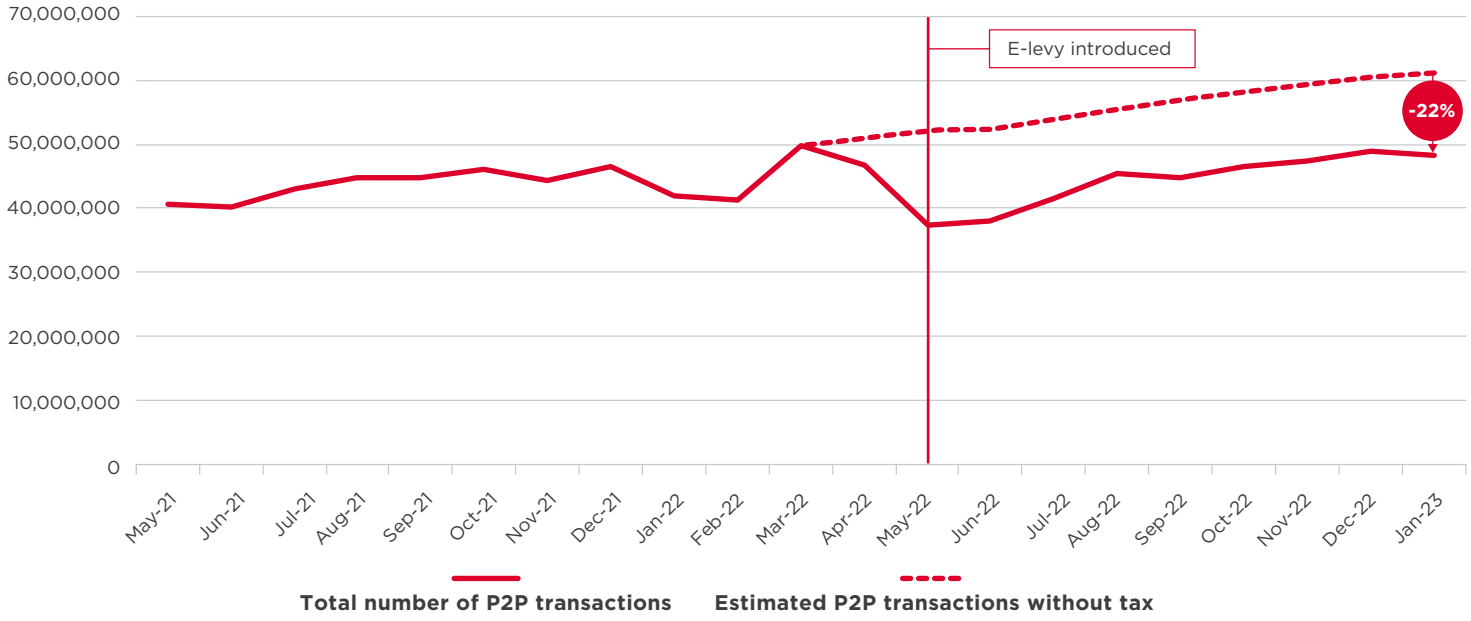
27 From discussions with MTN and from here.

3.1 Implementation of the E-levy

Transaction numbers overall have decreased following introduction of the levy in May 2022. The total number of P2P transactions fell by 25% on average immediately after the implementation on the levy in May, from a peak of almost 50 million transactions in March. The decline started in March 2021, when the introduction of the levy was announced, before being implemented, as consumers changed their behaviour in anticipation of the reform.

FIGURE 11

EVOLUTION OF THE TOTAL NUMBER OF P2P TRANSACTIONS



Source: GSMA analysis of mobile money operator data.

Transactions have since started to recover since August, albeit on a slower growth trajectory, and on average they were 22% less in January 2023 than the estimated volumes had the levy not been introduced. This points to a persistent effect of the levy, and a contraction in access to mobile money services, and therefore reduction in financial inclusion, by over 20%.

