

Mobile money

How digital payments
have impacted
economic growth





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.

We invite you to find out more at [gsma.com](https://www.gsma.com)

Follow the GSMA on Twitter/X: [@GSMA](https://twitter.com/GSMA)

GSMA Mobile Money

The GSMA Mobile Money programme works to accelerate the development of the mobile money ecosystem for the underserved.

For more information, please contact us:

www.gsma.com/mobilemoney

mobilemoney@gsma.com

[@GSMAMobileMoney](https://twitter.com/GSMAMobileMoney)

*BILL & MELINDA
GATES foundation*

The Mobile Money programme is supported by the Bill & Melinda Gates Foundation.

Authors

Gianluca Storchi
Kalvin Bahia
Harry Fernando Aquije Ballon
Pau Castells
Rishi Raithatha

Published October 2023

© 2023 - GSMA.



Contents

Introduction:	
Searching for mobile money's impact beyond financial inclusion	5
Evidence for mobile money's positive impact on GDP	8
Quantifying the macroeconomic impact of mobile money	11
Conclusion:	
How policy can drive mobile money adoption and economic growth	15
Appendix	18

Figure list

Figure 1	Registered mobile money accounts by region, 2013–2022 Number of registered accounts (millions)	6
Figure 2	The potential impact of mobile money on socio-economic outcomes	7
Figure 3	Simulated impact of mobile money on GDP in mobile money countries, 2013–2022	12
Figure 4	Simulated impact of mobile money adoption, ecosystem transactions and higher transaction values on GDP in mobile money countries, 2022	13
Figure 5	Simulated contribution of mobile money to GDP, in absolute and percentage terms, at the end of 2022 by region	15

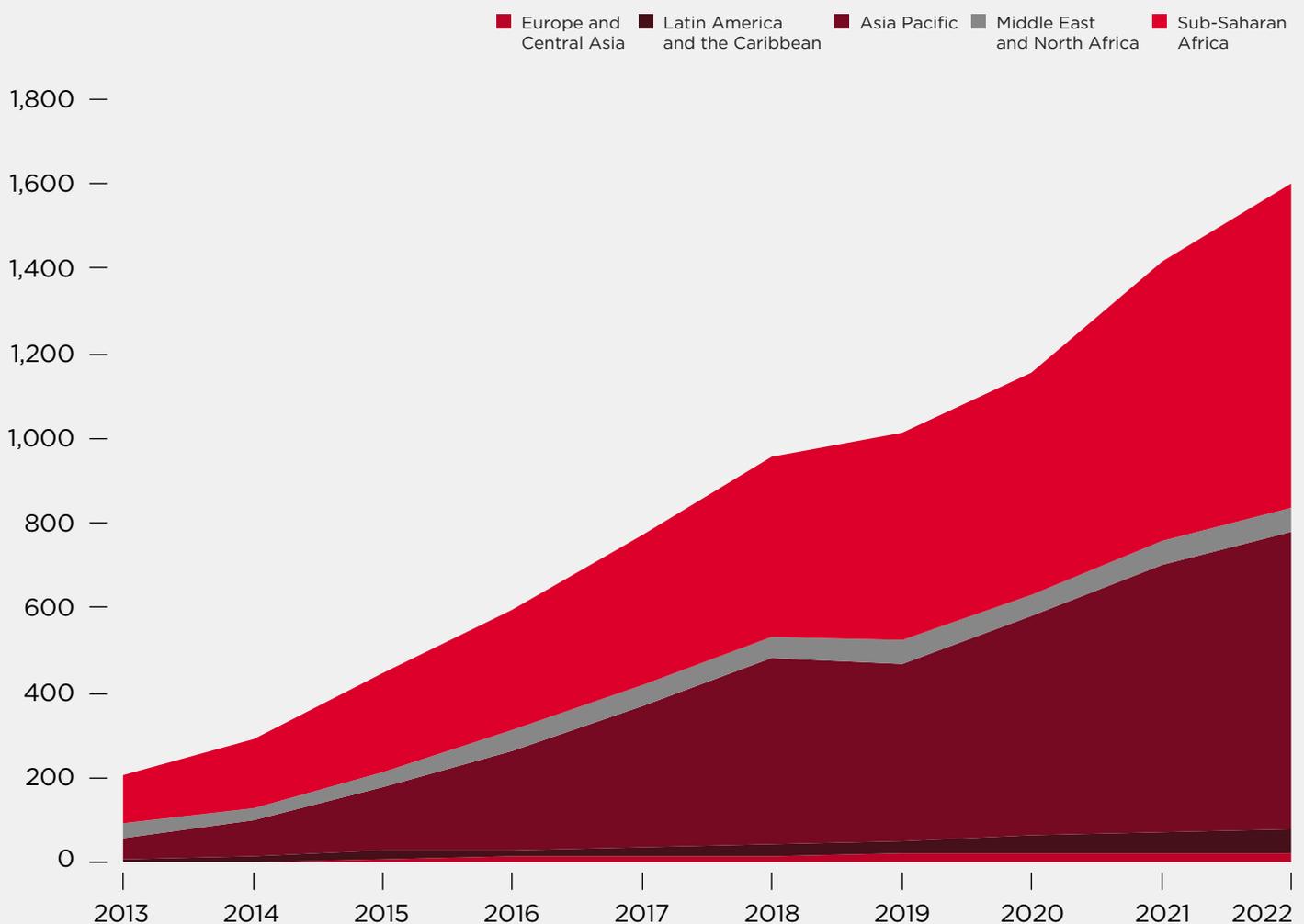
Introduction: Searching for mobile money's impact beyond financial inclusion



