High data costs are constraining Africa’s digital revolution

Despite the inexorable spread of mobile phones and Internet connectivity across Africa, the high cost of data remains a major blockage to digital innovation. In July 2017 the hashtag #DataMustFall spread like wildfire throughout South African Twitter. Dissatisfied with the stubbornly high costs of mobile data, South Africans took to cyberspace to vent their anger at Mobile Network Operators (MNOs) and the government for not doing enough to bring down prices. The average price of 1GB of prepaid mobile data across the country’s five MNOs is US$10.34, making it the seventh most expensive in sub-Saharan Africa (SSA).

Ironically, the cost of data in South Africa is significantly lower than for its neighbours (Chart 1). Over the border in Zimbabwe 1GB of mobile data costs US$25, while in Swaziland it is $21.86. Moreover, when compared to average monthly incomes, access to mobile Internet in South Africa is among the most affordable in SSA. Relative to Gross National Income (GNI PPP), 1GB in South Africa equates to just 0.9% of the average monthly income, making it the fifth cheapest in sub-Saharan Africa and well below the African average of 4.1%. The most expensive countries are Zimbabwe, the DRC and Liberia which average 14-16%, while Chad, Sierra Leone, Malawi and Burundi average 6-8%, double the African average. Mineral-rich countries – including Namibia, South Africa, Botswana, Gabon, Angola & Nigeria – have the lowest percentages (<2%), but this data is distorted by the dominance of commodities in their economies and by huge income inequality.

The sobering reality is that Africa has the most expensive mobile data, both in real and income-relative terms, in the world. At a regional level, East Africa has the most affordable mobile data. The average cost for 1GB in Ethiopia, Tanzania, Burundi, Kenya and Rwanda lies below Africa’s relatively expensive median of US$7.04. In contrast, the oil-rich CEMAC countries are far pricier. Equatorial Guinea’s average cost of US$35.47 is Africa’s most expensive gigabyte. However, income levels make a big difference. Although Africa’s cheapest gigabyte...
can be bought in Mozambique for US$2.08, as a proportion of average monthly income (2.1%) the cost is on a par with Equatorial Guinea (2.2%), owing to higher income levels in the latter country.

Despite notable regional trends in mobile data prices, there are many examples of large price differences between neighbouring countries. For example, at US$13.60 Chad is one of the most expensive countries for mobile data in Africa, while neighbouring Nigeria is one of the cheapest (US$2.76). Similarly, Mozambique has the cheapest mobile data in SSA, but Swaziland next door is the third most expensive.

Greater competition among MNOs can drive down prices

A key driver of the differences in mobile data costs is the level of competition in each country’s telecoms sector. When Africa’s mobile telecoms infrastructure was first built in the late 1990s and early 2000s, governments created their own state-owned MNOs and often held a monopoly over the country’s mobile network such as Togocel in Togo and Rwandatel in Rwanda. But over time, and under pressure from consumers who demanded better service and more investment in expanding the network beyond the highly-populated urban areas, the sector was gradually opened to competition. Many of these original MNOs still exist, often rebranded and with private backing, directly competing with other foreign MNOs. The purchase and rebranding of Senegal’s national mobile network Sentel by Tigo in 2006 is a good example of this. Aggressive expansion by MTN, Airtel, Tigo and Orange, along with the emergence of smaller local MNOs, has brought much needed competition into African markets. This has helped improve services as well as driving down the cost of data.

The impact of competition on reducing data costs is illustrated in Chart 2, which compares the average cost of downloading 1GB of data with the number of MNOs operating in a market. Only one country has a single MNO (Ethio Telecom in Ethiopia), but this is an exception as the MNO is government owned and prices are controlled. Most African countries have between two and four MNOs. The data shows that there is an inverse relationship between the number of MNOs in a country and the average price of a gigabyte – in other words, the more MNOs, the cheaper the gigabyte. For the eight countries with only two MNOs, the average price is an expensive US$13.03, while for the twelve countries with three MNOs, the price drops to US$9.17, and for the ten countries with four MNOs the average price is just US$5.25, well below the median for SSA (US$7.04). Although there are some exceptions, the data demonstrates that for those countries with greater competition among MNOs prices for mobile data are cheaper, both in real terms and relative to income levels.

Chart 2: Number of MNOs in a Country vs. Price of 1GB Mobile Data

![Chart 2: Number of MNOs in a Country vs. Price of 1GB Mobile Data](image)
Expensive mobile data perpetuates the ‘Digital Divide’

Mobile phone, smartphone and unique SIM penetration rates are rising year on year in Africa and are forecast to grow quicker in SSA than in any other region of the world in 2017-25. This is largely owing to the lower starting base in Africa and the fact that the price point for mobile technology is falling even as Africans’ purchasing power is rising. As a result, today African consumers can buy a brand-new, Internet-enabled feature phone for as little as US$30 – a price point that is affordable in nearly all African markets. However, their access to mobile and digital services varies greatly, depending on which country they are in.