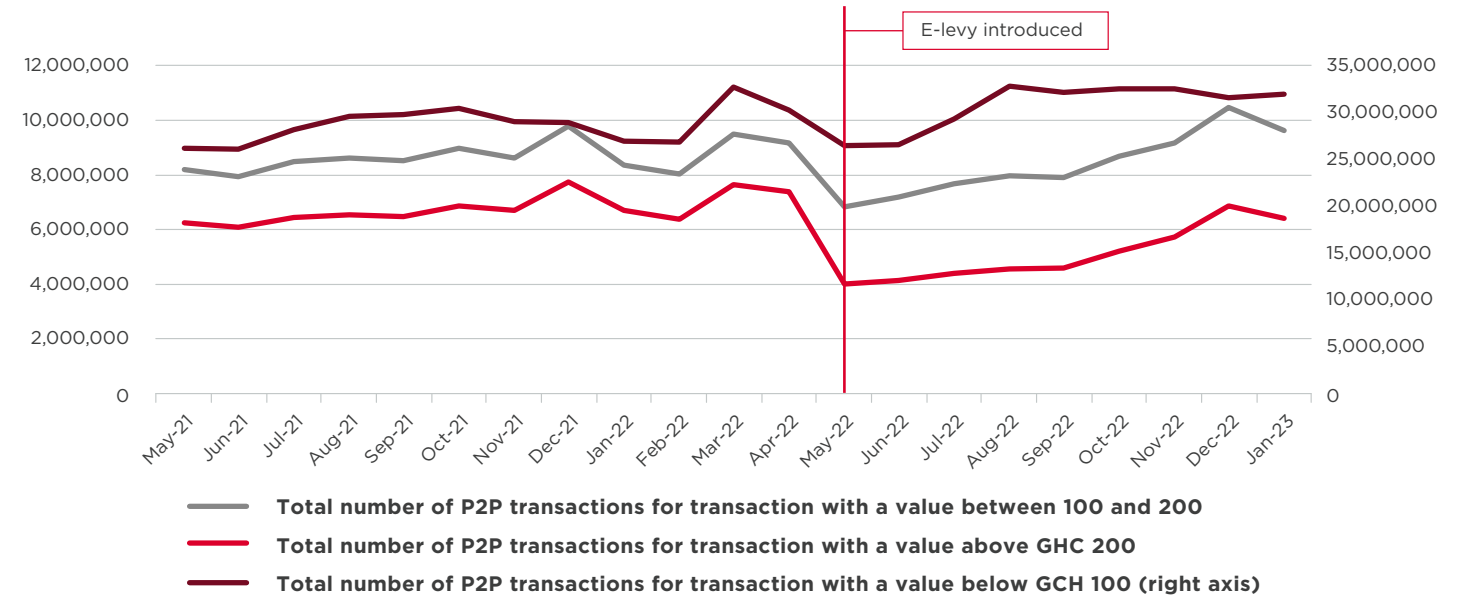
In May 2022, the number of transactions below 100 GHS reduced by 19%, those between 100 and 200 GHS contracted by 28% and the reduction was 48% for transactions above 200 GHS. The total number of transactions has partially rebounded after a few months, however this is mostly driven by the transactions below 100 GHS, due to the application of the threshold. In any case, the initial effect was persistent, with the number of transactions still being lower in January 2023 than in March 2022: 6% lower for transactions below 100 GHS; and 12% and 33% respectively for transactions between 100 and 200 GHS and above 200 GHS.

In more recent months (August to December) the transactions between 100 and 200 have increased more – this might be due to the fact that high inflation meant that in order to send the equivalent of 100 GHS in May 2002, now consumers need to send much more in nominal value. It is also likely that, for all transaction values, the announcement of the reduction of the rate of the E-levy in November will have induced consumers to increase usage.

It should be noted that, while transactions below 100 Cedi have been less impacted due to the exemption threshold, these have also reduced as the threshold applied only to the first transaction of the day. Therefore, the 100 GHS exemption appears to have had some but limited impact on avoiding negative consequences for low-income users.

