



# Digital inclusion and mobile sector taxation 2015

**Deloitte.**



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The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

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# Executive Summary

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Over the last 10 years, the GSMA and Deloitte have partnered to examine the economic and social impacts of the mobile industry and the impacts of mobile-specific taxation on industry growth, affordability and digital inclusion. These studies have demonstrated that mobile services are taxed at a higher rate than other services in a significant number of countries.

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This report provides an updated review of taxes that apply to consumers' use of mobiles and mobile operators, and in particular of those sector-specific taxes levied only on mobile. The report:

- Covers taxes levied on mobile consumers from 110 markets in Europe, Africa, Middle East, Latin America and Asia Pacific. These markets have been selected on the basis of previous similar studies and on data availability.
- Examines mobile consumer and operator taxes in 26 countries, selected by the GSMA to reflect economies at various stages of development, with different taxation structures and maturities of the mobile sector.
- Is based on a tested methodology which was employed in similar studies in 2007 and 2011. Data was sourced from the GSMA, public databases as well as from mobile operators.

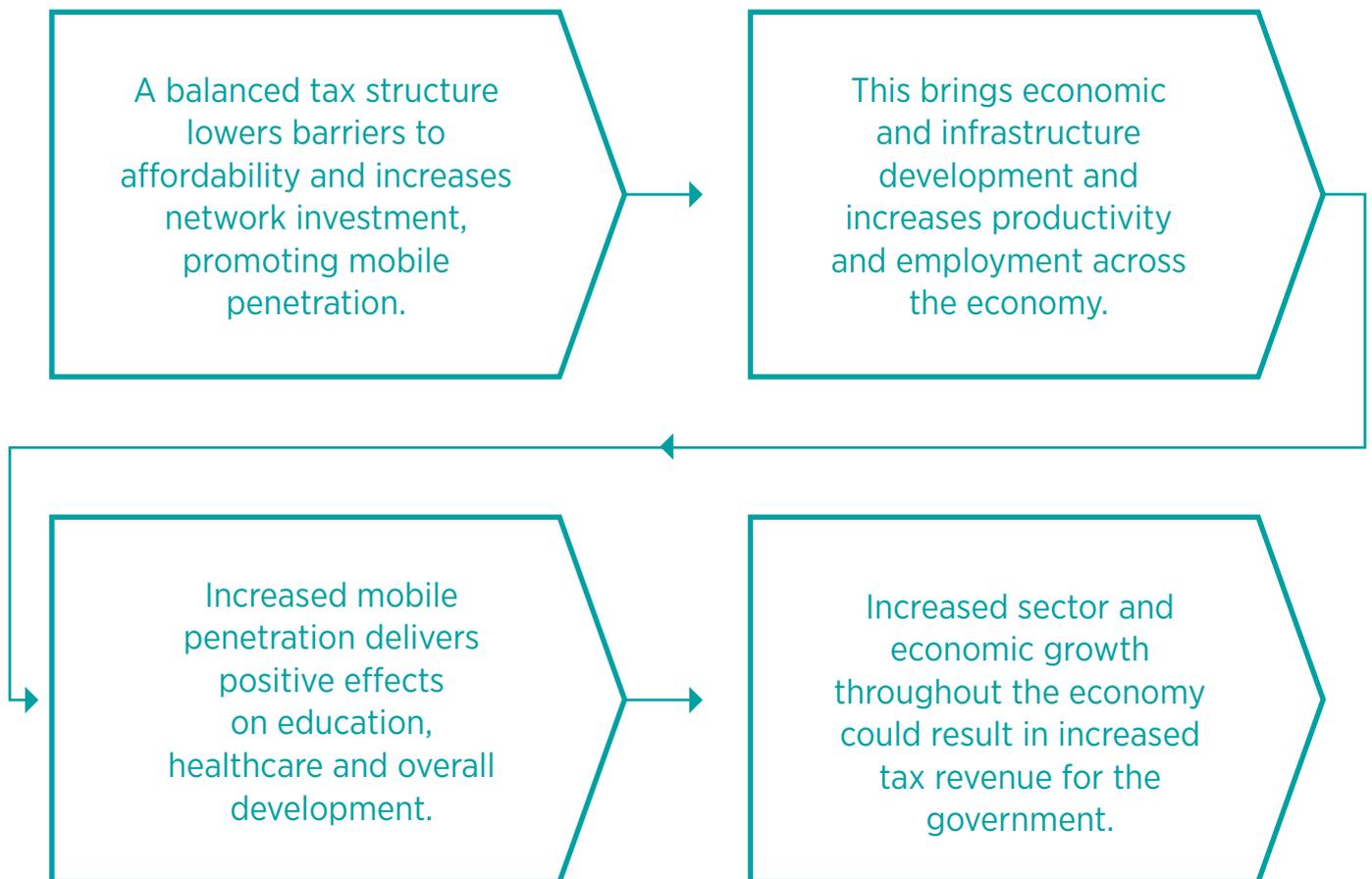
Improving affordability could unlock digital inclusion and sustain the growth of mobile broadband, especially in emerging economies where sector-specific taxation is creating barriers to access.

Mobile services are bringing wide-ranging benefits to countries worldwide, with 3.4 billion unique mobile subscribers.<sup>1</sup> The growth of the sector has enabled access to Information and Communications Technology (ICT) for many, promoting the dissemination of information and ideas, increasing productivity and ultimately delivering economic and social growth. However, barriers to extending access to mobile broadband services remain, especially in developing countries, where affordability is a key problem.

Taxation that affects mobile services disproportionately compared to other services can increase these barriers and impact both affordability and the incentives to invest in network roll-out.

Figure 1

### The benefits of removing mobile-specific taxes on consumers and operators



1. GSMA Intelligence Database.

Across 26 selected countries, the total tax and fee payments from the mobile sector amounted to US\$ 39 billion in 2013, while market revenues were US\$ 117.5 billion

This review estimates the total tax and fee payments from the mobile sector, including taxes and fees paid by operators (e.g. corporate tax, licence fees, revenue contributions, spectrum fees) and taxes on consumers (e.g. VAT, mobile-specific airtime excises, handset-specific taxes).<sup>2</sup>

Figure 2

## Measuring the total tax contribution of the mobile industry



In the mobile industry, total tax payments and fees are estimated to represent more than a third of market revenues for 11 of the 26 countries surveyed.

