



ALLIANCE FOR
AFFORDABLE INTERNET

WHEN THE PEOPLE TALK

Understanding the impact
of taxation in the ICT sector
in Benin

March 2019

www.a4ai.org



WORLD WIDE WEB
FOUNDATION

Contents

Introduction	3
01 ICT taxes in Benin	4
02 Best practice principles for taxation	5
03 Tax and regulatory treatment of OTTs	6
04 The ICT sector in Benin	9
05 Potential impact of taxation	16
06 Conclusion	19



This policy brief was written by Christoph Stork and Steve Esselaar, with contributions from A4AI.

The suggested citation is Stork, C. and Esselaar, S. (2019). When the People Talk: Understanding the Impact of Taxation in the ICT sector in Benin. Washington DC: Alliance for Affordable Internet.

The Alliance for Affordable Internet (A4AI) is a broad coalition working to enable everyone, everywhere to access the life-changing power of the internet. We have more than 80 diverse member organisations from around the world — from civil society, and the public and private sectors.

Copyright, World Wide Web Foundation, [CC BY 4.0](#)

Introduction

In September 2018, the Government of Benin introduced a new tax on over-the-top (OTT) services, for the stated purpose of protecting investment in network infrastructure and encouraging OTT providers to pay their fair share of regulatory fees and taxes. After protests by citizens and discussions with mobile operators, Benin's government revoked the tax.

Like many governments across the globe, the government of Benin sought to find a taxation solution to changes it sees in the digital economy. Its decision to repeal the tax days after it was implemented, after realizing the negative impact it would have on affordability and access, must be applauded.

This policy brief aims to contribute to growing discussions around the utility of OTT and digital taxes. It focuses on the impacts of OTT taxation on affordability and industry revenue. It does not consider other areas of regulatory concern such as data protection, privacy, competition in the platform market, etc. The brief outlines the impact the tax might have had on Benin's economy and ICT sector, as well as the country's ability to provide affordable internet access for its people, had it been maintained.

⚠ Mobile voice SMS and data in Benin is already expensive

Without the taxes, Benin ranks 35th for voice/SMS prices and 38th for mobile data prices in Africa. The taxes would have made Benin even less competitive.

⚠ The economic results of the ICT taxes would have been dire

A 20% decrease in active mobile broadband subscribers would have resulted in USD 40 million less taxes.

⚠ Mass online protests can be effective

The Twitter campaign #TaxePasMesMo reached over 2.2 million people. News of the tax was widespread in Africa and reached even Mexico.

⚠ Governments in Africa need to conduct detailed tax impact assessments prior to implementation of taxes.

Any interventions in the ICT sector should be designed to support economic growth and social inclusion.

The taxing trend

Across Africa, there has been a growing trend of governments imposing new taxes on users in the ICT sector, and particularly on over-the-top (OTT) applications. In July 2018, Uganda imposed a social media tax, and in August 2018, Zambia proposed a tax on Voice-over-IP (VoIP) calls that has not yet been implemented. In Europe, the trend has been to seek to tax companies rather than users: the United Kingdom is considering a new Digital Services Tax, the OECD is investigating whether to levy a tax on digital services¹, and the European Commission is proposing a tax on advertising revenue and the sale of user-generated data.²

1 OECD, 2018, available at <https://www.oecd.org/tax/beps/brief-on-the-tax-challenges-arising-from-digitalisation-interim-report-2018.pdf>

2 EU, 2018, Fair Taxation of the Digital Economy, available at https://ec.europa.eu/taxation_customs/business/company-tax/fair-taxation-digital-economy_en.

01 ICT taxes in Benin

The Government of Benin passed Decree No. 341 on July 25, 2018, which imposed a 5% tax on the pre-tax price for voice, SMS and internet services, as well as a 5 CFA fee per megabyte for data used to access social media and OTTs. The public outcry led the Government of Benin to listen to public concerns, review the tax, and to call a meeting with GSM operators on September 22. That same day, the government released a statement that the taxes were being withdrawn.

Table 1. Only 5 days between implementation and withdrawal of the taxes

ITEM	DATE
Decree No. 341 passed	25 July 2018
Minister of Finance introduces tax at the Benin Investment Forum	28 Aug 2018
Launch of #TaxePasMesMo	28 Aug 2018
Civil society organisations raise concerns	28 Aug 2018
Launch of change.org petition	30 Aug 2018
Decree implemented	19 Sep 2018
Online protests start (“sit-ins”)	21 Sep 2018
President meets with GSM operators	22 Sep 2018
President withdraws decree by tweet	22 Sep 2018
Statement withdrawing decree	24 Sep 2018
#TaxePasMesMo has social media impact of 2,257,255	24 Sep 2018

According to the government, the reasons for the withdrawal were:

- The negative impact on consumption;
- Technical difficulties in implementing the tax;
- Insufficient warning to consumers;
- Collusion between operators on pricing.³

While government officials have stated the decree is withdrawn, official withdrawal of the decree can be done only through the passage of another decree; as of December 2018, such a decree had not yet been

released. On November 14, 2018, the Council of Ministers issued a statement charging the regulator (L’Autorité de régulation des communications électroniques et de la poste (ARCEP-Benin)) to release new guidelines on the management of OTT services.⁴ It is unclear when these new guidelines might be released. On the 19th of November, ARCEP released new tariff ranges for voice and data. Operators are required to price their packages within these ranges. The effect of this is to limit the ability of operators to compete on price and to maintain relatively high prices.⁵

³ Communiqué of the Council of Ministers on Decree No. 2018-341 of 25 July 2018, available at <https://www.presidence.bj/actualites/comptes-rendus/117/Communique-du-Conseil-des-Ministres-a-propos-du-decret-n%C2%B0-2018-341-du-25-juillet-2018>

⁴ <https://sgg.gouv.bj/cm/2018-11-14/>

⁵ ARCEP, 2018. Decision No. 2018-266/ARCEP/PT/SE/DAJRC/DRI/DMP/GU, available at <https://arcep.bj/lesdecisions/fichierdecision/DECISION%20N%C2%B02018-266%20du%2019%20novembre%202018%20portant%20encadrement%20des%20tarifs%20des%20services%20de%20communications%20electroniques.pdf>

02 Best practice principles for taxation

Higher taxes usually translate into higher prices for end users. Yet any government has to balance the objectives of collecting taxes, on the one hand, and economic growth, job creation and inclusion of the poor into the information society, on the other. This task is made more difficult in Africa by the relatively small size of the formal tax base and the difficulty in collecting taxes from the informal sector.^{6,7} African governments see the rapidly growing telecommunications sector, which is often dominated by international firms, as an easy source to collect taxes.⁸

Despite the complexity around fiscal policy and specific sector taxation, the GSMA, which is the global association of mobile operators, suggests five best practice principles that contribute to an efficient tax system. Table 2 outlines these tax principles and demonstrates that the withdrawn taxes in Benin would have contravened four of these five principles.^{9,10}

Table 2. GSMA Suggested best practices principles for taxation

PRINCIPLE	DESCRIPTION	BENIN'S WITHDRAWN TAXES
Broad-based	A broad base of taxation means that a lower tax rate is required to raise the same revenue, while sector specific taxes distort incentives and require higher levels of taxation to get the same revenue.	Single out the ICT sector.
Take into account externalities	Sector specific taxes should be imposed on activities with negative externalities where the objective is to lower consumption, such as alcohol or tobacco, and should not be imposed on sectors with positive externalities, such as telecoms.	The effect of the tax is to lower mobile and broadband usage.
Simple and enforceable	Taxes should be clear, easy to understand, and predictable, thereby reducing investor uncertainty and ensuring better compliance.	One of the reasons for withdrawing the tax was that difficulties and technical disruptions were experienced during the implementation.
Incentives for competition & investment should be unaffected	Higher taxes for one sector in comparison to the rest of the economy could reduce investment in that sector.	Taxing airtime and mobile data consumption favors fixed broadband and Wifi at the expense of mobile broadband.
Progressive not regressive	The tax rate should increase as the taxable amount increases. Specific value taxes on small amounts should be avoided because they make the poor pay more.	The 5% tax is on airtime and the 5 FCFA per MB is regressive.