Over the past decade, mobile money has become a mainstream financial service across many low- and middle-income countries (LMICs).

Between 2013 and 2022, the number of registered mobile money accounts increased from 200 million to 1.6 billion (Figure 1). The COVID-19 pandemic led to an increase in mobile money adoption, as people switched from cash to digital payments. In addition, consumers now use a broader and more sophisticated range of mobile money products, including international remittances, merchant payments and bulk disbursements.

Figure 1
Registered mobile money
accounts by region, 2013–2022
Number of registered accounts (millions)



Source: GSMA Mobile Money Global Adoption Survey

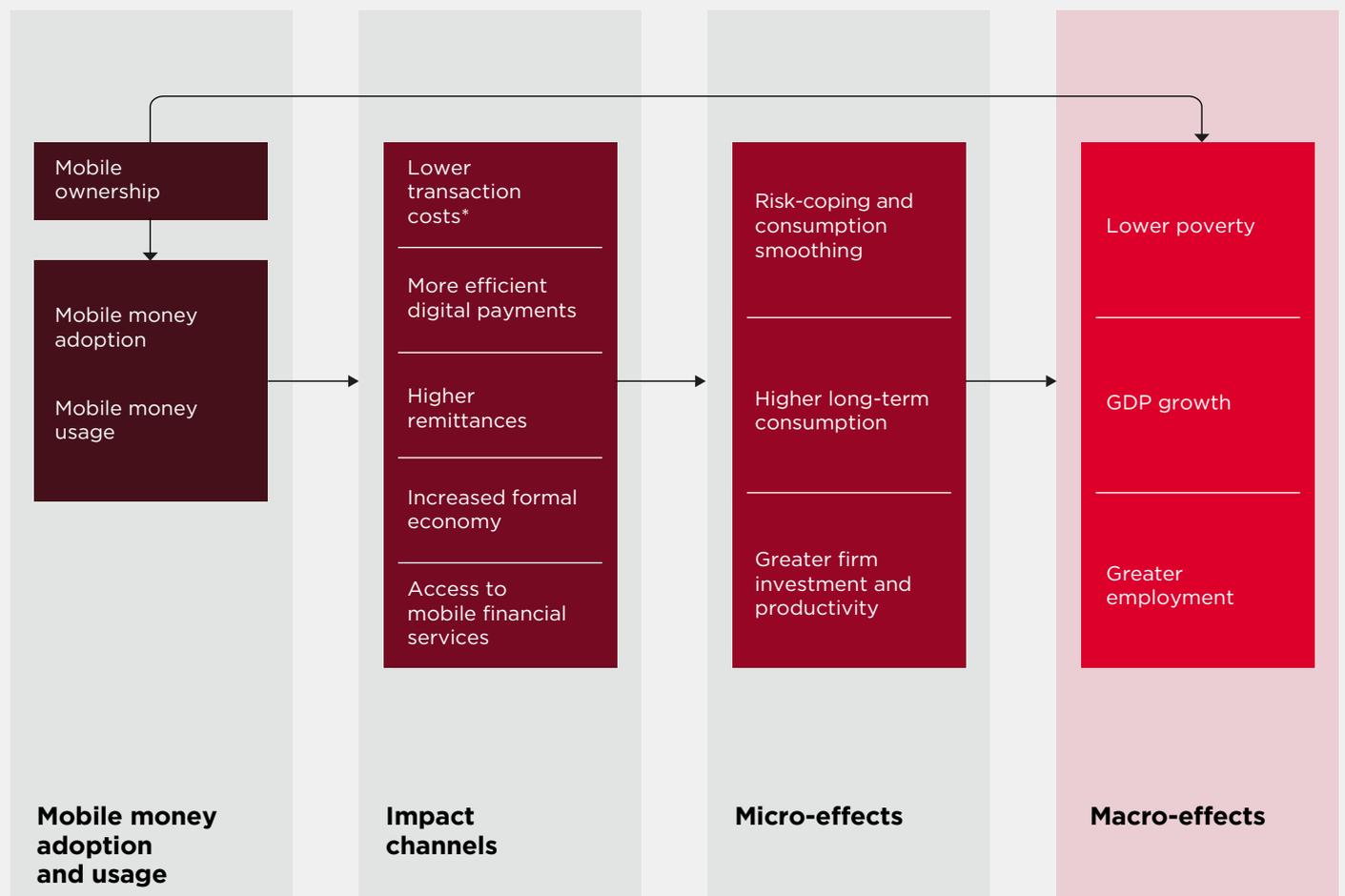
Several research papers and empirical evidence have highlighted the positive social and economic impact of mobile money on individuals, households and businesses. These examples have shown that mobile money reduces transaction costs for users and helps households manage their cash flow, enabling them to smooth consumption and manage risk. Mobile money allows enterprises to expand by facilitating faster and more efficient transfers. As a result, mobile money can lead to an increase in poverty reduction, employment, and gross domestic product (GDP).