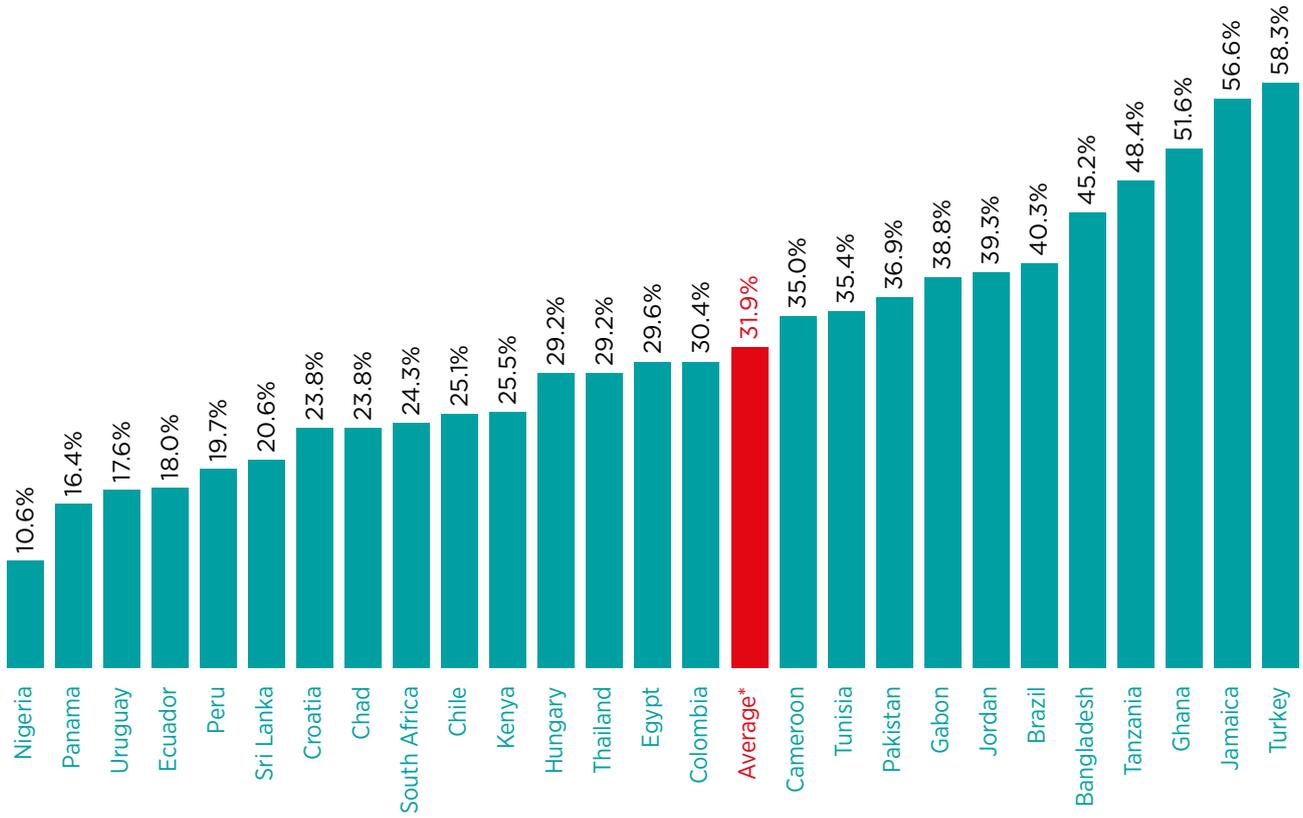
- Total mobile tax payments from taxation on both consumers and operators are estimated to range from 10.6% as a proportion of market revenues in Nigeria to 58.3% in Turkey.

- The five countries that were found to have the highest consumer taxes as a percentage of TCMO are also among the countries with the highest tax payments as a proportion of mobile revenues. (Please refer to results and definitions on page 11).

2. The calculation does not reflect tax payments or revenues of players in the wider mobile ecosystem, such as handset dealers or mobile content providers.

Figure 3

Total tax and fee payments as a proportion of mobile revenues in selected countries, 2013

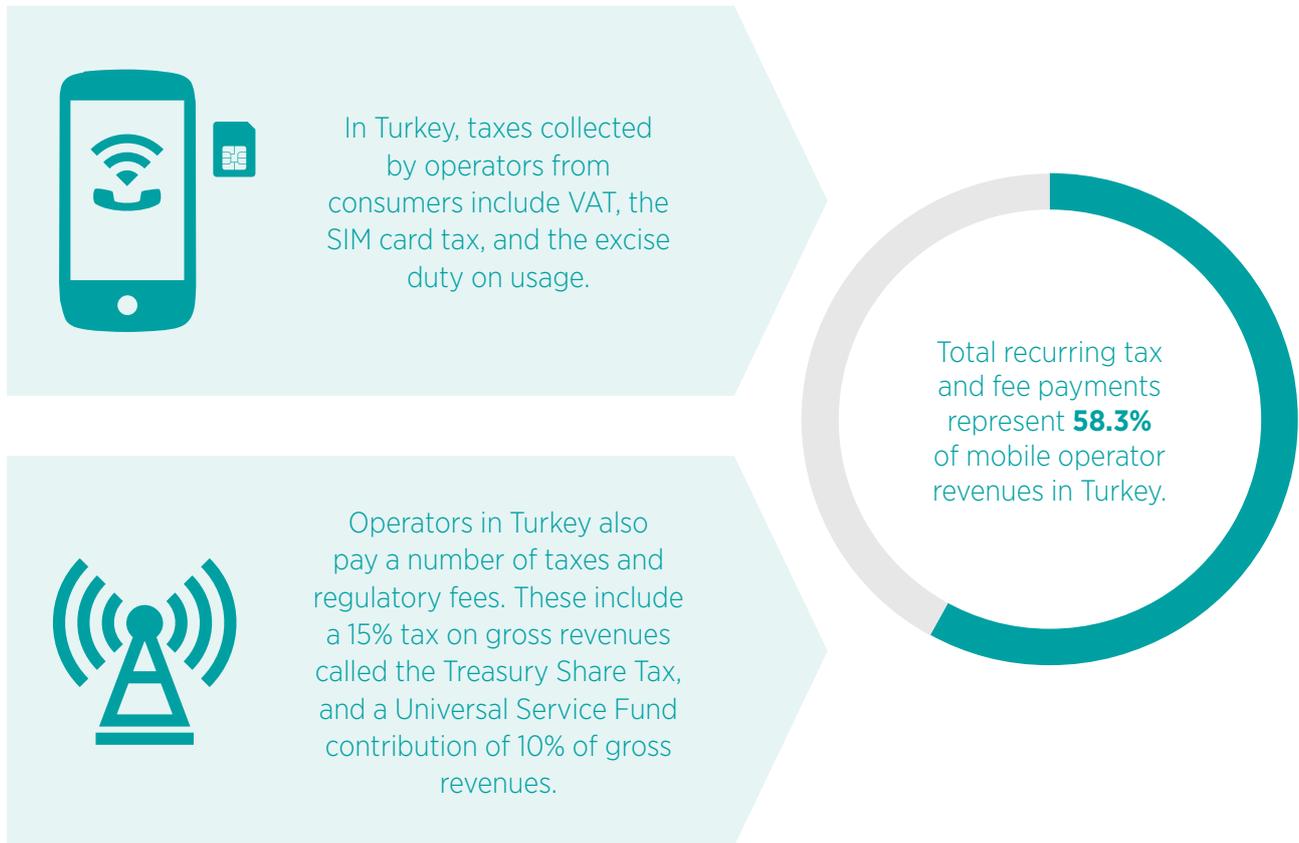


\*Across 26 selected countries

Source: Deloitte analysis based on GSMA Intelligence Database and operator data

Figure 4

## Mobile consumer and operator taxes in Turkey



Especially in emerging markets, tax payments from mobile operators and consumers provide a significant contribution to public revenues. For example, recent studies by GSMA and Deloitte have estimated that:

- Mobile operators contributed 7% to Pakistan's total tax revenues in 2013.<sup>3</sup>
- In Ghana, mobile operators contributed 9.1% to the government's total tax revenues in 2013.<sup>4</sup>

3. GSMA/Deloitte, Digital Inclusion and Mobile Taxation in Pakistan, 2015.  
4. GSMA/Deloitte, Digital Inclusion and Mobile Taxation in Ghana, 2015.



In the mobile industry, total tax payments and fees are estimated to represent

**MORE THAN A  
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REVENUES**

for 11 of the 26 countries surveyed.

## A significant proportion of tax and fee payments from consumers and operators can be attributed to mobile-specific taxes

Mobile operators and consumers face numerous industry-specific taxes and fees, which make their contribution to overall government revenues higher than most other industries.

- Over the sample, sector-specific taxes make up on average 32.1% of the recurring payments on mobile services, including taxes on both consumers and operators.
- The proportion of the total payments accounted for by sector-specific taxes and fees varies considerably across countries, ranging from 0.5% in Chile to over 91% in Sri Lanka.

Mobile-specific payments made by operators include regulatory fees, such as the Universal Service Fund (USF) contribution and recurring spectrum fees<sup>5</sup>, special revenue or profit taxes on mobile and import duties on network equipment.

- Across the 26 countries 12 impose special taxes on operators' revenues, which amount to an average of 7.8% of total tax and fee payments and over 10% of total tax and fee payments in Hungary, Tunisia, Ghana, Brazil, Bangladesh and Pakistan.
- It is estimated that in 2013, across the panel of 26 countries operators paid around US\$ 0.85 billion on network equipment duties, equivalent to an average of 5% of the total tax payments on mobile.<sup>6</sup> These payments include duties on base stations and other imported equipment which are essential to maintaining and rolling-out new network.