FIGURE 12

EVOLUTION OF TRANSACTION NUMBER OF P2P TRANSACTIONS, BY VALUE

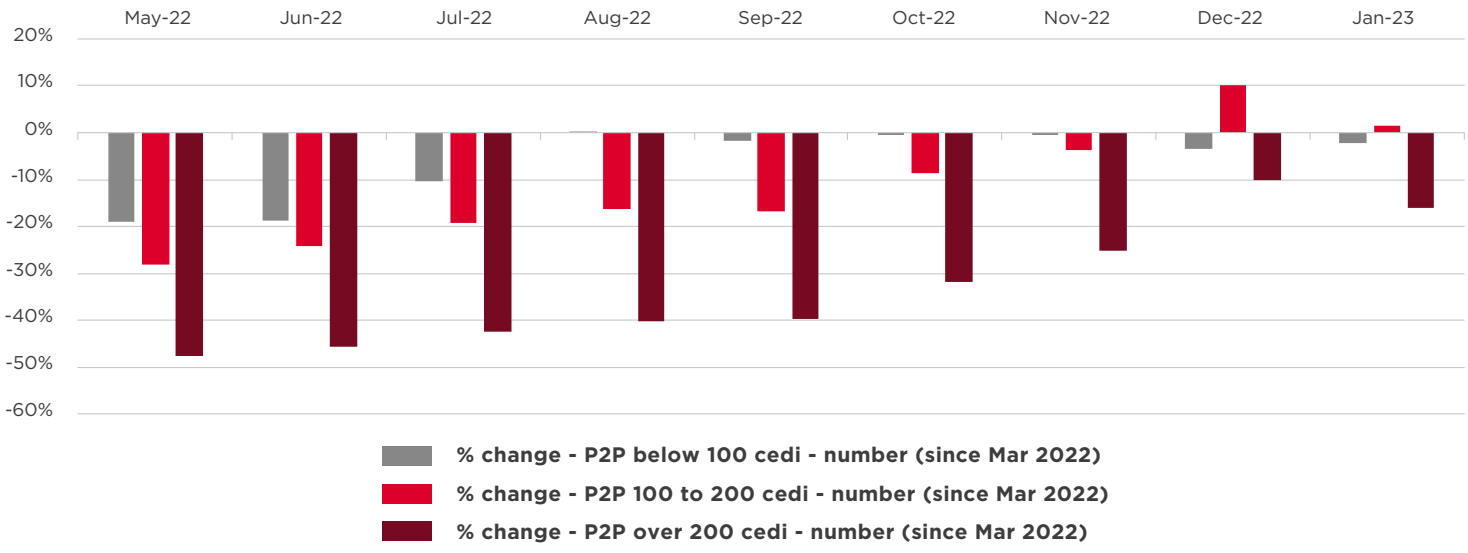


Source: GSMA analysis of mobile money operator data.

Moreover, initially transactions below the threshold reduced, as consumers reduced the total number of low value transactions per day. But after a few weeks, these transactions may have recovered as a consequence of consumers moving money through an agent (as agent transactions are exempt) and then cashing out in order to avoid the levy.