While the micro-level effects are well documented, the macroeconomic impacts of mobile money are much less understood – particularly in relation to GDP growth (Figure 2). Economic theory and previous literature have established a link between financial inclusion and economic growth. However, there is a significant evidence gap on whether digital forms of financial inclusion, such as mobile money, have a similar effect.

This report summarises the results of an econometric analysis carried out by GSMA Intelligence, commissioned by the GSMA Mobile Money programme. It establishes a causal link between the adoption of digital financial services in LMICs and long-term economic growth. It relies on two global, unique and novel datasets on mobile money usage and regulation that cover the 2013–2022 period. Further details on the econometric framework applied, as well as the data used, can be found in the technical paper.¹

Figure 2

The potential impact of mobile money on socio-economic outcomes



* Mobile money can offer lower transactions costs for certain transactions compared to other digital financial service alternatives.

Source: GSMA Intelligence

1 See GSMA Intelligence (2023), Beyond financial inclusion: does mobile money drive GDP growth?

Evidence for mobile money's positive impact on GDP



Result 1

Adoption



A **10 percentage point increase** in mobile money adoption (registered accounts)...

GDP



...can increase GDP by **0.4%-1.0%** in a year

Overall, an increase in mobile money adoption can lead to a rise in GDP. The study found that a 10 percentage point increase in mobile money adoption² can increase GDP by 0.4% to 1.0% in a year.

Comparing this to the uptake of mobile technology, the study found that a 10 percentage point increase in mobile adoption increased GDP by 1% to 1.3%. Previous efforts to assess the impact of mobile technology on economic growth have tended to find that a 10% increase in mobile adoption increases GDP by 1%–3%, depending on the econometric methodology, time period and geographic scope. As a result, the findings are consistent with past literature, as the combined impact of mobile and mobile money falls within this range.

² The number of registered mobile money accounts in each market divided by the country's population in the relevant year.

Result 2

Higher adoption of mobile money combined with higher transaction values drive economic growth.

In addition to the increase in mobile money adoption, there has also been more intense use of mobile money services per user. The average annual transaction per registered account increased from just over \$500 to almost \$800 between 2013 and 2022.³

Result 3

Mobile money has a greater impact on GDP growth as the share of ecosystem transactions increases.

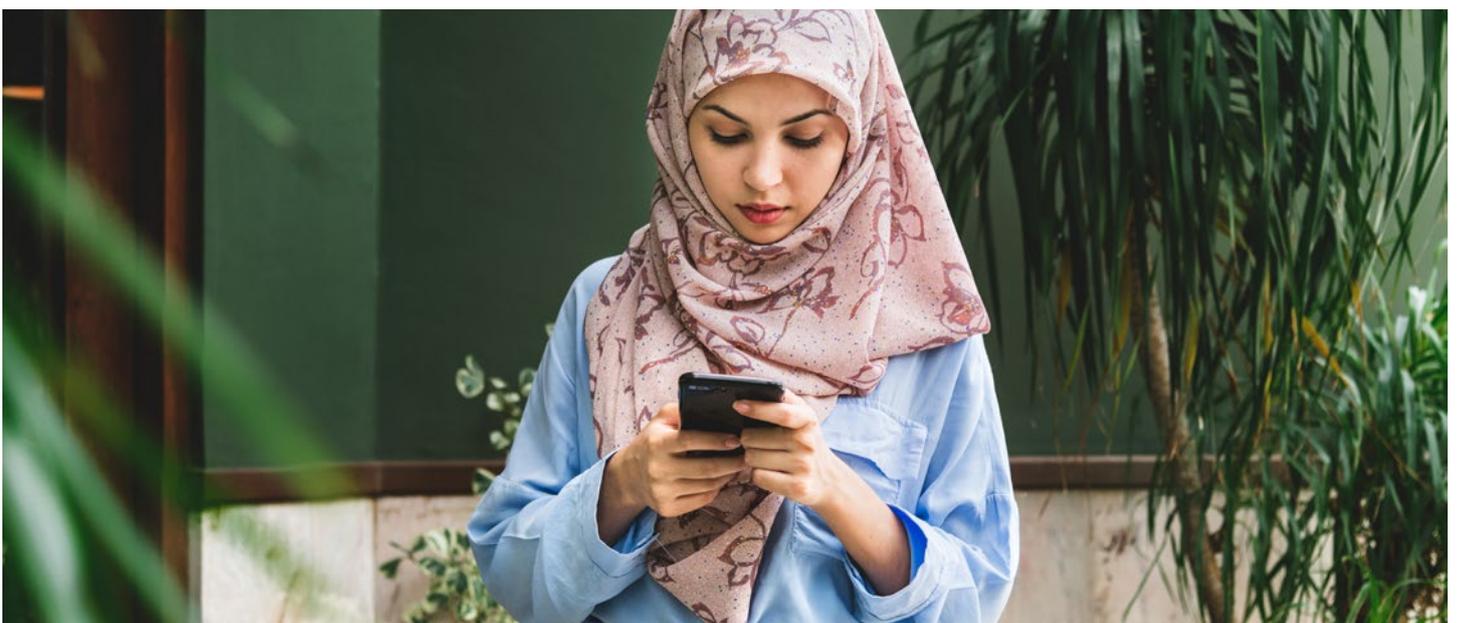
The study found that the impact of mobile money is enhanced through broader and more intense usage of mobile money. Specifically, greater transaction values and the use of products such as merchant payments, international remittances, bill payments and bulk disbursements increased the economic impact of mobile money.