- Some countries charge higher corporation tax on mobile operators: for instance, in Bangladesh operators pay 45% of profits as corporation tax compared to the standard rate of 27.5%, and 5.5% of their revenues as a 'revenue share tax', whilst in Cameroon and Tunisia operators pay 39% and 35% as corporation tax respectively against standard rates of 25%.
- 12 out of 26 countries require operators to contribute to the USF, ranging from 0.2% of revenues in South Africa to 1% in Bangladesh, Chile, Ecuador and Panama, to up to 10% in Turkey.

These estimates exclude the significant licence and spectrum fees, which are paid by mobile operators in order to acquire the right to provide mobile services, in addition to recurring taxes and charges. The final price paid reflects operators' expectations on future cash flows, including tax disbursements, at the time the investment decision is made. However, taxes on mobile services are often increased substantially throughout the duration of a licence, which negatively impacts the mobile operators' business case and can have adverse effects on consumers if some mobile operators were to hold off investment due to taxation uncertainty.

5. While USF contribution and spectrum fees do not represent taxes, these fees are paid to the government similarly to taxes.

6. For some countries in the panel it was not possible to separate import duties on network equipment from import duties on imported handsets. Due to the higher incidence of the latter, in these cases these payments were considered as consisting entirely of import duties on network equipment.



## Taxes and fees on each mobile connection cost US\$ 35.6 on average per year across 26 selected countries

The implications for mobile users can be gauged by comparing total tax payments from the industry to the size of the market in terms of active connections. A high tax cost per connection could have adverse effects, holding back the adoption of new technologies and the extension of mobile services to the next 4 billion people in the world that remain unconnected.

This review estimates the value of mobile tax payments per mobile connection across the panel of 26 countries and finds that:

- On average, the cost per connection accounted for by tax payments was about US\$ 35.6, and ranges from US\$ 7.5 in Sri Lanka to US\$ 100.9 in Jamaica.
- Seven out of the 10 countries with the highest payments per connection are also among the 20 highest taxed countries in terms of consumer taxation as a proportion of TCMO (Please refer to results and definitions on page 11).
- Whilst countries with low Average Revenue per User (ARPU) levels, such as Pakistan and Bangladesh, have lower tax payments per connection, the effective tax paid is very high as a proportion of revenues, 36.9% and 45.2% respectively.

## The cost of taxation on mobile consumers has increased over time

The costs borne by consumers in order to own and use a mobile phone include expenditure on calls, SMS and data, as well as activation and handset costs, and can be expressed as the Total Cost of Mobile Ownership (TCMO). Each of these cost elements is subject to taxation; this review estimates that in 2014, taxes applied directly on mobile consumers represented 20% of TCMO across 110 countries surveyed. This measure takes into account taxes charged directly by governments on mobile

devices and services, like VAT, customs duty on handsets, and luxury taxes on mobile usage; it does not reflect any operator taxes or regulatory fees which may be passed onto consumers. If the pass-through of operator taxes onto consumers were taken into account, the mobile consumer tax burden could be higher in some countries. Figure 6 shows the 50 countries with the highest consumer tax burden as a share of TCMO; full results can be found in the Appendix.

Figure 5

### Measuring the direct cost of taxation on mobile consumers

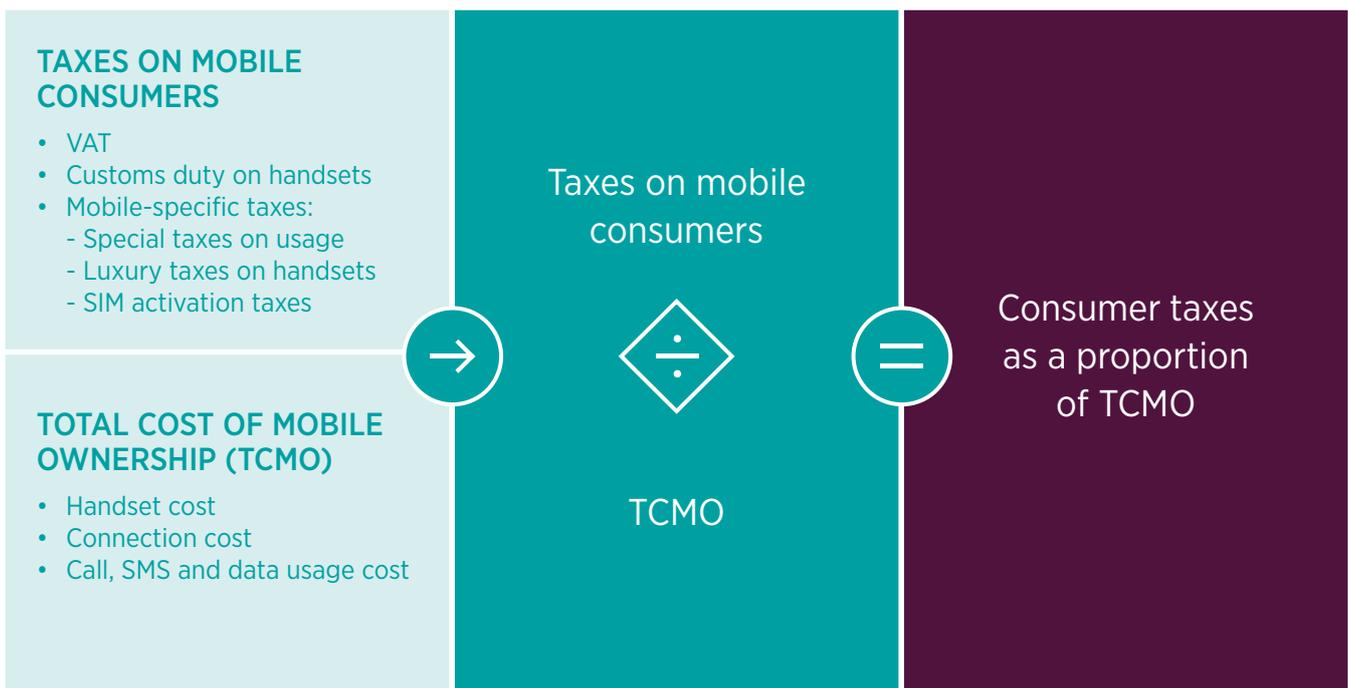
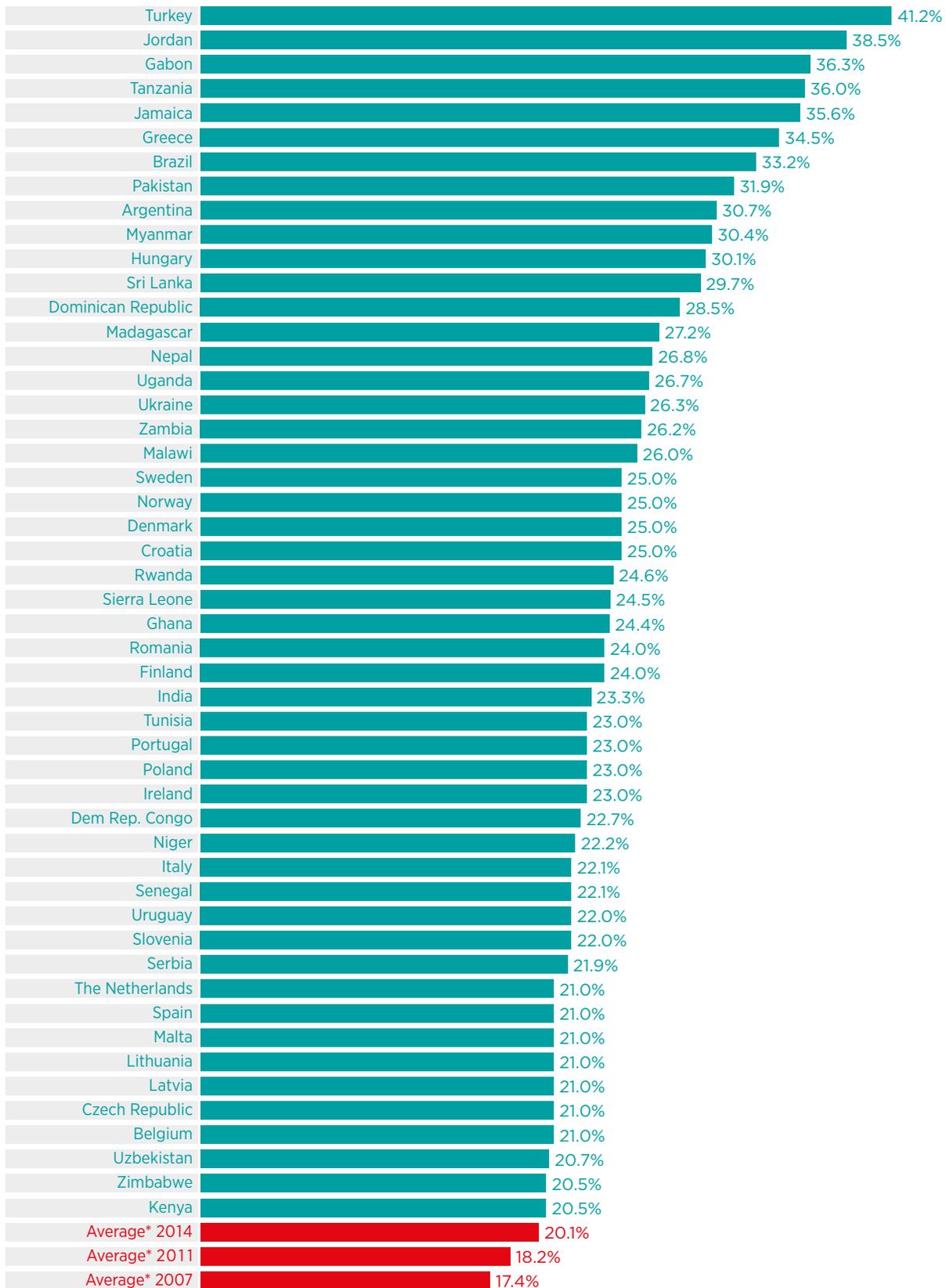