Source: GSMA, 2016

6 World Bank, 2012. The informal sector in francophone Africa: Firm size, Productivity and Institutions. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/9364/699350PUB0Publ067869B09780821395370.pdf?sequence=1&isAllowed=y>

7 In Benin, the informal sector employs up 85% of workers. 8% is employed by the private sector and 7% by the public sector. WIEGO. Informal Economy in Benin, available at <http://www.wiego.org/wiego/informal-economy-benin>

8 World Bank, Taxing Telecommunication / ICT Services: An Overview. Available from https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-EF-TAX-2013-PDF-E.pdf

9 See GSMA. (2016). Digitalisation and mobile sector taxation in Europe: The experience in Hungary. Retrieved from https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/03/GSMA_Digitalisation_and_mobile_sector_taxation_experience_in_Hungary.pdf; OECD. (2015). Final Report Addressing the Tax Challenges of the Digital Economy. <https://doi.org/http://dx.doi.org.10.1787/9789264202719-en>; Coplin, N., Altamirano, P., Omiyi, P. & Rowen, D. F. (2014). IMF Advice to Low-income countries on tax policy. Retrieved from http://www.new-rules.org/storage/documents/IMF_Advice_to_Low-Income_Countries_on_Tax_Policy.pdf.

10 Government of Benin, Communiqué of the Council of Ministers on Decree No. 2018-341 of 25 July 2018, available at <https://www.presidence.bj/actualites/comptes-rendus/117/Communique-du-Conseil-des-Ministres-a-propos-du-decret-n%C2%B0-2018-341-du-25-juillet-2018>

03 Tax and regulatory treatment of OTTs

The confusion surrounding how to regulate OTTs, which has driven efforts to tax OTTs in some countries, is partly due to the lack of a common definition. The Body of European Regulators for Electronic Communications (BEREC) defines OTTs as a “content, a service or an application that is provided to the end user over the public Internet”.¹¹

Table 3. BEREC definition of OTTs based on old style regulation i.e., focused on analogue transmission

ECS	Partial ECS	Not ECS
OTT-0 OTT voice with possibility to make calls to fixed or mobile telephone networks (e.g. Skype Out) Fixed or mobile telephone networks receive termination payments from OTT providers	OTT-1 OTT voice, instant messaging (e.g. iMessage, FaceTime, WhatsApp)	OTT-2 E-commerce, video and other streaming (e.g. CNN, Uber)

This is a technical perspective of OTTs where the Internet is provided on top of PSTN, mobile communication networks and TV and fibre cable networks. The challenge is how to integrate OTTs with the current regulatory regime. In BEREC’s view, the defining characteristic of OTTs is whether the service has the ability to connect to public telephone networks (Table 3). This assumes the distinction between voice, SMS and data, like in the legacy analogue world. In an IP-based network, it’s all data. As a result, the categorisation should look like Table 4. Because many regulators conceptualise OTTs from a circuit-switched perspective, rather than from an IP-based perspective, several misconceptions surround OTTs.

Table 4. IP-based definition of OTTs and new style regulation focused on IP transmission. It recognises that signals are all data and makes no distinction between voice, SMS and data.

ECNs	IP-based transmission
Wholesale service	No distinction between voice, SMS and data, just QoS distinctions

Initially, OTTs such as Facebook Zero and WhatsApp were eagerly embraced by MNOs because they grew broadband subscribers and data volumes. OTTs also provided a competitive incentive for MNOs to either gain or defend market share.¹² But as their traditional business model of voice and SMS revenues is threatened, some MNOs have lobbied regulators to protect them from OTTs, claiming that their revenues are declining and that OTT providers are free riding and dodging taxes. The following sections provide more details on these claims.

¹¹ BEREC, 2016, https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5751-berec-report-on-ott-services

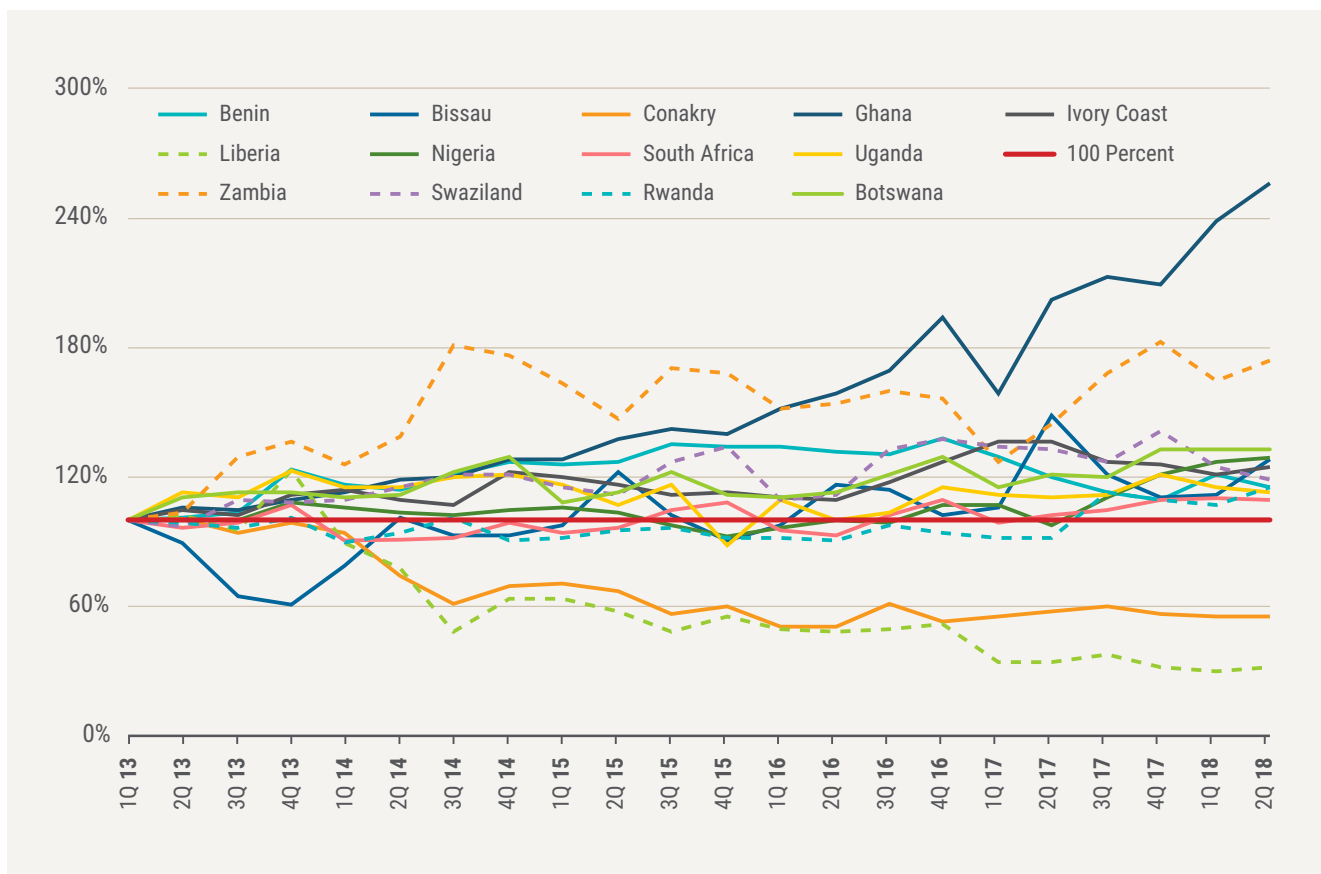
¹² Stork, C., Esselaar, S. and Chair, C. (2017). OTT - threat or opportunity for African Telcos?, Telecommunications Policy, Volume 41 (2017), <http://www.sciencedirect.com/science/article/pii/S0308596117302069>.