Consumers are using a broader and more sophisticated range of mobile money use cases (products). In 2013, almost two-thirds of global mobile money transactions were cash-ins, cash-outs or airtime top-ups. By 2022, around 60% of global transactions were driven by person-to-person payments, international remittances, merchant payments, and bill and bulk payments. The proportion of 'ecosystem transactions'⁴ doubled from 10% to 21% during the same period.

Result 4

The effect of mobile money adoption on GDP increases as more users adopt the service in a country.

The study showed that mobile money experiences significant network effects, with the economic impacts increasing as more users adopt the service. This is similar to what has been found in most markets where digital and telecommunication services have grown significantly. The benefits of using mobile money increase when there are more people to transact with. Governments and businesses are also more likely to enable and offer digital payments when there is a larger customer base that can drive economies of scale.



³ GSMA estimates and forecasts based on Global Adoption Survey data.

⁴ These include bill payments, bulk disbursements, merchant payments and international remittances.

Quantifying the macroeconomic impact of mobile money





+\$600 billion

As of 2022, total GDP in mobile money countries was almost \$600 billion greater than it would have been without mobile money.

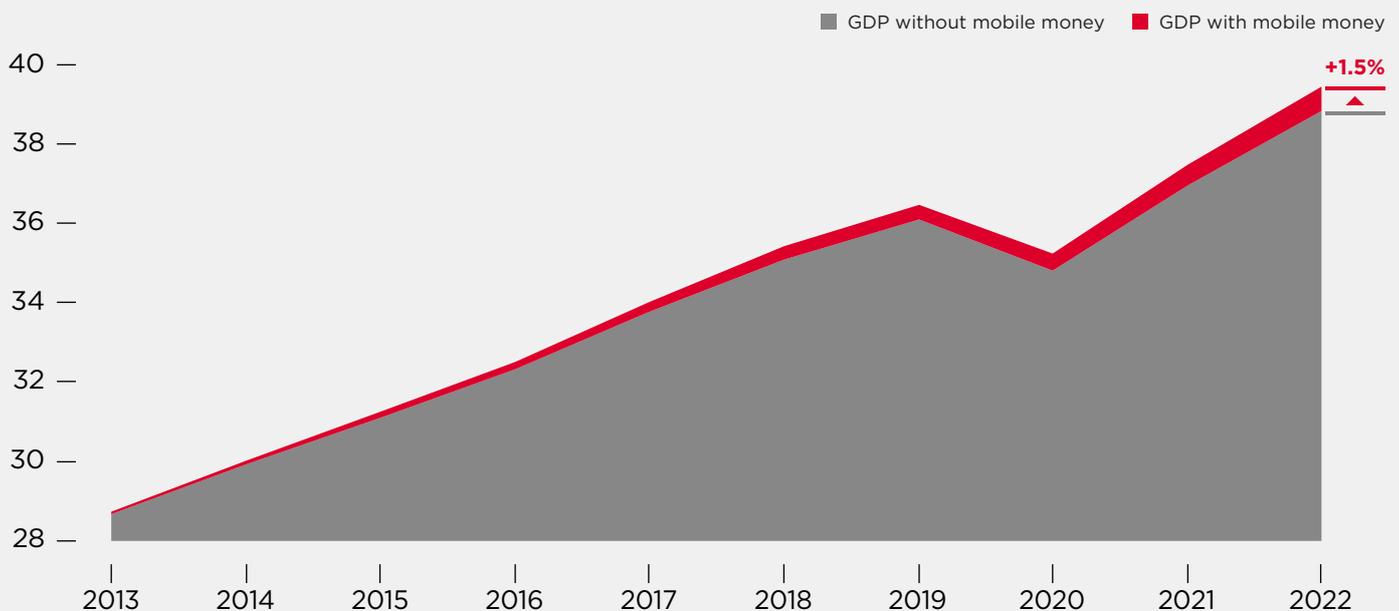
The four results were applied to how mobile money is used in each country with a mobile money service⁵ between 2013 and 2022. Through this, it is possible to simulate how GDP would have evolved during the same period - with and without mobile money (Figure 3).