Figure 6

### Consumer taxes as a proportion of TCMO in the top 50 countries, 2014



\*Note: Each average refers to the full panel of countries in the corresponding global taxation survey carried out by GSMA and Deloitte. Source: Deloitte analysis based on GSMA Intelligence Database and other sources identified in the methodology.

Consumer taxes as a proportion of TCMO have increased over the years, from 18% in 2011 and 17% in 2007.<sup>7</sup>

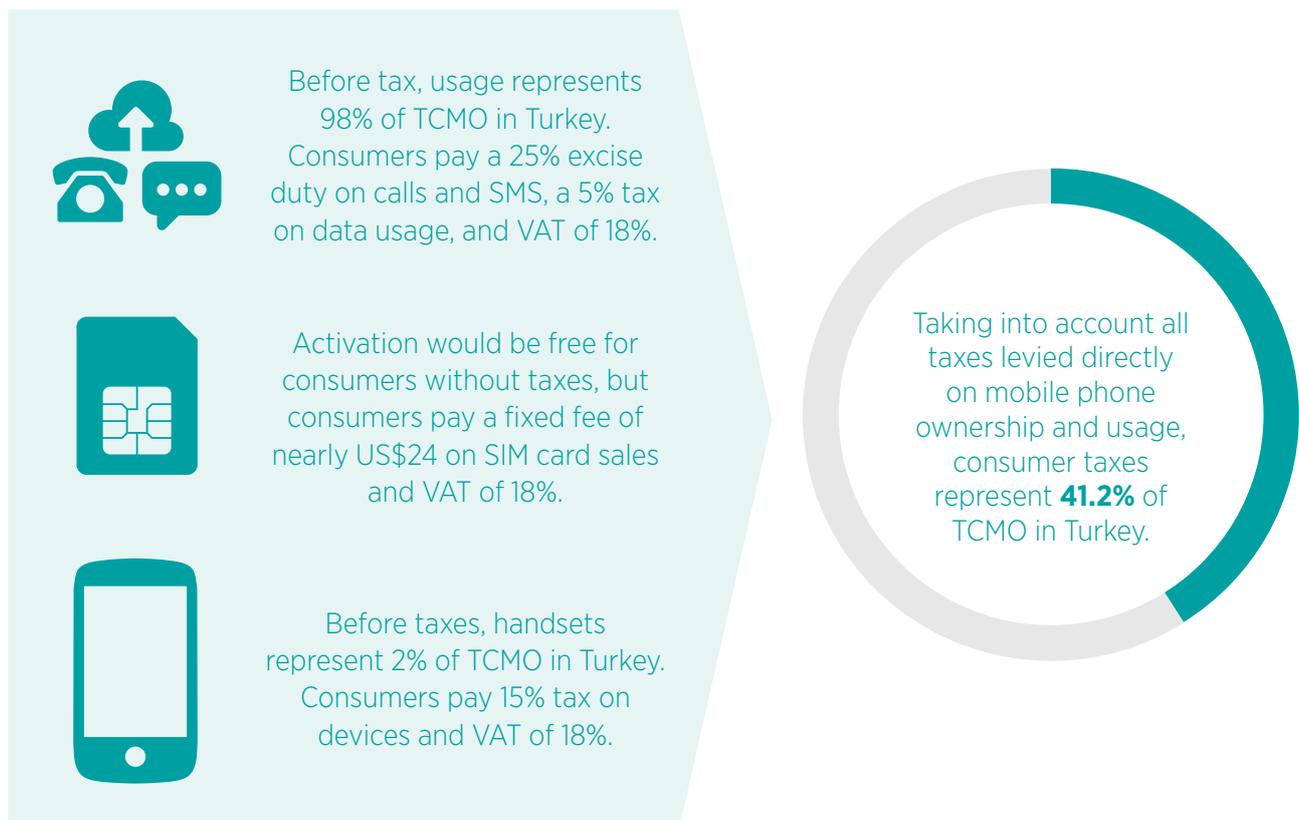
- Consumer tax represents the highest proportion of TCMO in Turkey, Jordan, Tanzania, Gabon, Jamaica and Greece.
- Other than Greece, the ten countries with the highest consumer tax as a proportion of TCMO are all emerging economies.
- Consumer tax as a proportion of TCMO is the highest in Turkey, due to a 25% excise tax on calls and SMS, a 5% tax on data usage, plus a 25% tax on the sale of handsets and a fixed fee of about US\$ 24 on SIM card sales. This is in addition to a standard VAT rate of 18%.
- Jamaica also has one of the highest taxation regimes due to higher sales tax on calls and handsets (25% compared to the standard rate of

16.5%), a substantial custom duty of 12.5%, a US\$ 0.004 tax per minute on calls and an additional 0.80% tax on handsets and activation. The latter consists of a 0.5% Environmental Levy and a 0.3% Standard Compliance Fee applied to all imported goods.<sup>8</sup>

- In some countries with low levels of consumer taxation, operators are subject to significant taxes and regulatory fees which are likely to be passed onto consumers in the form of higher retail prices. For example in Thailand, operators are subject to a 30% “revenue sharing tax” on gross revenues. Similarly, in Bangladesh, operators pay a 5.5% “revenue share tax” and a number of regulatory fees. Operators have indicated that a portion of these taxes are passed onto consumers. If this pass-through was taken into account, tax as a percentage of TCMO would be higher in Thailand and Bangladesh.