OTTs have not caused falling MNO revenues

An analysis of African MNO performance based on publicly available, audited financial statements shows that most operators have experienced strong revenue growth due, in part, to an OTT-induced increase in data revenues in the past five years. Data revenue growth outpaces potential decreases in voice and SMS revenues. The declining revenues of a subset of operators are due to insufficient 3G or greater network coverage, excessive regulation and/or adverse economic conditions.

Operating a mostly 2G network makes an operator vulnerable to losses in domestic and international voice and SMS revenues because they are unable to generate data revenues from 3G or 4G networks. Operators with extensive 3/4G coverage are able to increase their data revenues, which then compensates for any losses in voice or SMS.¹³ Liberia and Guinea (Conakry) have declining revenues due to macro-economic shocks (such as the Ebola outbreak in Liberia). All the other countries have increasing revenues.

Figure 1. Revenue in local currency expressed in % of Q1 2013 revenues



13 Esselaar, S. and Stork, C. (2018). OTTs driving data revenue growth, ITS Seoul Korea 2018, <https://itsseoul2018.org/program/>.

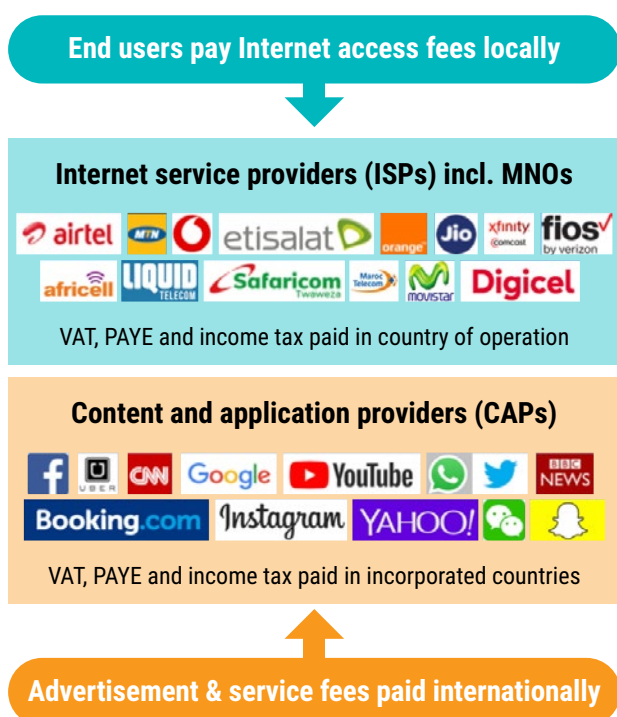
The free-rider problem

Some MNOs, regulators and governments claim that OTT service providers are free-riders because they don't pay for the infrastructure they use.

But this argument might be deemed disingenuous: MNOs would have no data revenue if there was no content and the reverse is also true - MNOs do not pay for any of the infrastructure that OTTs require, like the massive data centres that OTTs operate. Without content to drive data usage, operators would have no broadband revenues and wouldn't be able to invest in networks. Generally, each player in the Internet value chain has its own infrastructure investment. Equally, each player has its own revenue source. While OTT apps allow users to communicate with each other, OTTs do not provide physical access to Internet services. Mobile operators, while making some money from advertisements through premium SMS, rarely purchase and market premium content. While the business models in the Internet value chain may overlap to some extent, each segment comes with specific investment requirements and revenue opportunities.

OTTs are not subject to local telecommunication regulation simply because they are not competing for limited resources such as a license to operate in a market with a very limited number of competitors, site access rights, spectrum, numbering range, etc.

Figure 2. Data and OTT revenues and taxes



OTT service providers pay taxes

The argument that OTTs don't pay taxes is false. OTTs are no different from any other provider in the Internet value chain. OTTs such as Facebook make money from advertisers. So do broadcasters such as CNN and BBC, search engines such as Google and Yahoo, as well as ordinary websites that include clickable banners. Internet companies like Uber and bookings.com have a service fee based business model. Whatever the business model, each company is obliged to comply with the tax laws wherever the company is incorporated.¹⁴ As Figure 2 shows, the difference between MNOs and OTTs is the source of revenues. For MNOs, revenues come directly from users, and MNOs pay VAT, PAYE and Corporate Income Taxes. For OTTs, revenues come from either advertisers or service fees (e.g., booking.com or Uber) and OTT companies pay VAT, PAYE and Corporate Income Taxes in their country of incorporation. In an IP-based world, consumers pay VAT on data only, compared to the circuit-switched system when consumers pay VAT on voice, SMS and data. As long as overall revenues increase, VAT collection will also increase.

Tax and regulatory treatment assessment

That the regulatory framework is in urgent need of an upgrade is recognised by BEREC, the European Commission, the OECD and the FCC. The existing framework favors a circuit-switched world that no longer exists. Regulators in Africa need to keep this context in mind when addressing the OTT concerns of mobile operators. MNOs with mostly 3G and 4G networks see data revenues outgrowing SMS and voice revenues, leading to increasing, not decreasing, revenues. MNOs that run mainly 2G networks are vulnerable to the global trend towards IP-based communication. Regulators should modify their licensing and spectrum regimes to support the transition towards next generation business models.

¹⁴ The issue of transfer pricing and fair corporate income tax regimes will not be addressed in the policy brief. The OECD and the European Commission are both investigating this issue.