At the end of 2022, total GDP was almost \$600 billion⁶ higher than it would have been without mobile money in these countries. This is equivalent to mobile money increasing GDP by 1.5% at the end of the period.

Figure 3

Simulated impact of mobile money on GDP in mobile money countries, 2013–2022⁷

GDP (2017 \$PPP, trillions)



Source: GSMA Mobile Money Global Adoption Survey

⁵ Countries in which mobile money was available at some point between 2013 and 2022. The full list of mobile money countries can be found in the Appendix.

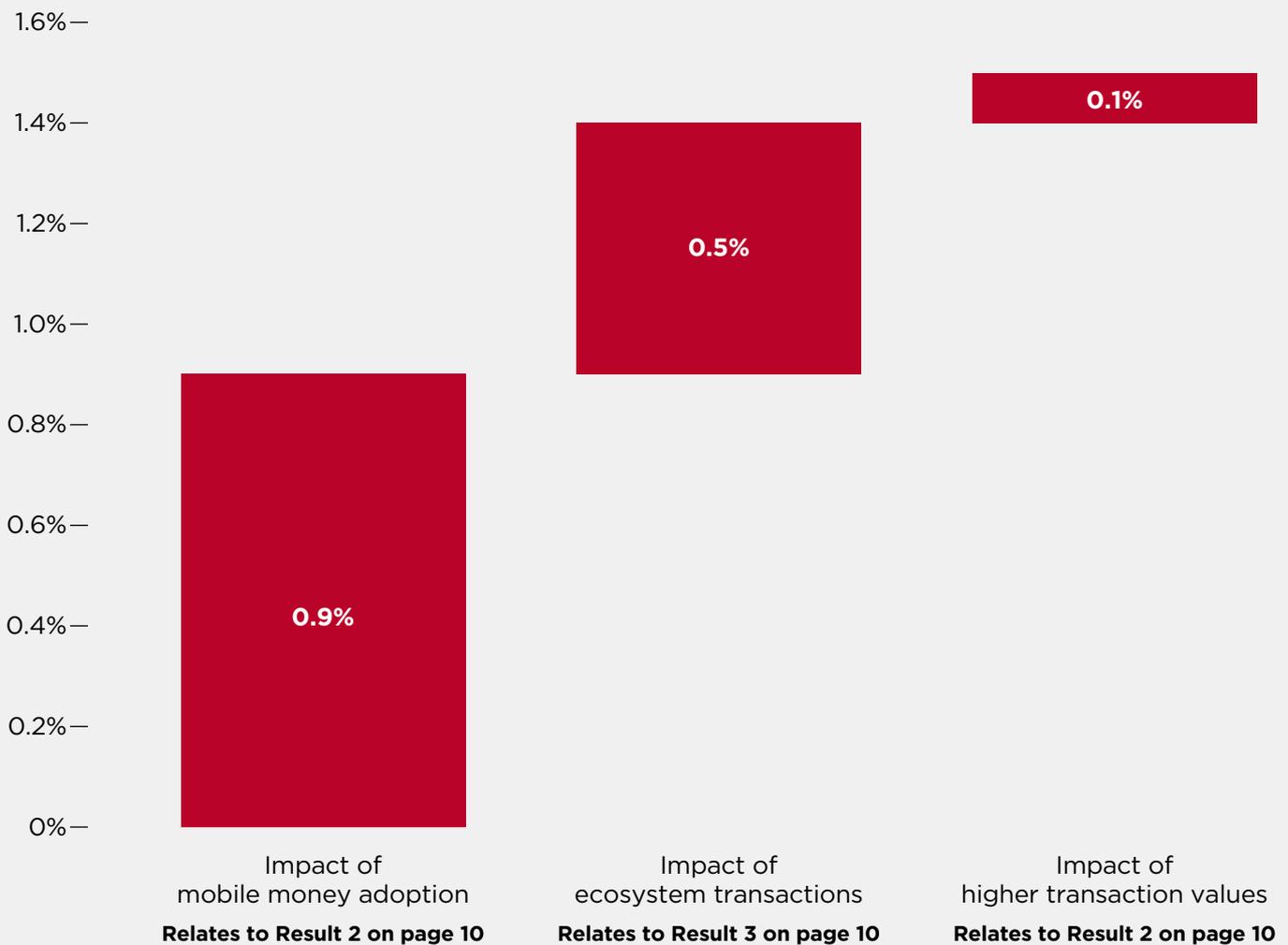
⁶ In 2017 purchasing power parity \$

⁷ The condition stated in result 1 was applied to each mobile money market to determine the change in GDP brought about by mobile money adoption. The value of the change in GDP for each country is added up to illustrate the overall GDP impact shown above across all mobile money countries.