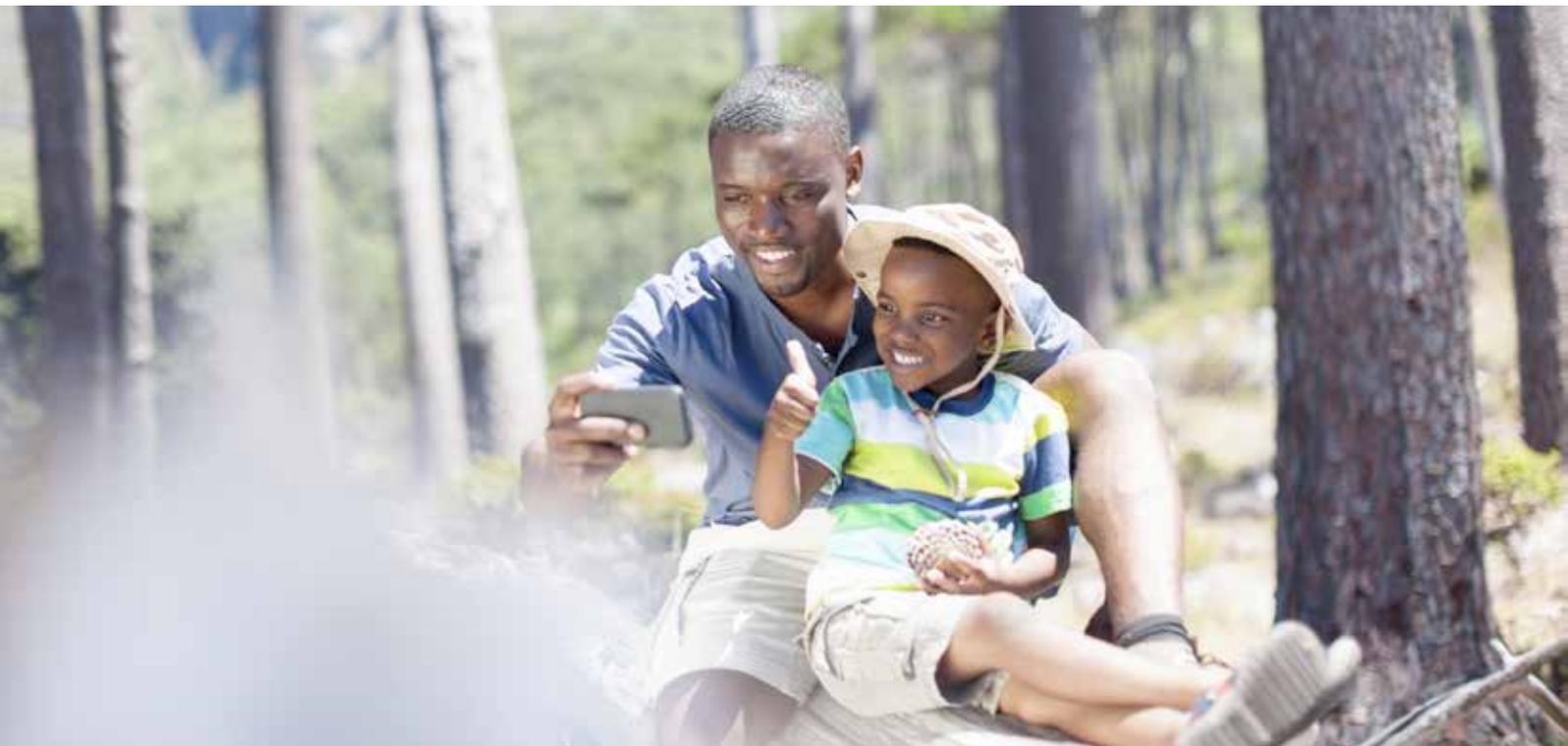
Figure 7

## Mobile consumer taxes in Turkey



7. GSMA/Deloitte, Global Mobile Tax Review, 2011 and 2007.

8. Government of Jamaica National Environment and Planning Agency: <http://www.nepa.gov.jm/>



## In many developing countries, consumers face higher taxation on mobile than on other goods and services

In developed economies, taxation on mobile consumers is attributable to general taxes such as VAT, which are applied uniformly on all goods and services. In emerging economies, mobile-specific taxes are often applied in addition to broad-based taxation and contribute significantly to the cost of taxation in the most heavily taxed countries.

Today, among the 110 countries surveyed, 44 levy taxes that are specific to or are applied at higher rates on mobile services. In particular:

- Of these 44 countries, 17 are in Africa, seven are in Latin America, seven are in Asia Pacific, and five are in Middle East and North Africa (MENA).
- 37 countries levy industry-specific taxes on mobile usage, such as airtime and data tax or additional VAT over the standard rate.<sup>9</sup>
- 24 countries apply specific usage taxes on mobile data, and seven impose higher VAT on these services compared to the standard rate.

- 25 countries impose a special tax or additional VAT on handsets, in addition to custom duties on imported devices that are in some cases higher for mobile than for other goods.
- 10 countries, including Jamaica, Tunisia, Pakistan and Bangladesh, apply an activation tax that is paid upon purchase or activation of a SIM card, and hence represents a barrier to access for lower income consumers.

Compared to goods or services that are only subject to VAT, mobile services receive about 33% more taxation in the countries that impose mobile-specific consumer taxes.<sup>10</sup>

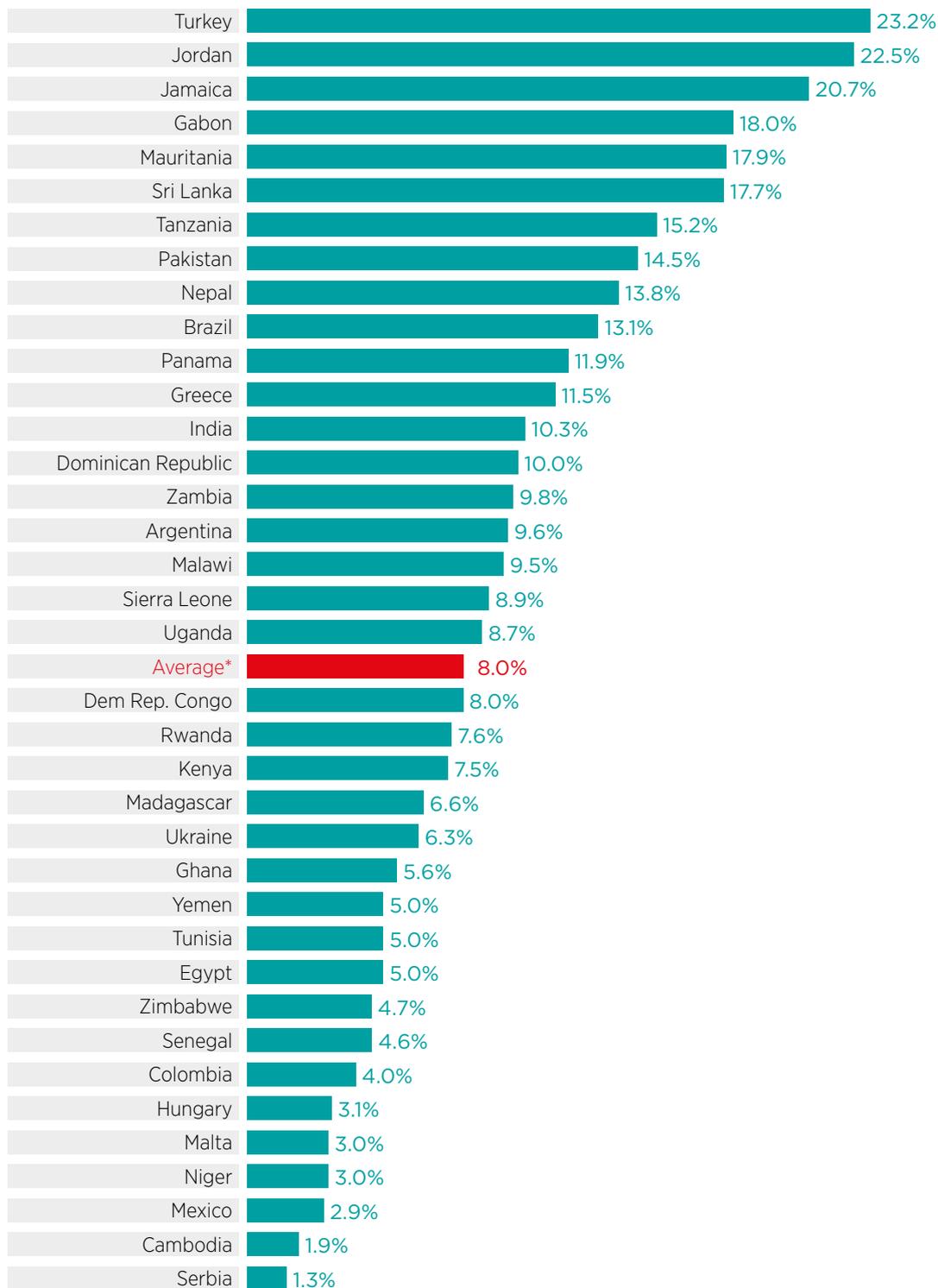
Mobile-specific consumer taxes are estimated to represent 8% of TCMO among the 44 countries that impose them and 3% of TCMO in the entire sample of countries.