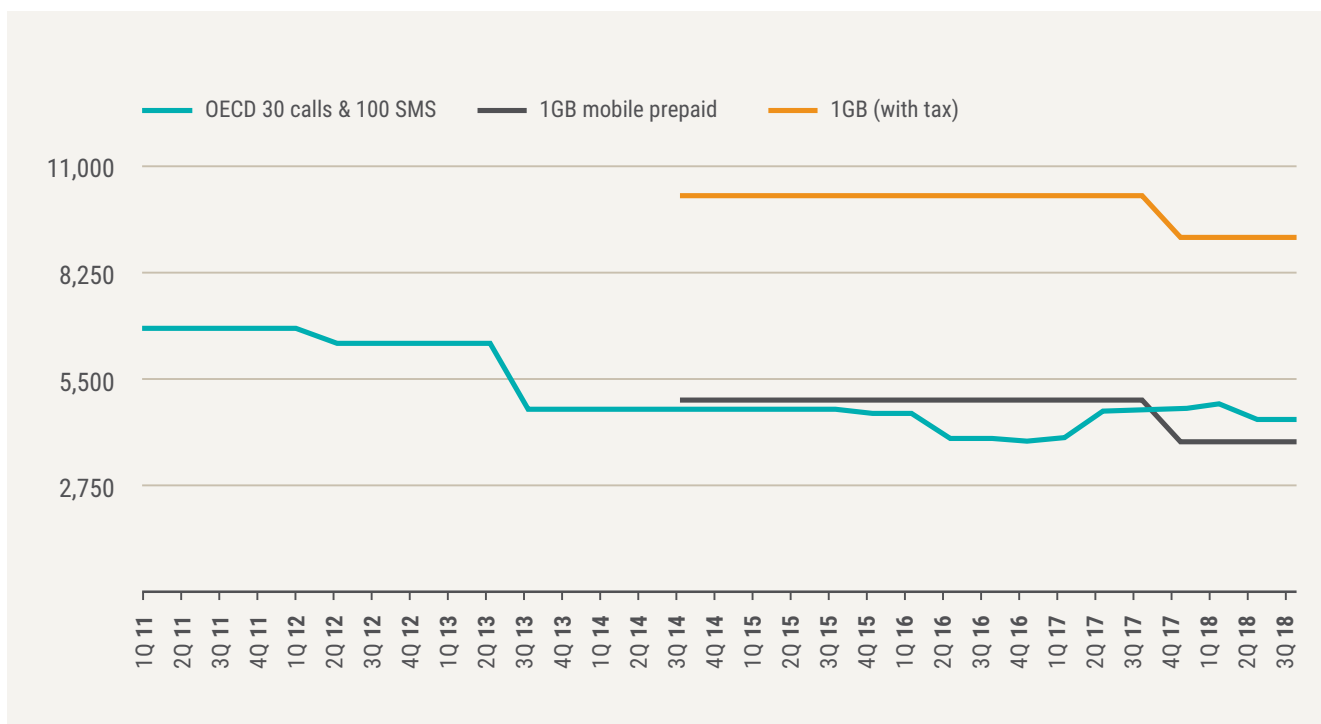
04 The ICT sector in Benin

Though the Beninese government withdrew the taxes, the competitive standing of the sector is worth investigating to understand the impact that the taxes would have had. Sector performance is assessed by looking at five components: (1) affordability, (2) access, (3) usage, (4) infrastructure and (5) competition.

Affordability

Figure 3 shows that the price of a basket¹⁵ of 30 calls and 100 SMS' has declined by 35% since Q1 2011. The price for a 1GB basket has declined by 20% since Q3 2014.

Figure 3. Cheapest price baskets in Benin in CFA



While prices in Benin have been declining, other countries have shown far greater reductions in price. In terms of the cost of 1GB of data, Benin only ranks 32 out of 51 (Table 5).¹⁶ If the tax had been implemented, the cost of 1GB of mobile data in Benin would have become the third most expensive in Africa.

¹⁵ See <http://www.oecd.org/sti/broadbandandtelecom/48242089.pdf> for the full definition

¹⁶ Research ICT Solutions Pricing Database. Contact info@researchictolutions.com for more info.

Table 5. Cost of 1GB prepaid mobile broadband compared to selected countries shows that Benin data is comparatively expensive, ranked only 32nd cheapest in Africa. With taxes Benin would have been ranked 49 out of 51 countries.

CHEAPEST PRODUCT FOR 1GB PREPAID MOBILE DATA FOR Q2 2018	USD	RANK
Ghana	2.19	6
Guinea	2.22	7
Cameroon	2.73	11
Nigeria	2.77	12
Niger	3.64	15
Senegal	4.19	17
Liberia	5.00	20
Morocco	5.33	21
Cape Verde	5.39	22
Mauritania	5.57	23
Gambia	5.72	25
Burkina Faso	7.27	31
Benin	7.28	32
Benin if OTT taxes had been implemented	16.40	49

Source: Research ICT Solutions

Comparing the OECD basket of 30 calls and 100 SMS¹⁷, Benin ranks even worse at 35 out of 51 (Table 6). If the tax had been implemented, Benin's ranking would have been 38th.

Table 6. Comparing OECD baskets between selected countries shows that Benin is expensive for voice, ranked 35th cheapest in Africa.

OECD 30 CALLS 100 SMS FOR Q2 2018	USD	RANK
Ghana	1.90	6
Nigeria	2.26	9
Mauritania	2.51	11
Libya	3.71	15
Guinea	3.79	17
Gambia	4.00	19
Sierra Leone	4.59	20
Liberia	5.00	22
Cape Verde	5.39	25
Cote d'Ivoire	5.45	26
Cameroon	7.32	32
Benin	8.19	35
Benin if OTT taxes had been implemented	8.60	38

Source: Research ICT Solutions

Achieving increased affordability and access

When prices decline, subscriber numbers are expected to increase — a trend that can clearly be observed in Benin. Between 2015 and 2017, data prices for MTN dropped by 63% and subscriber numbers increased by 161%. Moov saw similar changes, though not as pronounced because their price decreases were not as significant (Table 7).¹⁷

Table 7. Mobile internet prices compared to mobile internet subscribers

		2015	2016	2017	%
MTN	Cost of 1GB prepaid per month in CFA	10,714	7,000	4,000	-63%
	Mobile internet subs, in millions	1,055	1,361	2,751	161%
Moov	Cost of 1GB prepaid per month in CFA	6,000	6,000	5,000	-17%
	Mobile internet subs, in millions	1,042	1,348	1,799	73%

Prices in 2018 continued to decline and the number of mobile internet subscribers has continued to grow. If the tax had been implemented, these gains would likely have disappeared or growth in internet adoption slowed.¹⁸

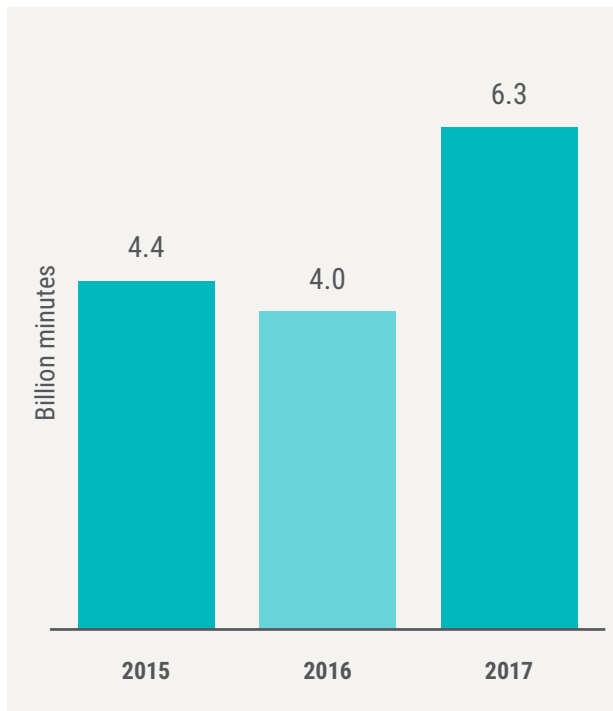
¹⁷ Libercom, Glo Mobile and BBC were excluded because ceased operations in 2017.