Around 40% of the impact of mobile money was driven by more frequent and broader use of mobile money products. Specifically, if transaction values and the proportion of transactions accounted for by P2P, cash-in/out and airtime had not increased since 2013, then mobile money would have increased GDP by 0.9% in 2022. However, the growth of more advanced digital financial services added a further 0.5% to GDP, while the increase in transaction values added 0.1% (Figure 4).

Figure 4

Simulated impact of mobile money adoption, ecosystem transactions and higher transaction values on GDP in mobile money countries, 2022

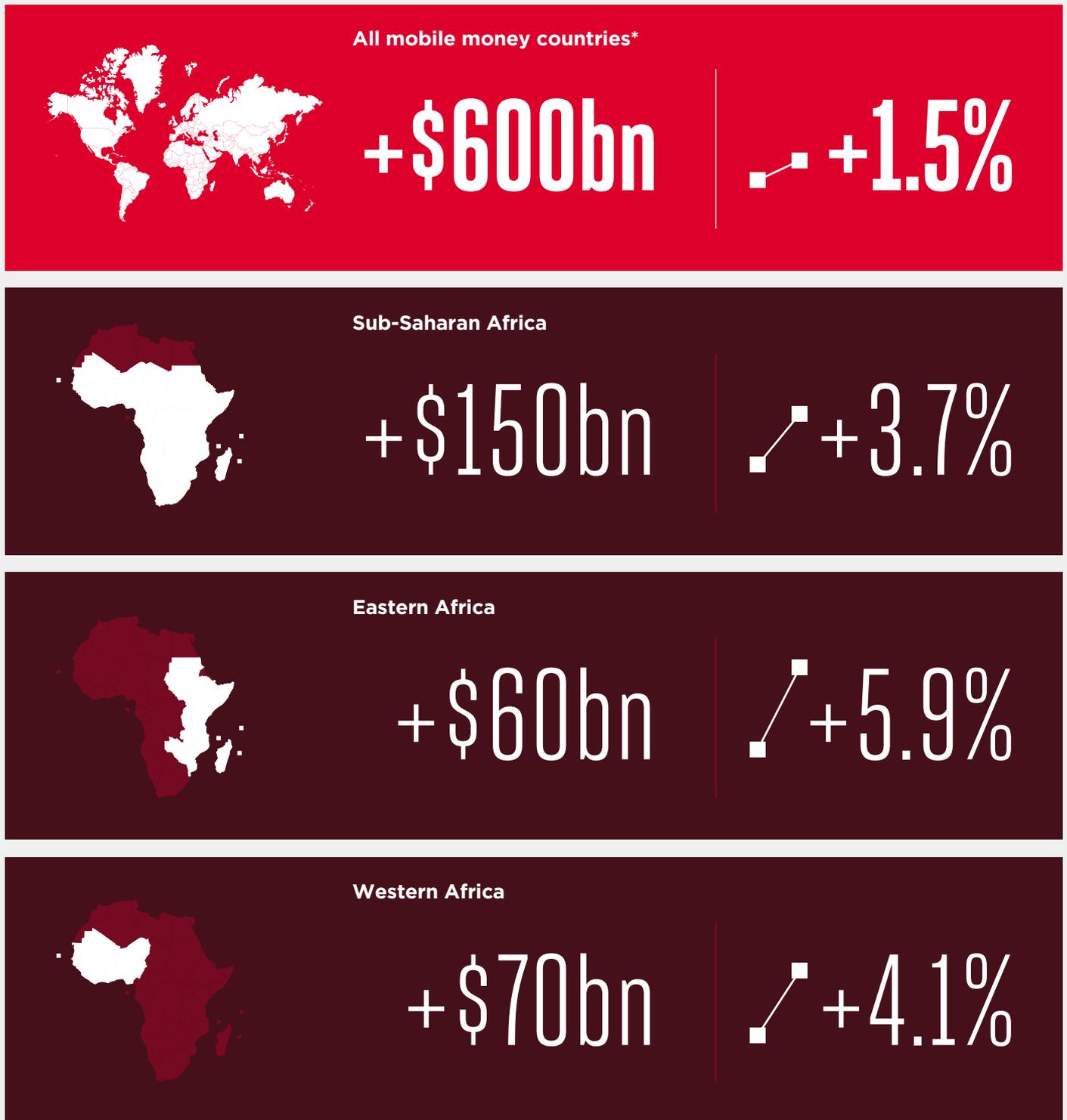


Source: GSMA Mobile Money Global Adoption Survey