9. The difference between the VAT rate applied to mobile services and the standard VAT rate is referred to as 'additional VAT'.

10. This estimate is obtained by dividing the average mobile-specific consumer taxation (8%) by the average taxes as a proportion of TCMO (24.1%).

Figure 8

## Mobile-specific taxes on consumers as a proportion of TCMO, 2014



\*Countries with mobile-specific taxes

Source: Deloitte analysis based on GSMA Intelligence Database and other sources identified in the methodology  
 Note: The estimate excludes import duties on handsets. The chart excludes the countries where mobile-specific consumer taxes are less than 1% of TCMO. This amounts to 7 countries.



In those countries that impose mobile-specific taxes on consumers, consumers pay on average US\$ 8 more in tax than on a standard good for each US\$ 100 spent.

Of those countries that impose mobile-specific consumer taxes, the majority are developing markets where affordability is a key issue to industry development and many have recently introduced new taxes.

- Since 2011, 12 additional countries now charge mobile-specific consumer taxes or impose higher rates on mobile. This includes nine countries that increased additional VAT on mobile services only.
- In MENA, Jordan has increased the airtime excise from 8% to 24% and Tunisia has introduced a new excise tax at 5%. In Asia, Cambodia has introduced a new airtime excise and Pakistan has increased an ad valorem tax on usage to 14%. In Sub-Saharan Africa, Zimbabwe, Tanzania, Rwanda, and Malawi increased or introduced airtime taxes.

- Since 2011, seven countries have raised the additional VAT on handsets, while 12 have increased the special tax on handsets since 2011. Eight countries have decreased additional VAT on handsets.

However, a limited but growing number of countries have reduced mobile-specific taxation:

- Four countries reduced mobile-specific taxes on usage (including Malaysia and Uganda).
- Three countries (Bangladesh, Argentina and Colombia) reduced 'luxury' taxes on handsets.
- Eight decreased the VAT rate on one or more mobile services or on handsets (including Angola, Rwanda, Venezuela and Vietnam).

## By transitioning to a taxation structure where mobile is treated equally to other services, governments can promote digital inclusion, economic growth and fiscal stability.

Supportive taxation policies can be an effective tool to stimulate both demand for ICT services and promote investment. By transitioning to a more balanced taxation on mobile, in line with that applying to standard goods and services, governments worldwide can not only increase digital and financial inclusion and economic growth, but also recover higher tax revenues through more efficient and broad-based taxation. This transition has the potential to increase and enable the investment required to further improve mobile broadband network infrastructure.

Countries worldwide have started to recognise the upside of an equitable and balanced taxation on the mobile sector and the potential to improve affordability and unlock digital inclusion.

Many governments worldwide recognise mobile's potential to advance economic development and are including the development of ICT technologies and widespread access to mobile broadband services in their long-term objectives. This is particularly the case in developing countries where fixed line networks are often not available. As noted by former International Telecommunication Union (ITU) Secretary General Dr Hamadoun Touré:

*'It is encouraging to see a growing number of tax administrators recognize that ICT services are different from other services, because of their capacity to stimulate economic growth and social development. Governments who have committed to following best-practice ICT regulation are now reducing or even eliminating some sector-specific taxes. ITU would like to see all governments follow their lead.'*<sup>11</sup>

Some positive changes towards a more balanced and equitable taxation structure have already been made in a number of countries and these have been highlighted in the present study, for example Malaysia, which has abolished a 6% excise tax on mobile usage, Sri Lanka, where a 20% tax on mobile activation was abolished, and those countries that have reduced the additional VAT on handsets.

In order to sustain the growing market of cellular Machine-to-Machine (M2M) devices, Turkey abolished the activation tax on M2M SIM cards in 2012 and Brazil introduced a series of reductions to the same tax, which came into effect in 2014.

In Croatia, after a 6% tax on mobile operators' gross revenue from mobile usage was introduced in 2009, volumes of mobile calls and SMS decreased by 4% and 14% respectively in 2010 and reductions in operator revenues led to a decrease in capital expenditure.<sup>12</sup> The tax was then removed in 2012 and the sector experienced an increase of 5% in capital expenditure between 2012 and 2013.

In November 2014, the government of Ghana has recently approved the removal of the 20% import duty on handsets, effective in 2015, in order to help bridge the digital divide in the country and support the development of mobile broadband.<sup>13</sup>

The importance of the mobile industry in contributing to government revenues is recognised. However, a more equitable and balanced taxation structure could benefit the economy as a whole and support growth and fiscal stability in the medium term. The transition to a balanced taxation on mobile, in line with that applying to standard goods and services, could boost digital inclusion and broadband penetration and further enhance the industry's contribution to economic and social development.

11. ITU Press, Geneva, 24 February 2012.

12. GSMA/Deloitte, Mobile taxes – A toolkit of principles and evidence, 2014.

13. <http://www.theafricareport.com/West-Africa/ghana-to-remove-import-duties-on-smartphones-raise-tobacco-taxes.html>

A number of areas for tax reform have been identified, based on international taxation best practice and in consultation with GSMA and mobile operators. These could support the uptake of mobile to further contribute to economic growth and government revenues over and above its current impact.

- **Reduce specific taxation of the mobile sector:** Higher than normal taxation on mobile operators and consumers distorts production and consumption behaviour. It may also limit usage of digital services, reduce the ability of mobile operators to finance investment in digital infrastructure, and can in the long term reduce government revenues. Reducing specific taxation on mobile would remove these distortions, making mobile services more affordable and incentivising operator investment.
- **Apply phased reductions of taxes on established services:** Phased reduction of mobile-specific taxes on operators' revenues and on usage offer governments the opportunity to benefit from the economic contribution from mobile whilst limiting short-term fiscal costs.
- **Reduce taxation on access:** 44 countries still impose mobile-specific taxes on access. It is important that any barrier to access mobile broadband is reduced, especially in emerging markets. Governments can benefit in the medium term by reduction in access charges as more users consume mobile services.
- **Reduce complexity and uncertainty of mobile taxation:** Taxation on mobile operators has varied rapidly and unexpectedly. Any unpredicted tax change that occurs after investment in spectrum licence is made may negatively impact an operator's business plan. The risk of future tax rises is priced into investment decisions and can therefore be expected to reduce both Foreign Direct Investment (FDI) and domestic investment in the medium-term.
- **Facilitate the development of emerging services through supportive taxation:** The growth of mobile data and M2M communications opens up the possibility for the sector to increase its economic value through a whole new generation of products and services ranging from health care to education and finance. Governments in countries such as Turkey and Brazil have recognised this potential and reduced SIM taxes on M2M SIM cards.

# 1

## Digital inclusion, mobile taxation and economic growth

## 1.1 This review

Affordability and taxation remain key barriers to mobile adoption and to access to mobile broadband. The GSMA and Deloitte have partnered over the last 10 years to examine the impacts of consumer and operator taxation on mobile affordability, industry growth and economic and social development. As part of this work, this report provides an updated review of taxes that apply to mobile consumers and operators, and in particular of those taxes that apply only to the sector. The report:

- Covers taxes levied on mobile consumers from 110 markets in Europe, Africa, Middle East, Latin America and Asia Pacific. These markets have been selected on the basis of previous similar studies and on data availability.

- Examines mobile consumer and operator taxes in 26 countries, selected by the GSMA to reflect economies at various stages of development, with different taxation structures and maturities of the mobile sector.
- Is based on a tested methodology which was employed in similar studies in 2007 and 2011. Data was sourced from the GSMA, public databases as well as from mobile operators.

In this first section, the link between mobile taxation, affordability and digital inclusion is discussed. The results of the review of consumer taxes in 110 countries are presented in Section 2, while Section 3 reviews the overall tax payments from operator and consumer taxation in 26 countries. Section 4 concludes by discussing areas for industry tax reform that can improve affordability and unlock digital inclusion.