¹⁸ Affordability also has a direct impact on factors such as literacy and relevant content. If people can no longer afford to access social media, then relevant content will automatically decline because social media is, by definition, user generated relevant content. Similarly, removing people from social media platforms will damage literacy because there are now fewer avenues to improve literacy.

Usage

Price decreases combined with increases in subscriber numbers should show increases in mobile voice minutes as well as data usage. Figure 4 shows a steep 58% increase in voice minutes between 2016 and 2017.

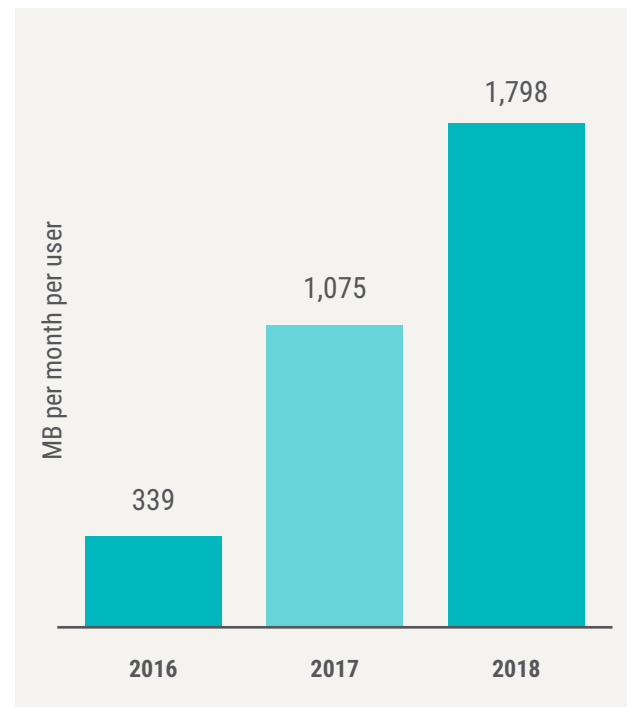
Figure 4. National mobile minutes (ARCEP)



This is inconsistent with the statement that OTTs are to blame for falling revenues. Clearly, any fall in revenue must have been caused by a decrease in price and not a decline in outgoing minutes. Similarly, Figure 5 shows data usage growing by 430% between 2016 and 2018 (based on MTN annual financial statements).

Strong data growth as a result of lower prices indicates a high price elasticity. Price elasticity refers to the responsiveness of demand for a service or product (in this instance, mobile data, voice and SMS) to a change in its price. If there is a significant decline in demand for mobile data as a result of a price increase, for example, then that product is price elastic. Similarly, if there is little or no change then it is price inelastic. Figure 5 shows that there has been strong data growth and Figure 3 shows that there has been a decline in data prices and therefore that the demand for data is highly price elastic. This means that additional taxes on data that make prices much more expensive will result in significantly lower usage. In addition, a previous study conducted by RIS shows that most operators across Africa have experienced strong revenue growth due to an OTT-induced increase in data revenues that outpaces potential decreases in voice and SMS revenues.¹⁹

Figure 5. Data usage (MTN annual reports)



¹⁹ Research ICT Solutions, 2018. OTT applications driving data revenue growth. Available at https://www.econstor.eu/bitstream/10419/190337/1/A3_1_Esselaar-and-Stork.pdf

Infrastructure

Benin's mobile population coverage is relatively high when compared to neighboring countries (Table 8), including 3G and 4G access. National 3G and LTE coverage means that Benin is well positioned to take advantage of the transition to data, assuming that prices are competitive. Increasing prices via a tax increase would hamper the transition to data.

Investment has also remained relatively constant (Table 9). Declining revenues as a result of new taxes on the end-user would have resulted in reduced investment in the sector. This is what is predicted to happen in Uganda after the imposition of social media and mobile money taxes in mid-2018.

Table 8. Population network coverage in 2017

	2G	3G	LTE
Burkina Faso	93	32	0
Togo	92	46	
Nigeria	93	54	51
Côte d'Ivoire	98	60	47
Benin	98	65	40
Ghana	97	80	35
Cape Verde	99	91	

Source: ITU 2018

Table 9. Telecom investment in Benin

	2014	2015	2016	2017
Mobile operator investment (millions FCFA)	41.7	34.2	45.7	42.4

Source: ARCEP 2017

Competition

At the beginning of 2017, Benin had 5 GSM operators: Libercom, BBCOM, GlobMobile, MTN and Moov.²⁰ Market concentration in 2017 was high in terms of both subscribers and mobile operator revenues (Table 10 and Table 11). Market concentration further increased in 2018; only two operators (MTN and Moov (Etisalat)) currently operate in the market.

Table 10. Mobile market share by operator (subscribers)

	2013	2014	2015	2016	2017	2018*
MTN	44.2%	44.2%	46.4%	45.6%	48.7%	49.2%
ETISALAT (Moov)	32.6%	33.1%	35.0%	42.0%	45.1%	50.8%
GLO Mobile	15.6%	18.4%	17.9%	11.7%	5.4%	0.0%
BBCOM	6.9%	3.5%	0.0%	0.0%	0.0%	0.0%
Libercom	0.8%	0.8%	0.6%	0.8%	0.7%	0.0%
HHI	3,304	3,399	3,706	3,978	4,441	5,001

Source: ARCEP * Estimate based on MTN figures

20 LIBERCOM: <https://www.telegeography.com/products/commsupdate/articles/2017/06/27/libercom-to-be-dissolved-benin-telecoms-restructured/> BBCOM: <https://www.telegeography.com/products/commsupdate/articles/2017/08/10/benin-cancels-bbcoms-gsm-operating-licence/> GLOMOBILE: <https://www.telegeography.com/products/commsupdate/articles/2017/12/21/arccep-revokes-glo-operating-licence/> MTN: <https://www.telegeography.com/products/commsupdate/articles/2017/11/20/benin-expels-mtn-head-from-the-country/>

Table 11. Market share (revenues)

	2014	2015	2016	2017
MTN	60.8%	61.2%	61.7%	57.6%
ETISALAT	31.5%	32.0%	34.0%	39.8%
GLO Mobile	6.7%	6.4%	3.9%	2.4%
BBCOM	0.7%	0.0%	0.0%	0.0%
Libercom	0.3%	0.4%	0.4%	0.2%
HHI	4,726	4,810	4,978	4,902