FIGURE 13

NUMBER OF P2P TRANSACTIONS, % CHANGE

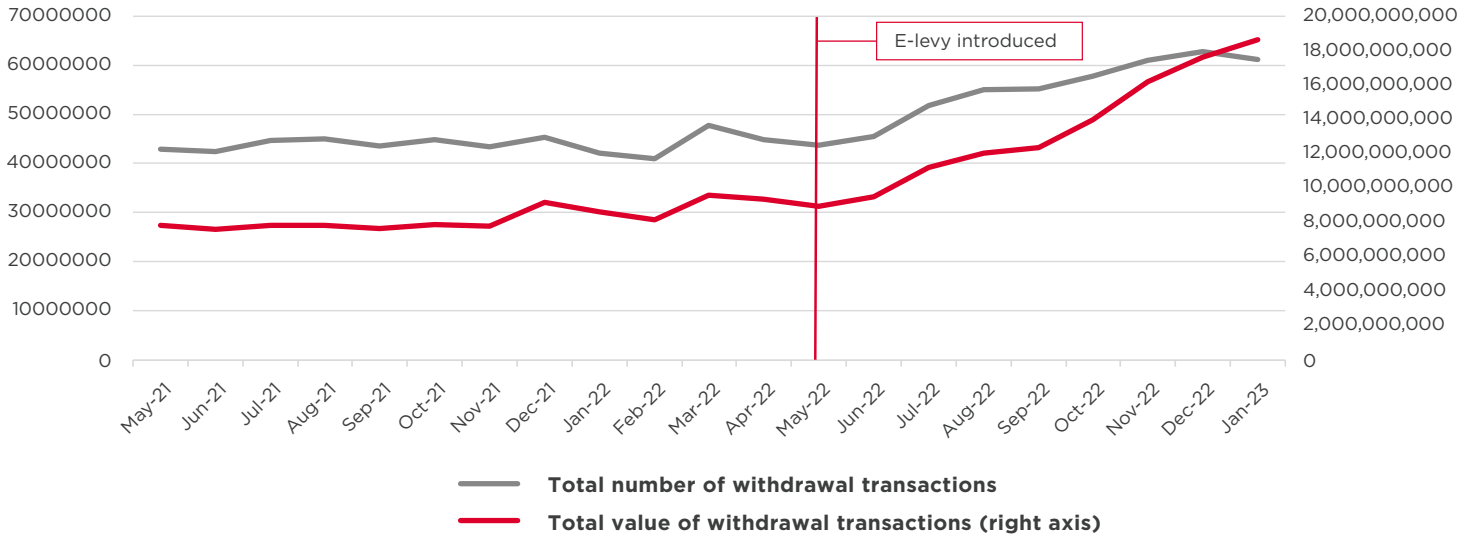


Source: GSMA analysis of mobile money operator data.

This apparent move to cash transactions is substantiated by analysis of cash-out transactions and average value of P2P transactions, as withdrawals values and numbers have gone up since May 2022. This could signal a return to cash triggered by the introduction of the E-levy. It also reflects that consumers have by-passed P2P transactions by using the agent network instead, and then cashing out in order to avoid the levy.

FIGURE 14

EVOLUTION OF NUMBER AND VALUE OF CASH-OUT TRANSACTIONS

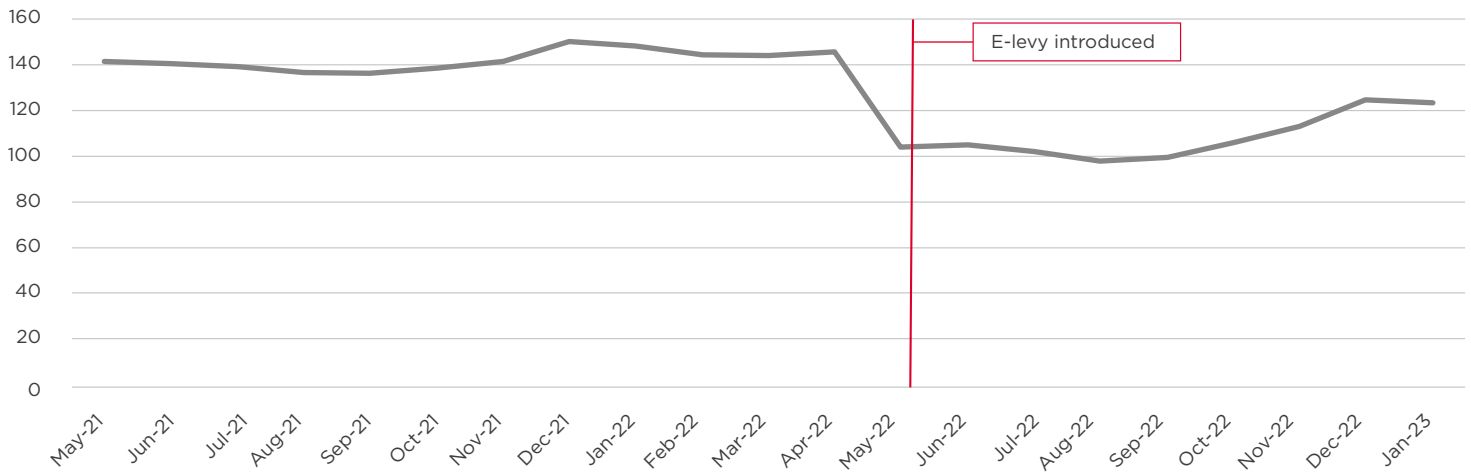


Source: GSMA analysis of mobile money operator data.

Cash out transactions have increased both in value and in volumes following the introduction of the levy, with an increase year-on-year of 25% in volumes and 61% in value on average between May 2022 and January 2023. At the same time, average value per P2P transaction has decreased and remained low, showing that consumers have moved to lower value transactions. This results from the steepest decrease in higher value transactions. The decrease in value has been of 14% for P2P transactions overall, while cash-out transactions have experience an increase of 51% in value since the introduction of the levy.