## 1.2 Benefits and barriers to digital inclusion

Mobile access is bringing wide-ranging benefits to countries worldwide and is supporting economic and social growth across all sectors of the economy. Mobile services support investment and innovation in the wider economy and, through the creation of business services and applications, further support economic and social development.

Across the globe 3.4 billion people subscribe to a mobile service, with mobile operators estimated to generate 1% of global Gross Domestic Product (GDP).<sup>14</sup> A number of economic studies have recognised the potential of mobile in achieving positive economic impact.

- Studies by the GSMA and the World Bank have estimated that a 1% increase in mobile penetration could lead to an increase in the GDP growth rate of

0.28%, while a 1% increase in internet penetration can lead to an increase of up to 0.077% in the GDP growth rate.<sup>15</sup>

- In low and middle-income countries, the World Bank has found that every 10% increase in broadband penetration can accelerate economic growth by up to 1.38%.<sup>16</sup>
- There is also wide evidence of the potential of mobile to create new jobs across the mobile ecosystem and the overall economy. This research suggests that, in developing countries and depending on market characteristics, for every job created in the mobile sector between 1.4 and 11.1 additional jobs could be generated in the wider economy.<sup>17</sup>

14. GSMA, Mobile Economy Report, 2015.

15. This is based on GSMA 2012 and Qiang, C. Z. W., Rossotto, C.M., 2009.

16. Qiang, C. Z. W., Rossotto, C.M., 2009.

17. This includes indirect and induced effects and is based on previous analysis by Deloitte and a review of the literature. See for example Moretti, 2010; O2 for ONS 2002; Ovum, 2010; Zain, Ericsson, 2009; Kaliba et al., 2006.

Figure 9

## The benefits of mobile

### THE BENEFITS OF MOBILE: A SUMMARY

①

#### Mobile is a cost effective way of extending access to ICT and internet

Mobile is essential in expanding ICT in emerging markets where fixed line penetration is low.

②

#### Mobile services improve information availability and reduce transaction costs

This increases productivity of businesses and markets and supports economic growth.

③

#### Mobile services promote digital inclusion

Mobile helps share information and improve access to healthcare, education and financial services for millions.

④

#### The mobile sector contributes to long-run economic and fiscal stability

The mobile sector and its ecosystem contribute significantly to government revenues and has positive spillover effect throughout the economy.

### THE MOBILE ECONOMY: SOME EXAMPLES

m-Money



m-Health



m-Education



m-Banking



m-Agriculture



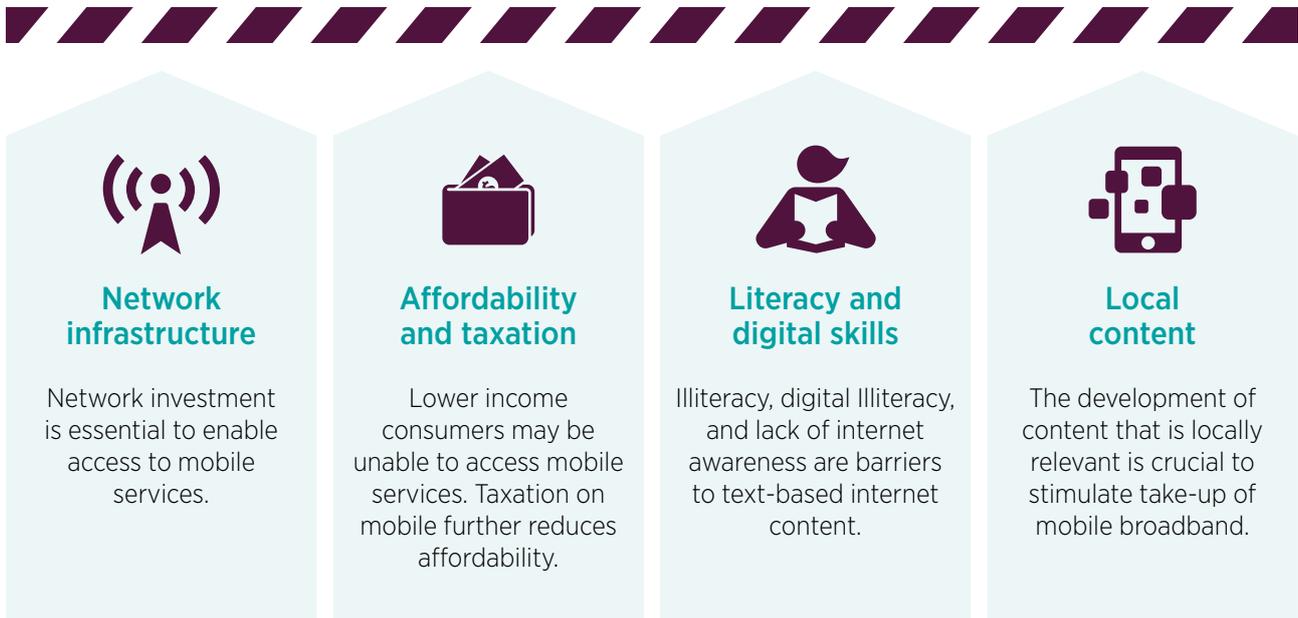
Source: Deloitte

However, in emerging markets, there remain several barriers that slow mobile adoption, particularly in the case of mobile broadband. Lack of network infrastructure, affordability and taxation of services, low levels of literacy and digital skills, and a lack of local content may prevent countries from realising the benefits for mobile access discussed above.

These effects are particularly important in emerging markets, where many remain unconnected and where lower incomes and higher income inequality mean that a larger proportion of the population is very sensitive to the price of mobile services.

Figure 10

## The barriers to mobile access



Source: GSMA Digital Inclusion Report 2014

Taxation, and in particular taxation that affects mobile services disproportionately compared to other services, has significant impacts on the affordability of mobile services. It can lead to higher cost of operation and reduce returns to capital employed and investment for mobile operators, thus hindering the growth of the sector and the development of new and more inclusive services for users. An example of how mobile telephony can impact adoption of new financial services such as mobile money is discussed below.

## Consumer taxation and the adoption of new technologies: the case of m-Money

3G/4G and broadband services are bringing a wide range of applications and services targeted at the needs of users in developing markets, including business support services, m-Health, m-Education, and m-Money.<sup>I</sup> These services and products enhance the value to consumers, resulting in a self-reinforcing cycle of increased penetration, better services and support to numerous other economic activities, thus increasing the sector's contribution to overall economic growth.

Mobile money is a rapidly emerging technology and m-Pesa in Kenya is often cited as one of the most successful examples. In 2012, m-Pesa had signed up 15 million users, was used by 70 per cent of the adult population and 25 per cent of Kenya's gross national product (GNP) flowed through it.<sup>II</sup>

However, special taxes have been introduced on m-Money: in 2012, the Kenyan government announced a 10 per cent tax on mobile payments and other financial transactions.

A key concern with this tax is its regressive nature which can negatively impact rural users who would not otherwise be in the financial system but for services such as m-Pesa.<sup>III</sup>

Mobile payment transactions fell by five per cent in the three months following the introduction of a tax on mobile payments in Kenya, and similar effects have been identified in Uganda.<sup>IV</sup>

In Tanzania, mobile money services have increased financial inclusion and access to banking services in the country, which is a world leader in this market, with 44% of adults having access to banking through these services.<sup>V</sup> However, there exist a 10% excise tax on m-Money which limits the affordability of these services and risks excluding poorer consumers from the benefits of access to banking and financial services.