Sub-Saharan Africa has seen the highest levels of mobile money adoption globally, driven by East and West Africa. In these regions, mobile money led to significant increases in GDP at the end of 2022 (Figure 5). For Sub-Saharan Africa, the contribution to GDP at the end of 2022 was more than \$150 billion, equivalent to mobile money increasing the region's GDP by 3.7%. When considering the sub-regions that have achieved the highest levels of mobile money adoption, namely East and West Africa, the simulations suggest that by 2022 mobile money had increased GDP by 5.9% and 4.1% respectively.

Figure 5

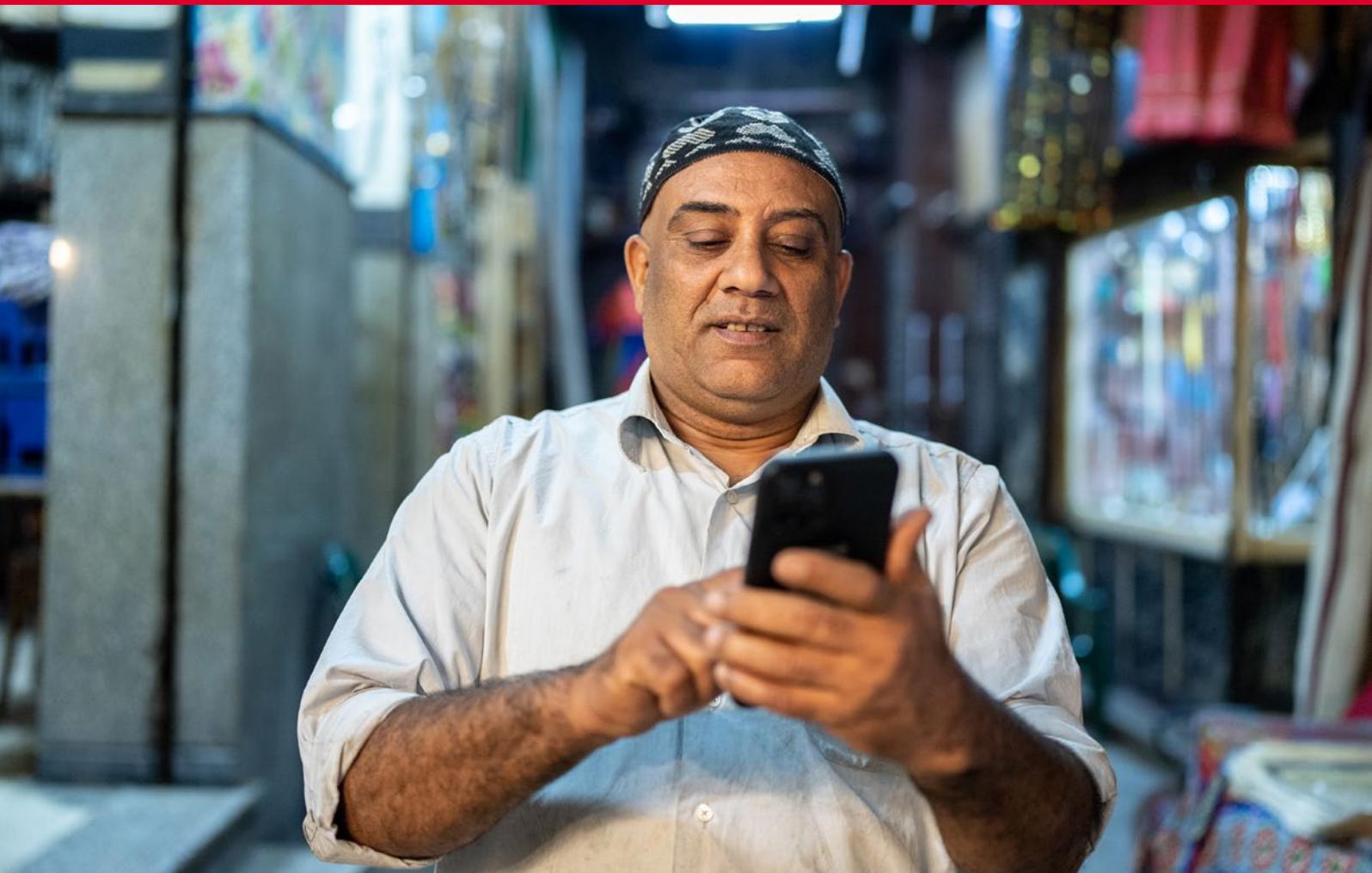
Simulated contribution of mobile money to GDP, in absolute and percentage terms, at the end of 2022 by region



*View the list of mobile money countries in the Appendix

Source: GSMA Intelligence – Beyond financial inclusion: does mobile money drive GDP growth?