The variations in the cost and access to mobile data have a huge impact on a country’s ability to spread digital innovation, from mobile banking to pay-as-you-go solar energy. Two of Africa’s leading tech hubs – Nigeria and Kenya – both have relatively cheap mobile data, while other countries with emerging tech ecosystems – Rwanda, Ghana, Senegal, Tanzania and Cameroon – are also on the cheaper end of the pricing spectrum. This means that consumers in these markets can purchase mobile data more regularly than in other costlier markets, providing the platform for banks, Fintechs and other service providers to develop digital services specifically to meet their needs.

In stark contrast, in countries like Zimbabwe, the DRC and Liberia, where mobile data is upwards of 13% of monthly GNI per capita, accessing the Internet regularly is unaffordable for most consumers, perpetuating digital exclusion. The impact is felt not just by consumers, who do not have access to the services and information that can be provided digitally, but also by SMEs (which make up over 90% of businesses in Africa). A global survey of 4,800 SMEs found that those that use the Internet for business grow twice as fast as those that do not or cannot.

New approaches are needed to boost digital inclusion

So what can be done to drive down data costs and, ultimately, provide data free or nearly free to African consumers?

**African governments and regulators** have a key responsibility to develop policies and regulations that drive down mobile data prices. This could mean reducing the typically high fees charged for new mobile licences, which discourage new entrants; governments could recoup the lost income by introducing reasonable taxes on data usage which would grow as their citizens become more connected. Competition should also be incentivised, especially in countries with only two or three MNOs. Spectrum pricing is another issue. If MNOs are to provide affordable and universal mobile Internet coverage, they need to have access to a reasonably-priced and reliable radio spectrum. This means governments need to be forward-thinking and accommodating in their spectrum regulation.

More broadly, governments should consider the wider impacts of excessive taxation of the mobile sector. Chad, for example, has the most heavily taxed mobile sector in SSA, with no fewer than 13 different taxes. This is key factor in making Chad one of the least connected countries in Africa for unique SIM subscribers, and the fourth most expensive for mobile data. Similarly, Uganda’s recently-introduced tax on social media (200 UGX/ US$0.05 per user per day) could deter those on lower incomes from accessing the Internet, retarding the digitalisation process.

**MNOs** can also do more to drive down prices. The high proportion of rural consumers and the relatively low income base are not reasonable excuses for keeping prices high. Niger is a case in point: although it is one of the least urbanised countries in Africa (just 19% of the population), Niger has MNOs that offer data for an average of just US$3.52 per gigabyte. Similarly, Burundian MNOs sell mobile data at an affordable rate (US$3.87 per GB), despite having the second lowest GNI in SSA. Tellingly both countries have four MNOs each, which has helped keep downward pressure on prices.

Finally, **innovators** – both incumbents and newer Fintechs – can help close the digital divide. Established players such as Facebook have partnered with MNOs to provide users with free access to services such as Wikipedia and AccuWeather. Facebook’s *Free Basics* platform is now available in 63 countries, 33 of which are in Africa. Start-ups are also working to boost digital inclusion. One company, the UK’s Blupoint, uses its platform to provide
offline digital content to devices without WIFI (a radio for example), and in places where the Internet and electricity are intermittent or unavailable. Another innovator is Kenya’s BRCK, whose devices and platforms offer free public WIFI and data storage to users, in exchange for them watching advertising content. The company’s ‘Mojia’ WIFI boxes are portable, robust, offer charging ports to users and can be setup anywhere; for example, there are Mojas installed in hundreds of Matatus in Kenya.

But perhaps the most scalable model comes from a Ghanaian innovator, Viotech. Through its partnerships with MNOs, Viotech enables companies to sponsor mobile data, which can be given to consumers for free for them to use on specific apps or as they wish. This model can be developed into incentive schemes that encourage consumers to use certain apps. For example, a consumer who uses 10MB of data on a company’s app can be rewarded with an additional 100MB of data to use as they wish. The advantage for the company behind the app being used is that it encourages consumers to use their service habitually, rather than sporadically.

Ultimately, boosting mobile Internet penetration is a key requirement for closing the digital divide in Africa. The mobile phone, with access to affordable mobile data, is the most effective tool for making businesses more efficient, for facilitating flows of information, and for increasing Africans’ access to services, whether they be financial, educational, governmental or healthcare. Lack of access to the Internet is no longer a technological problem in Africa, but rather one of finding the right business model. As the price of mobile data remains prohibitively high in many countries, new thinking and approaches are needed to bridge the data gap and unleash the full potential of digital innovation in Africa.