Source: ARCEP activity report 2017, p.51

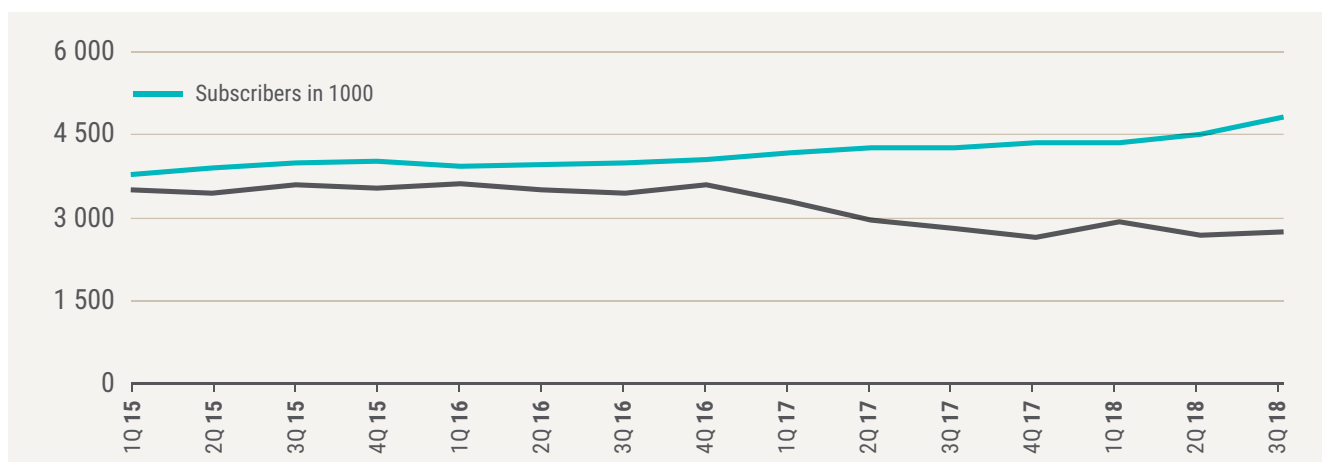
Table 12. Regulatory events in 2017

EVENT	DATE	REASON
Libercom dissolved	June 2017	Bankruptcy
BBCOM license revoked	Aug 2017	Failure to meet its operating obligations as well as non-payment of debt
MTN CEO expelled	Nov 2017	Disputed spectrum fee of USD 242 million
Glo Mobile license revoked	Dec 2017	Refusal to accept government terms for new license

In May 2018, Benin settled with MTN on spectrum fees. MTN agreed to pay the fees in instalments, receiving a 5 year extension to its license as well as the license to install fibre.²¹

MTN Benin in-depth

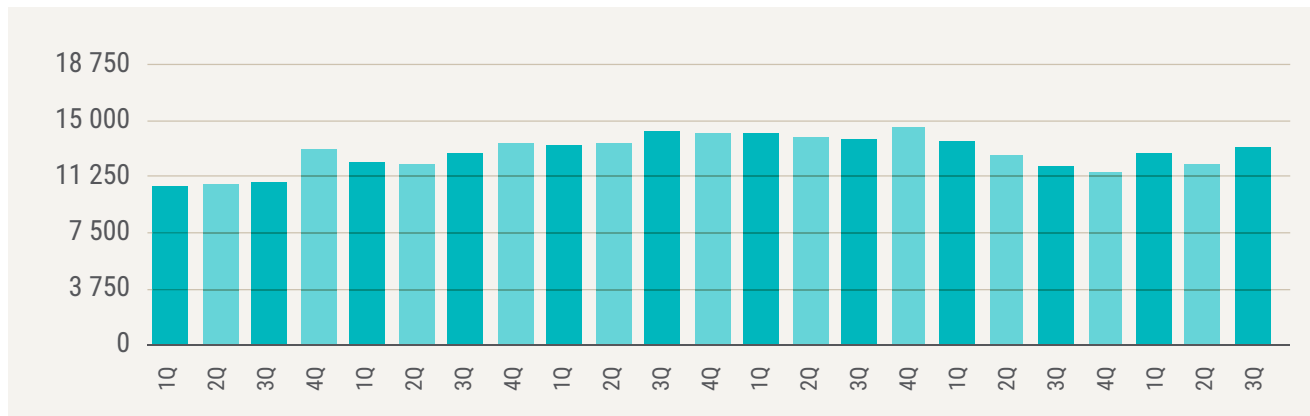
The market is dominated by MTN, which had a market share of 58% of revenues in 2017. MTN's subscribers have continuously increased over the last five years. With increasing subscriber numbers, ARPU typically declines as less affluent segments of the population join the network. The ARPU drop in 2017 is steeper than what one would typically expect.

Figure 6. MTN Benin - subscribers in 1000

²¹ Telegeography, <https://www.telegeography.com/products/commsupdate/articles/2018/05/09/mtn-settles-with-benin-government/>

Revenues declined in 2017 in FCFA, estimated based on local currency APRU multiplied by subscribers.²²

Figure 7. MTN Benin - Revenues in CFA million estimated based on ARPU multiplied by subscribers