FIGURE 15

AVERAGE VALUE OF P2P TRANSACTION



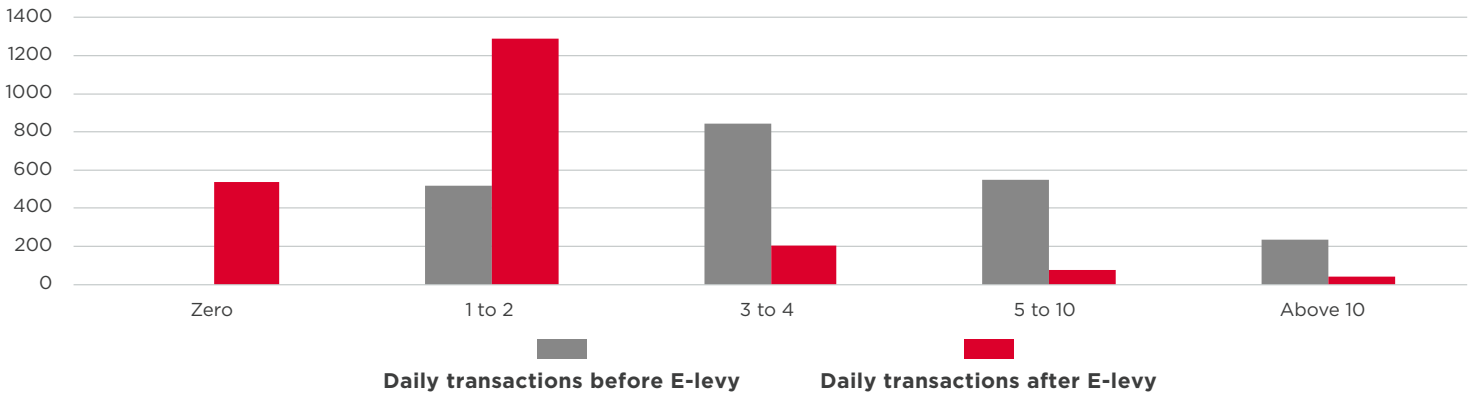
Source: GSMA analysis of mobile money operator data.

Similarly, analysis from the E-levy Research Committee – a multi-stakeholder group of industry and public sector advising the Ghana Revenue Authority – shows that consumers have greatly reduced the number of transactions per day and, as a result of the tax, many are choosing not to transact at all through mobile money. Overall, their survey found that consumers reported fewer transactions, except for an increase in single daily transactions and agent transactions due to the threshold[28] - this is consistent with the data on effective transactions outlined above.

FIGURE 16

CONSUMER REPORTED TRANSACTIONS, BEFORE AND AFTER E-LEVY INTRODUCTION

	Zero	1 to 2	3 to 4	5 to 10	Above 10
Daily transactions before E-levy		516	843	550	233
Daily transactions after E-levy	536	1288	204	78	40
% difference		150%	-76%	-86%	-83%



Source: Consumer survey of the E-levy Research Committee.