DISCLAIMER

• This document was prepared under the supervision of the Research Division of EBI SA (a member of Ecobank Group), and is not necessarily definitive, current or authoritative. Data used in this document was gathered from reliable sources, but the analyst(s) and the publishers of this document do not hold themselves responsible for the accuracy or completeness of data used. The document provides the opinions, analyses and conclusions of the Research division only and is provided without any warranties of any kind. EBI SA and any member of Ecobank Group does not in any way endorse the findings, views and conclusions in this document. EBI SA, Ecobank Group and its affiliates’ Directors, Employees or Agents do not accept any liability for any direct or remote loss or damage arising out of the use of all or any part of the information contained in this document.
• EBI SA is a credit institution authorized by the Autorité de contrôle prudentiel. USE OF THIS PUBLICATION FOR THE PURPOSE OF MAKING INVESTMENT DECISION EXPOSES YOU TO SIGNIFICANT RISK OF LOSS.
• Reception of this publication does not make you a client or provide you with the protections afforded to clients of EBI SA (A member of Ecobank Group). When distributing this document, EBI SA or any member of Ecobank Group is not acting on behalf of the recipient of this document and will not be liable for providing investment advice to any recipient in relation to this document. Accordingly, EBI SA (A member of the Ecobank Group) will not be held accountable to any recipient for providing the protections afforded to its clients.

• This document is published for information purposes only and is not an offer to solicit, buy or sell any security of any kind. This document does not provide investment advice. It has been prepared without regard to the individual financial circumstances and risk and return objectives of individuals who receive it. The appropriateness of a particular investment will depend on an investor’s individual circumstances, risk tolerance and return objectives. The investments and shares referred to in this document may not be suitable for all or certain categories of investors.

• The Research Division and EBI SA have implemented Chinese walls procedures to prevent any conflict of interest. Additional information may be available to EBI SA or the Ecobank Group which is not discussed in this report. Further disclosure regarding Ecobank policy regarding potential conflicts of interest in the context of investment research and Ecobank policy on disclosure and conflicts in general are available on request.

• The opinions presented in this note may be changed without prior notice or cannot be depended upon if used in the place of the investor’s independent judgment.

• The historical performance of a security is not representative of the security’s future returns. Investment in securities can be highly risky as security prices may go down in value as well as up and you may not get back the full amount invested. Where an investment is denominated in a currency other than the local currency of the recipient of the research report, changes in the exchange rates may adversely affect the value, price or income of that investment. In case of illiquid investments for which there is no organized market it may be difficult for investors to exit investment positions or to obtain reliable information about its value or the extent of the risk to which it is exposed.

• The information contained in this document is confidential and is solely for use of those persons to whom it is addressed and may not be reproduced, further distributed to any other person or published, in whole or in part, for any purpose.
• © EBI SA Groupe Ecobank 2018. All Rights Reserved. This note has been prepared by Edward George and the Ecobank Research Division. For any question, please contact: Edward George, Head, Group Research, EBISA, 20 Old Broad Street, London, EC2N 1DP, United Kingdom.

DISCLOSURES

Research analyst certification: The research analyst(s) primarily responsible for the preparation and content of all or any identified portion of this research report hereby certifies that all of the views expressed herein accurately reflect their personal views. Each research analyst(s) also certify that no part of their compensation was, is, or will be, directly or indirectly, related to the view(s) expressed by that research analyst in this research report.

Important disclosures
I. The analyst(s) responsible for the preparation and content of this report (as shown on the disclaimer page of this report) holds personal positions in a class of common equity securities of the company.

II. The company beneficially owns more than 5% in EBI SA or Ecobank Group (“the Group”).

III. EBI SA or the Group is a market maker in the publicly traded equity securities of the company.

IV. EBI SA or the Group beneficially owns 5% or more of the equity securities of the company.

V. EBI SA or the Group beneficially holds a significant interest of the debt of the company.

VI. EBI SA or the Group has been lead manager or co-lead manager over the previous 12 months of any publicly disclosed offer of securities of the company.

VII. The company is a client of EBI SA or the Group.

VIII. EBI SA or the Group has lead managed or co-lead managed a public offering of the securities of the company within the last 12 months.

IX. EBI SA or the Group has received compensation for investment banking services from the company within the last 12 months.

X. EBI SA or the Group expects to receive, or intends to seek, compensation for investment banking services from the company during the next 3 months

XI. EBI SA or the Group has any liquidity contract between EBI or related entity and the issuer

XII. EBI SA and the issuer have agreed that EBI will produce and disseminate investment recommendations on the said issuer as a service to the issuer.