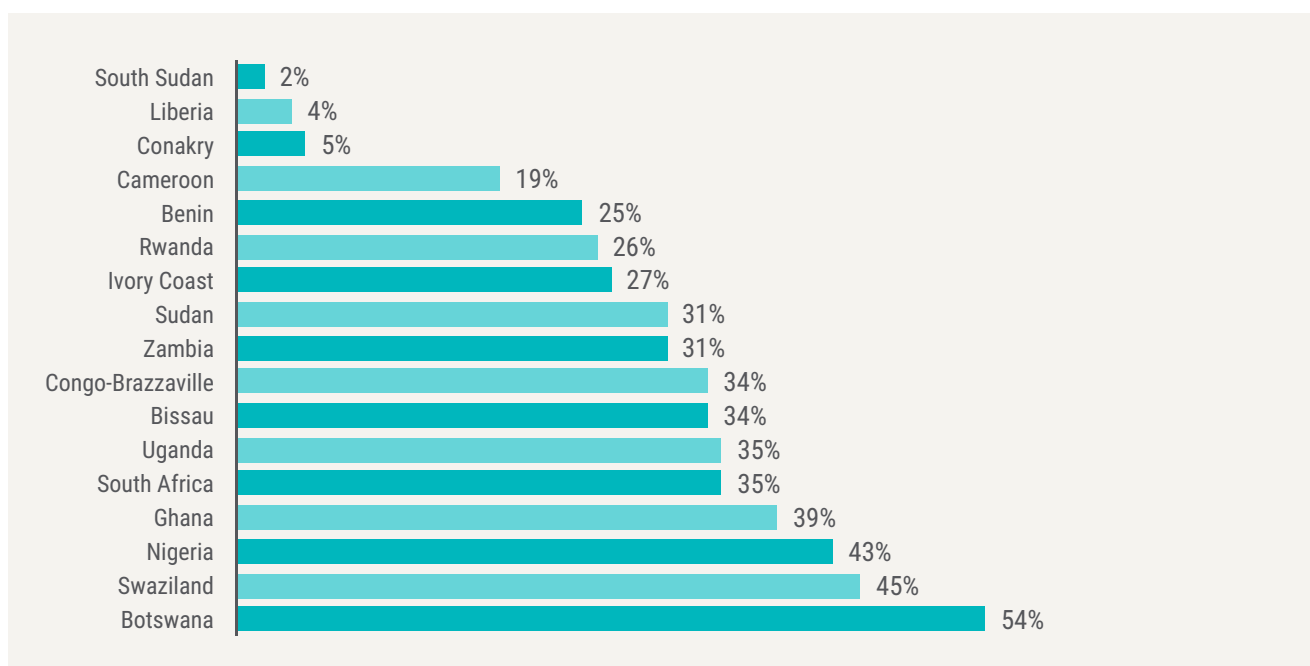


The steadily growing subscriber numbers is consistent with the price decreases for voice, SMS and data, established in the previous section. The main reason for the drop in revenues was a price war²³ in 2017 and the decrease in revenues from existing subscribers was greater than the additional revenue earned from new subscribers. From Q4 2017 until Q3 2018, MTN revenues grew again by 15%.

Table 13. MTN Benin revenues (ARPU x subscribers)

	4Q17	1Q18	2Q18	3Q18
Revenues (million CFA)	11,521	12,817	12,153	13,248

Figure 8. MTN EBITDA margins for H1 2018



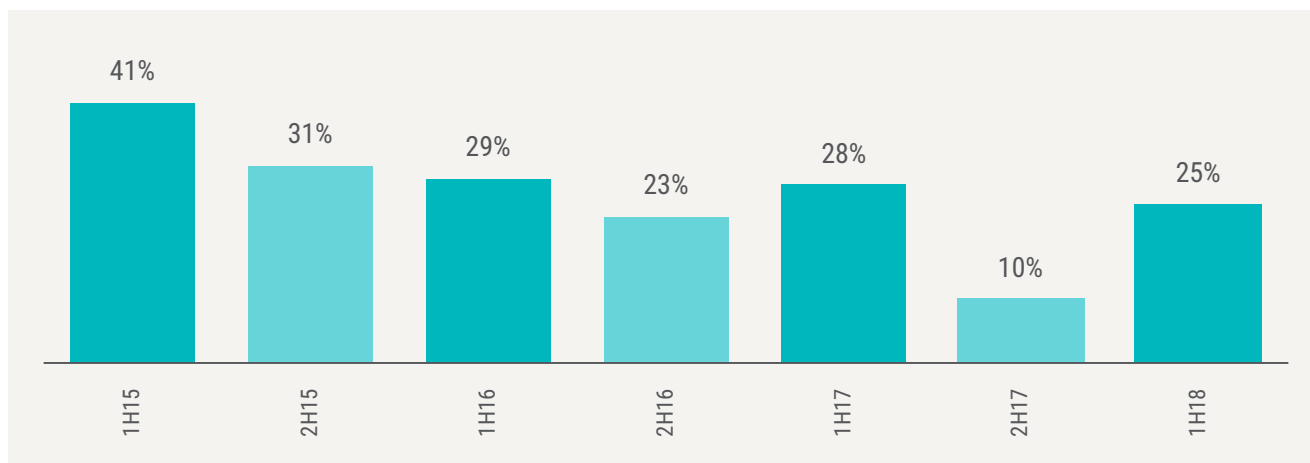
²² Source MTN investor relations. Also 2017 ARPU has not been restated for the impacts of IFRS 15 and modernisation of subscribers.

²³ Email interview with MTN

Regulatory intervention affected MTN Benin's EBITDA margins, which is considerably lower than those of MTN Ghana and MTN Nigeria, where MTN is also dominant but competes with more operators.

The drop in EBITDA margin in H2 2017 was caused by the USD 242 million that was set aside for the spectrum penalty that ARCEP imposed on MTN. The dispute was resolved in Q2 2018.

Figure 9. MTN Benin EBITDA margin



Overall ICT sector assessment

Policymakers stated that “between 2016 and 2018, operators lost around 30 billion [CFA] of turnover due to the invasion of OTTs, which do not contribute to the turnover of the operators they use, infrastructure or national tax revenues”.²⁴

The analysis of Benin's sector performance shows that this statement is not accurate. During the period 2016 to 2018, traffic on the network and mobile internet subscribers increased while prices declined. None of these events are consistent with the interpretation that OTTs caused a 30% decline in MNO revenues. It is far more likely that regulatory intervention in the market caused the decline in revenue, especially the dropping out of three licensees from the market during 2017.

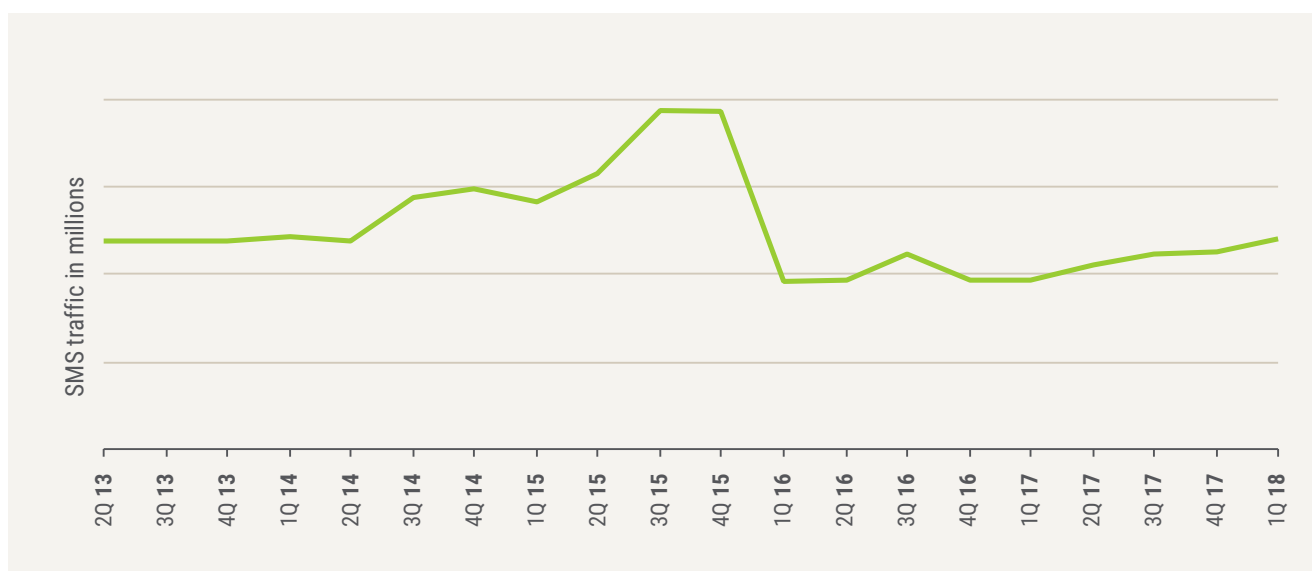
²⁴ ARCEP, 2018, available at <https://arcep.bj/decret-2018-341-portant-introduction-dune-contribution-sur-la-consommation-des-services-des-communications-electroniques/> Translation is via Google Translate.