28 Ghana E-levy Research Committee report, November 2022.

3.4 Impact on mobile money revenues

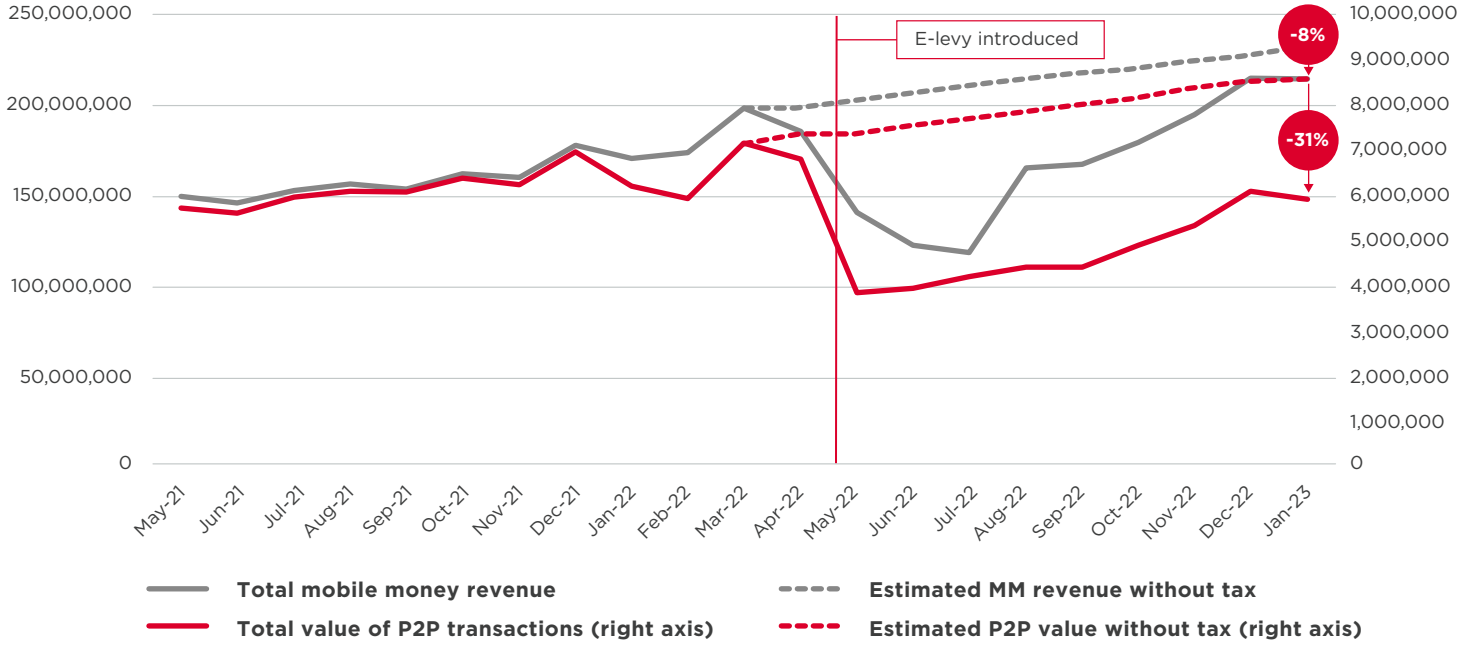
Mobile money revenues and transactions values have decreased following the levy, and are slowly recovering but on a much lower growth trajectory – pointing to a persistent negative impact of the levy on the market.

Transaction values for P2P overall have contracted by 35% year-on-year in May 2022 and in January 2023 they were 31% lower that they would have been without the tax. Mobile money revenues have followed a similar path, with a reduction of 30% to 44% from May to July 2022, and a persistent contraction of 8% at the end of January 2023.

As for transaction volumes, it is likely that the announcement of the reduction of the rate of the E-levy in November will have induced a more positive sentiment amongst consumers and therefore implied a temporary increase in revenues and transaction values – the figures are in fact reducing again in January.

FIGURE 17

EVOLUTION OF MOBILE MONEY REVENUES AND P2P TRANSACTION VALUES



Source: GSMA analysis of mobile money operator data.

3.5 Impact on tax revenues

As a result of the behavioural response from consumers, the government's planned tax in-take was much lower than expected. According to the E-levy Research Committee, revenues from the levy from May to September were 328 million GHS, against a target of 362 million GHS. The initial annual target was 6.9 billion GHS in the 2022 budget but this was amended to 611 million in the mid-year budget.[29] Research by the Center for Economics Finance and Inequality Studies (CEIS) has indicated that if the rate of the Electronic Transaction Levy (e-levy) had been revised to 0.5%, the expected revenue for this year will have been a little above 2.64 billion GHS.[30]

Other countries have experienced similar issues when trying to tax mobile money services. GSMA analysed the impacts of levy on mobile money services introduced in Tanzania in 2021. It showed that demand and revenues greatly reduced, as well as the expected tax revenue for government. As a result, the government reduced the tax in 2022.[31] As the case in Tanzania, the government of Ghana did not anticipate that implementation of the levy would find strong resistance to the tax from consumers, in the form of much public outcry and high elasticity of demand of mobile money services to price, resulting in reduced usage and therefore in lower expected revenues for the government.

Moreover, the estimated revenue for the government would need to take into account, not only the direct revenue from the levy, but also the loss resulting from lower taxes collected on mobile money revenues, plus the loss in GDP growth resulting from foregoing the indirect benefits of access to mobile money. The table below presents an estimation of these impacts and shows that the net tax revenue for the government would be negative when these other impacts are taken into account – by almost 1.4 billion GHS per year.