**Conclusion:
How policy can drive
mobile money adoption
and economic growth**



The study has shown that digital financial inclusion can drive long-term GDP growth, just as traditional financial services have been shown to do.

Globally, 1.4 billion adults remain unbanked, almost a quarter of the adult population. In LMICs, around 30% of the adult population is unbanked, while in low-income countries only, the proportion is around 60%.⁸ Mobile money makes it easier to reach populations that are underserved by traditional financial institutions, unlocking economic growth in countries with low levels of financial inclusion. These findings can have important implications for policymakers.

Addressing policy hurdles that slow mobile money adoption

Recent changes to mobile money licensing have strengthened the industry's growth. In Nigeria, Payment Service Bank (PSB) licences introduced in 2018⁹ have enabled mobile network operators to offer mobile money services. In 2020, the National Bank of Ethiopia amended payment system legislation¹⁰ to support new market entrants providing mobile money services. However, there is less support for fintechs in this space – many of which are not regulated in the same way as mobile money. Central banks need to formulate an overarching policy and regulatory framework to support emerging fintech business models. Such legislation is important as it can minimise complications arising from existing regulations, delays to products and service approvals, and risk assessments.

Know-your-customer (KYC) regulations have become more enabling for many mobile money providers, according to GSMA's 2022 Global Adoption Survey. However, certain challenges – such as the lack of access to national identity documents needed for mobile money registration – persist in some countries. Implementing supportive mobile money licensing and KYC regulations can drive the adoption of mobile money and lead to long-term economic growth.

8 Demircüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar. 2022. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. Washington, DC: World Bank.

9 Central Bank of Nigeria. (26 October 2018). Circular to all Stakeholders on Guidelines for Licensing and Regulation of Payment Service Banks in Nigeria.

10 National Bank of Ethiopia. (2020). Licensing and Authorization of Payment Instrument Issuers Directive No. ONPS/01/2020.

Policy can hinder wider and more frequent use of mobile money

The study found that higher average transaction values and greater shares of ecosystem transactions drive economic output. This should be considered by policymakers, especially concerning international remittances (which are significant contributors to GDP in many LMICs), person-to-government payments, and taxation.

Many countries in Sub-Saharan Africa have implemented mobile money taxes to increase government revenue collection. For instance, Cameroon, Ghana and Tanzania introduced mobile money levies in 2022. If higher taxation leads to lower average transaction values, then this can negatively impact economic output. Policymakers need to consider this effect when evaluating the net outcome of mobile money taxation.

Regulations that carefully consider mobile money taxation and drive more advanced mobile money use cases, such as international remittances, can improve economic performance.

Tackling wider barriers to mobile adoption

The research highlights the importance of addressing mobile coverage and usage gaps. Mobile money is only accessible if individuals can access and use a mobile device, while mobile internet offers a broader range of financial products and services. At the end of 2022, one in three people in LMICs did not use mobile services at all and over half the population in LMICs was not using mobile internet services. For mobile money and digital financial services to reach more people in LMICs and promote economic growth, barriers to mobile and mobile internet adoption need to be overcome. These include digital skills, handset affordability, relevance, and safety and security.¹¹

¹¹ For further discussion, see GSMA, [The State of Mobile Internet Connectivity Report 2023](#)

Appendix



The countries in which mobile money was available at some point between 2013 and 2022 are listed below.

Afghanistan	Guatemala	Nicaragua
Argentina	Guinea	Niger
Armenia	Guinea-Bissau	Nigeria
Bangladesh	Guyana	Pakistan
Belize	Haiti	Papua New Guinea
Benin	Honduras	Paraguay
Bolivia	India	Philippines
Botswana	Indonesia	Rwanda
Brazil	Iran	Senegal
Burkina Faso	Iraq	Sierra Leone
Burundi	Jordan	Somalia
Cambodia	Kenya	South Africa
Cameroon	Kyrgyzstan	South Sudan
Central African Republic	Laos	Sri Lanka
Chad	Lesotho	Sudan
Colombia	Liberia	Tanzania
Congo	Madagascar	Thailand
Congo, Democratic Republic	Malawi	Togo
Cote d'Ivoire	Malaysia	Tunisia
Dominican Republic	Maldives	Türkiye
Egypt	Mali	Uganda
El Salvador	Mexico	Vanuatu
Eswatini	Mongolia	Vietnam
Ethiopia	Morocco	Zambia
Gabon	Mozambique	Zimbabwe
Gambia	Myanmar	
Georgia	Namibia	
Ghana	Nepal	

GSMA Head Office

1 Angel Lane
London EC4R 3AB
United Kingdom

Tel: +44 (0)20 7356 0600

Fax: +44 (0)20 7356 0601