05 Potential impact of taxation

Imposing ICT taxes does not mean that subscriber numbers and data will not grow again after an initial decline. Usually ICT access and usage continue to grow, but from a lower base.

Figure 10 gives an example of a drop in SMS traffic after the introduction of an excise duty on SMS messages in Guinea in Q4 2015. While SMS traffic started to grow again after the initial drop, some three years later it has not yet reached the volume prior to the introduction of the tax.²⁵

Figure 10. In Guinea, a new tax on SMS was imposed in Q4 2015, leading to a drop in SMS traffic



The example shows that the introduction of taxes can reduce demand significantly. When growth resumes it is off a much lower base.

Effect on retail prices

Social media is the main driver behind mobile broadband adoption.²⁶ It allows users to generate their own content in the language they prefer. It also allows them to communicate at a much lower cost than traditional voice or SMS, across networks and national borders. There are multiple cases that demonstrate the economic and social benefits of social media, such as ride sharing, mobile phone technical support and study groups.²⁷

²⁵ Data from Regulatory Authority for Posts and Telecommunications, www.arpt.gov.gn.

²⁶ Stork, C. Calandro, E. and Gillwald, A. (2013). Internet going mobile: Internet access and use in eleven African countries, Emerald Group Publishing Limited, info-05-2013-0026, ISSN: 1463-6697, info, Vol. 15 Iss: 5, <http://www.emeraldinsight.com/journals.htm?issn=1463-6697&volume=15&issue=5&PHPSESSID=ul8ffj413i8f1i1vvqs8lgt697>

²⁷ See https://www.microsoft.com/en-us/research/wp-content/uploads/2017/06/AfriCHI_Kasera_O'Neill_Bidwell_Camera_Final_final.pdf and <http://www.irrod.org/index.php/irrod/article/view/3279/4446>

The 5% tax on airtime (voice, SMS and data) and the 5 CFA per MB would have impacted the budget of end users significantly. Table 14 displays the price increase for the cheapest products available in Benin for five usage baskets: 100MB, 500MB, 1GB, 2GB and 5GB per month.

The tax of CFA 5 per MB translates into a tax of between USD 1 to USD 44 per month — an increase of between 48% and 270%. Such a price increase would have significantly slowed down broadband adoption in Benin and led to a decline in active broadband users in the short to medium-term. The impact of the usage drop is estimated in the next section.

Table 14. Impact of tax of CFA 5 per MB on data packages for Q2 2018 is regressive, the price increase would have been exorbitant for consumers.

		100	500	1,000	2,000	5,000
Tax	CFA	500	2,500	5,000	10,000	25,000
	USD	0.9	4.4	8.8	17.5	43.8
Cheapest package in USD	without tax	1.8	2.7	7.3	7.3	16.4
	with tax	2.7	7.1	16.0	24.8	60.1
Price Increase		48%	160%	120%	240%	267%

Sources: Research ICT Solutions

Potential impact of 5 CFA per MB and 5% on data

The link between broadband penetration and GDP growth is well established. The ITU lists a range of studies that measure the macroeconomic effects of mobile broadband penetration.²⁸ The effects vary for sets of countries and time periods and range from 0.8% to 1.5% of additional GDP growth for an increase of 10% in mobile broadband penetration.

Table 15. International results on impact of 10% increase in broadband penetration on GDP growth.

AUTHORS	COUNTRIES	GDP GROWTH
Czernich et al 2009	OECD, 1996-2007	0.9 - 1.5%
Koutroumpis 2018	OECD, 2002-2016	0.82 - 1.40%
OECD 2013	EU countries, 1980-2009	1.1%
Qiang et al 2009	Low income countries 1980-2006	1.4%
Scott 2012	Low income countries 1980-2011	1.35%
Katz 2018		

28 ITU (2013). Taxing telecommunication/ ICT services: an overview.

A factor of 1.4% additional GDP growth for 10% higher broadband penetration, when applied to Benin, would lead to USD 668 million in additional GDP and USD 103 million additional tax revenues over five years (see Table 16).

Table 16. Additional GDP and income tax in Benin in USD million based on 10% increase in broadband penetration.

YEAR	GDP IMPACT OF 10% PENETRATION (USD MILLION)	ADDITIONAL GDP BASED ON 1.4% FACTOR	ADDITIONAL TAX INCOME BASED ON TAX-TO-GDP RATIO OF 15.4%
2017	9,274		
2018	9,274	130	20
2019	9,403	132	20
2020	9,535	133	21
2021	9,669	135	21
2022	9,804	137	21
5 year effect		668	103

The Government's aim should be to grow broadband use if it wants to reap the benefits of increased economic growth and therefore increased taxes. By imposing taxes on data, the government of Benin would have forgone economic growth and, because of the ICT sector's role as an economic multiplier, also imposed an economic cost on the economy as a whole. These economic costs would have been especially apparent in the health, financial services and education sectors, with lower levels of access and usage.

Table 17. Annual GDP and tax impact for various reductions in mobile broadband subscribers.

	10% DROP	20% DROP	30% DROP
GDP USD million	9,274	9,274	9,274
Tax to GDP Ratio	15.4%	15.4%	15.4%
Forgone GDP growth USD million Based on 1.4% per 10% subscribers	130	260	390
Forgone Tax USD million	20	40	60

Because the taxes were not implemented, price elasticities cannot be estimated. Instead, the potential impact of the taxes is calculated if an assumed reduction of 20% of active internet users had occurred. The result would have been 2.8% forgone GDP growth and a loss of USD 40 million across the economy. A more detailed tax impact assessment is not possible without detailed data from the central bank and the Ministry of Finance of Benin.²⁹

²⁹ For more details on the methodology see: <https://researchictolutions.com/home/wp-content/uploads/2019/01/Unleash-not-squeeze-the-ICT-sector-in-Uganda.pdf>.

06 Conclusion

The briefly introduced and withdrawn taxes by the Government of Benin would have resulted, based on a conservative estimate, in a forgone GDP growth of USD 260 million and forgone taxes of USD 40 million. Aside from the economic impact, the justification that the aim of the taxes was to rescue mobile network operators because their revenues had declined by 30% due to OTTs, is incorrect. Instead, market consolidation, regulatory uncertainty and a price war led to a decline in revenues between 2016 and 2017. Since Q4 2017, MNO revenues have increased.

Our findings, supported by international organisations such as the OECD and EU and multilateral regulatory agencies, such as BEREC, suggest that Benin's regulatory framework urgently needs to be updated. Market intervention based on a circuit-switched regulatory framework can result in significant unintended consequences and jeopardise mobile broadband access and usage.

It is not the role of governments or regulators to protect the private sector from technical evolution and changing business models. Rather, regulators should facilitate technical evolution by modernising licensing regimes and spectrum management. The ICT sector should be used to grow Benin's economy, jobs and tax base. The more citizens that have broadband access, the easier it will be to serve them with e-gov, e-health, e-education and financial services.



Alliance for Affordable Internet
1110 Vermont Ave NW, Suite 500, Washington DC 20005, USA
www.a4ai.org | Twitter: [@a4a_Internet](https://twitter.com/a4a_Internet)