TABLE 4

ESTIMATED NET ECONOMIC IMPACT ON GOVERNMENT'S TAX REVENUES

Yearly E-levy tax payments	680 million GHS	**+ Revenue to government today**
Reduction in mobile money revenues compared to pre-tax levels	- 24%	
Yearly reduction in tax payments from mobile money	280 million GHS	**- Revenue loss to government today**
Persistent reduction in P2P transactions due to levy	-21%	
GDP impact coefficient	- 2.11%	
Yearly GDP impact	- 12 billion GHS	
Yearly tax revenue loss	- 1.8 billion GHS	**- Yearly loss in general tax revenue**
Net yearly tax revenue / loss from the levy	- 1.4 billion GHS	**= Net impact on government revenue**

Source: GSMA analysis. Impacts calculated for 2022. The figures refer to tax revenues from mobile money business only. It is assumed that 10% increase in mobile money transactions results in 1% growth in GDP.[32]

29 E-levy Research Committee report, November 2022.

30 https://www.myjoyonline.com/e-levy-at-0-5-would-have-raked-in-%c2%a22-64bn-revenue-in-2022-many-transactions-avoiding-levy-report/

31 GSMA, Tanzania Mobile Money Levy Impact Analysis, 2022.

32 Vodafone and UNDP, Digital Finance Platforms to Empower All, 2022.

3.6 Demand analysis

Increases or decreases in the price paid by mobile money consumers, i.e. the fee charged by the mobile money service, impact the quantities that they choose to consume and therefore it is important to understand how different pricing structures impact consumer behaviours.[33] As discussed above, these behavioural impacts also affect the tax base and therefore the revenue that government can expect to receive from a levy on mobile money services.

Analysis of the demand patterns observed since the introduction of the levy based on the data on volumes and prices presented above, allows to calculate the extent to which demand of mobile money services (i.e. volumes) responds to changes in the prices – that is, the elasticity of demand of mobile money services. A value of demand elasticity greater that 1 (in absolute terms) indicates that in response to a 1% increase in prices, volumes will decrease by more than 1% - therefore that demand is elastic.

Without previous evidence, policy makers might have been convinced that demand for mobile money would be inelastic, especially in countries where access to traditional financial services is constrained, and therefore increases in prices due to new or higher taxes would not result in significant reductions in demand – such as it is the case for taxes on tobacco for example. Thus, the introduction of a tax that raises prices would results in higher revenues without compromising access to mobile money or market development.

Our previous analysis in Tanzania[34] and the current results from the E-levy in Ghana, show in fact that demand for mobile money is highly elastic and the results are persistent. The table below shows the absolute values of the elasticity of demand for different type of transactions over various time periods following the introduction of the E-levy. Transactions below 100 GHS exhibit absolute values lower that 1, as expected given the exemptions, therefore they bring down the estimate of the total value (last line).

TABLE 5

CALCULATED ELASTICITIES OF DEMAND BY TYPE OF TRANSACTION

	6 months average	8 months average	9 months average
Transactions above 100 GHS	- 1.46	- 1.14	-1.08
Transactions above 200 GHS	- 2.35	- 1.87	-1.55
Total transactions (including exempted transactions below 100 GHS)	- 0.54	- 0.41	-0.37

Source: GSMA analysis of mobile money operator data. Calculated on various time periods from May 2022 to January 2023.

33 https://www.poverty-action.org/blog/tracking-real-cost-mobile-transactions-ipas-new-two-year-pilot; https://www.cgap.org/blog/secret-life-mobile-money-pricing.

34 GSMA, Tanzania Mobile Money Levy Impact Analysis, 2022.

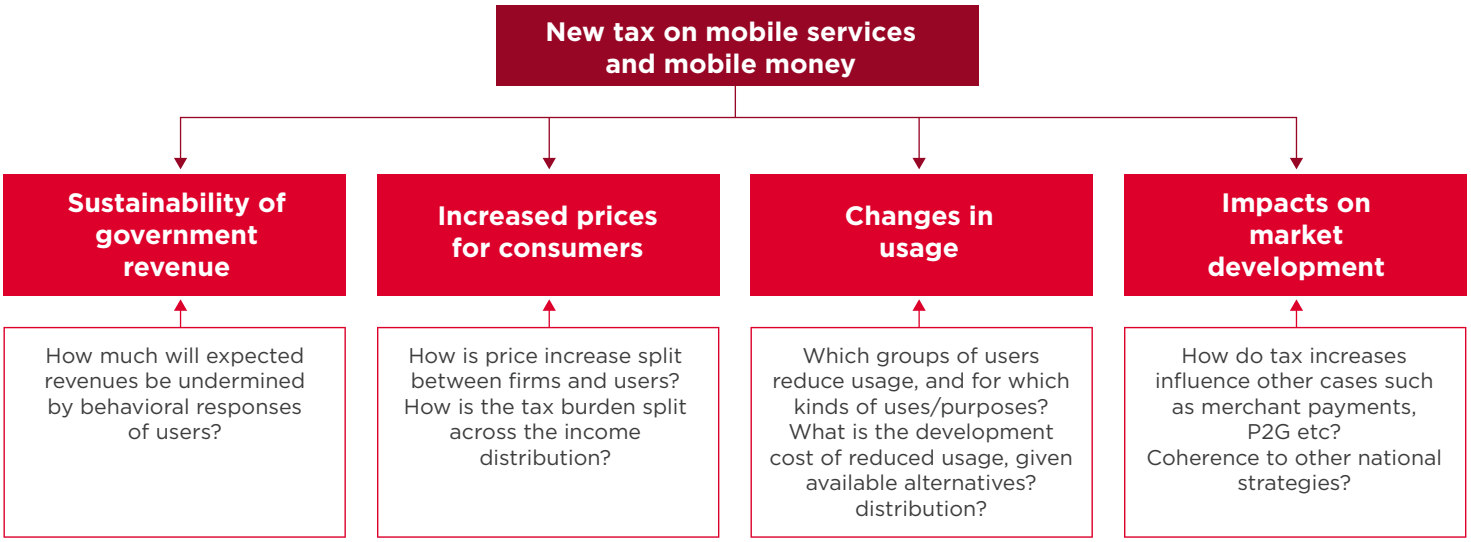
4. Conclusions and recommendations

The above analysis demonstrates that the E-levy risks rolling back the gains achieved in financial inclusion in Ghana and cause a move back to cash. As a results of the levy, transaction charges have increased and consumers have shown to be highly sensitive to this price change, reducing their access and use of mobile money services. Contraction in the mobile money market may mean that government revenues are also negatively affected.

This highlights the importance of assessing the potential impacts of policy reforms on mobile services, including specific considerations of the characteristics of the mobile money market and demand.

FIGURE 18

CONSIDERATIONS OF POTENTIAL IMPACTS OF FISCAL POLICIES ON MOBILE MONEY:



Source: GSMA.

We recognise that historical difficulties in raising domestic revenues, coupled with the current macro-economic instability and the debt restructuring program negotiated with the IMF require significant efforts from the Government. In consultation with the industry, we have identified the below recommendations that the Government of Ghana could consider in order to balance fiscal policy and digital development objectives, while promoting fair and effective domestic revenue mobilisation, in line with best principles of taxation:[35]

1. **Policies must be balanced with the long-term health of the telecoms and digital sectors in Ghana and its development and potential for contributing to economic growth**
2. **Reduce sector-specific taxation and minimise tax-induced barriers to the affordability of mobile and mobile services, therefore broadening the tax base in order to improve efficiency, achieve higher revenues in the medium term and encourage the formalisation of the economy**
3. **Rationalise taxes on the mobile sector to account for positive externalities of the sector**
4. **Remove or reduce the E-levy on mobile money to foster financial inclusion and economic growth**
5. **Include a cap on E-levy payments of 2,000 GHS**
6. **Ensure predictability and certainty of tax policy to increase certainty and make the tax system more conducive to investment in the mobile sector**

35 OECD (2014), "Fundamental principles of taxation", in Addressing the Tax Challenges of the Digital Economy, OECD Publishing, Paris. IMF WEO 2022 and IMF (2011) Revenue Mobilization in Developing Countries and Tanzi, V. and Zee, H. (2001) Tax Policy for Developing Countries. IMF. Course on Practical Issues of Tax Policy in Developing Countries, World Bank, April 28-May 1, 2003; OECD, Tax and Economic Growth, 2008

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