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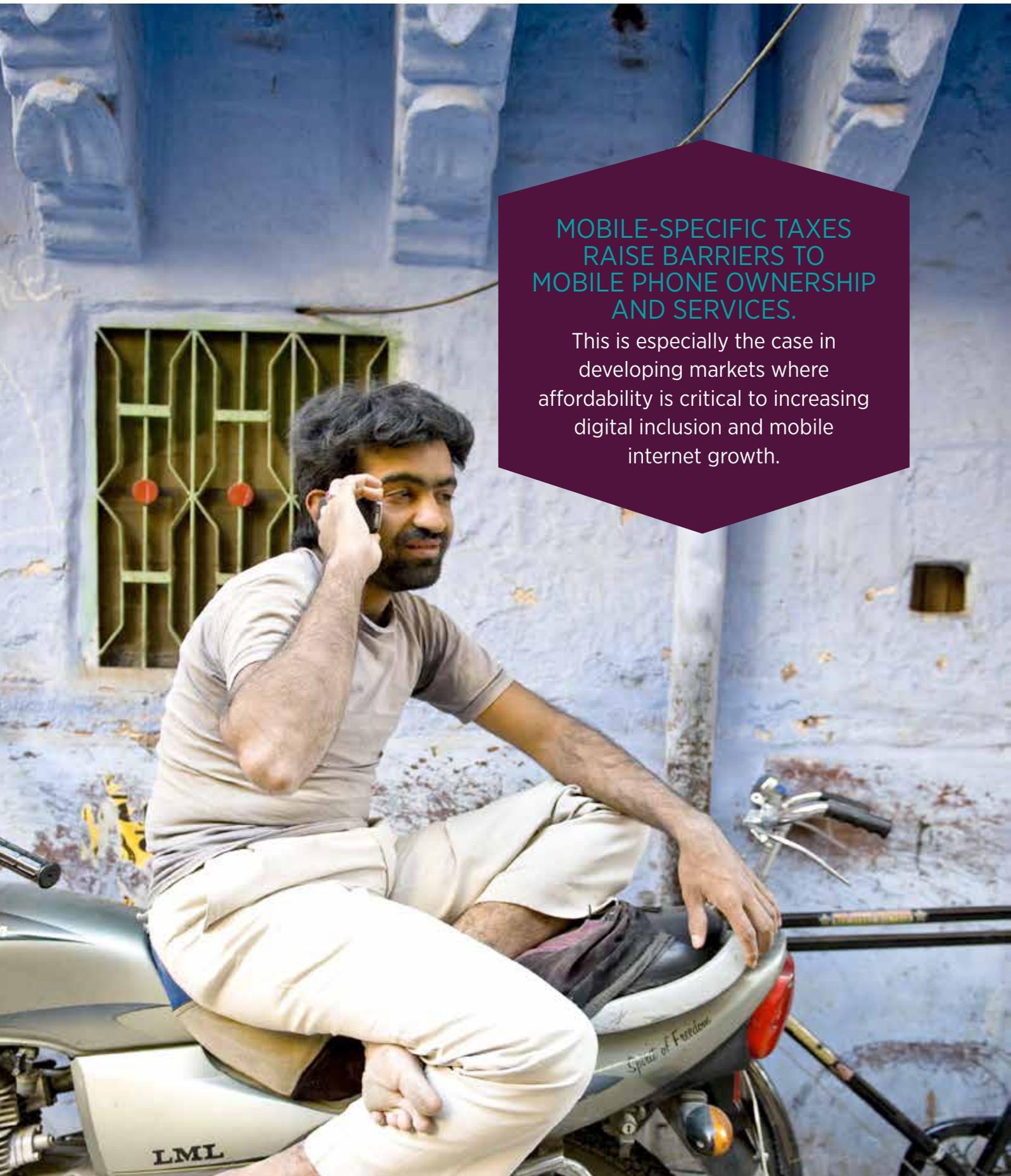
I The GSMA, 'Digital empowerment in the developing world.'

II The Economist (2012), 'Let us in: Mobile money would transform even more lives in poor countries if regulators got out of the way'.

III Centre for Global Development (2012), 'Taxing Kenya's M-Pesa Picks the Pockets of the Poor'

IV See for example The Economist (2013), Charging the mobile, June 22. For Uganda, see <http://www.mobile-financial.com/news/new-tax-sparks-fears-future-ugandas-mobile-banking>

V GSMA (2014), "Tanzania: Enabling Mobile Money Policies".



**MOBILE-SPECIFIC TAXES  
RAISE BARRIERS TO  
MOBILE PHONE OWNERSHIP  
AND SERVICES.**

This is especially the case in developing markets where affordability is critical to increasing digital inclusion and mobile internet growth.

## 1.3 Affordability, investment and mobile taxation

The mobile industry is subject to a variety of taxes levied on mobile operators and consumers. This approach to tax policy is one that is more commonly seen applied to consumption of products which have a negative effect on society (e.g. tobacco, alcohol etc.).

Consumer taxes are levied directly on the users of mobile and form part of the final retail prices that

they face. They are applied both to ownership of devices and to usage of services, such as calls, SMS and data, as well as to the activation of connections. Mobile operators are subject to general taxes, such as corporation tax, as well as numerous mobile-specific taxes and fees.

Figure 11

### Mobile consumer and operator taxes and fees

TAXES ON CONSUMERS			OPERATOR TAXES AND TAXES		
TAX BASE		TAX TYPE	TAX BASE		TAX TYPE
<b>Handsets and other devices</b>		Sales tax	<b>General taxes</b>	Profits	Corporation tax
		★ Luxury contribution / special taxes		Revenues	Turnover tax
		Customs duty		Network equipment	Other revenue taxes
<b>Services</b>	Activation	Sales tax	<b>Regulatory fees and other payments</b>	Fixed amounts	★ One-off license fee
		★ Luxury contribution / special taxes			★ One-off spectrum fee
	Usage	Sales tax		Revenues	★ Universal Service Obligation
		★ Luxury contribution			★ Variable license fee
		★ Variable spectrum fee			

★ Mobile-specific

Source: Deloitte



Many of these taxes are mobile-specific in that they are applied exclusively or at higher rates to the mobile sector. This report distinguishes between taxes on mobile consumers and mobile operators, though in some cases, operators may absorb a portion of consumer taxes or pass-through operator taxes to consumers; such pass-through is not considered in this study.

The main types of taxes that apply to mobile consumers are:

- **Value Added Tax (VAT) or General Sales Tax (GST):** these are taxes incurred directly by consumers when purchasing and using a mobile phone. These taxes are typically ‘ad valorem’ and are expressed as a proportion of the value of the good or service. Although they are general taxes, mobile services sometimes attract higher value added taxes, for example in Pakistan the VAT rate for telecoms is up to 3.5% higher than VAT on other goods.
- **Special taxes on mobile devices:** in certain countries, handsets are still treated as luxury items and often attract special contributions, in addition to high custom duties. This creates significant barriers to access for first time users and hinders the adoption of new technologies. For example in Gabon, on top of a 10% custom duty, each

handset is subject to a US\$ 5 fixed fee, whether it is imported or not. Other countries impose additional VAT<sup>18</sup> on mobile services and devices as well as a special tax on handsets. For example in Argentina devices are subject to 27% VAT, compared to the 21% standard rate, plus a 20.48% special tax.

- **Special excise taxes on mobile usage:** Many countries apply these ad valorem taxes on calls, data and SMS, which range from 3% in Niger and Mexico to 25% in Turkey and Jamaica; in Hungary a fixed US\$ 0.01 contribution applies on each call minute and SMS. In Nigeria, a 2% additional VAT is applied to data services on top of the standard rate of 5%.
- **Other mobile-specific taxes:** these are contributions such as SIM activation taxes or other taxes on activation of connections. A number of countries impose fixed monetary fees on the sale of every new SIM, ranging from US\$ 0.51 in Niger to over US\$ 23 in Turkey.
- **Customs duties on imported handsets and on airtime vouchers:** these apply in numerous emerging markets. These can be expressed as a proportion of the handset value, as a fixed sum, or as both.

18. The difference between the VAT rate applied to mobile services and the standard VAT rate is referred to as ‘additional VAT’ in what follows.

Mobile operators are also subject to taxes over and above those applied in other sectors:

- **‘Revenue taxes’:** these are in addition of corporate tax. For example, in Thailand mobile operators pay a 30% tax on gross revenues, while in Brazil several taxes are levied on revenues from mobile services and handsets. In particular, the PIS/COFIN tax is levied at 3.65% on all usage revenues, while it is 9.25% for handsets and SIM cards’ revenues. An additional 1% and 0.5% tax is levied on usage revenues (FUST and FUNTTEL).
- **Taxes that affect operators’ profitability over and above the general corporation tax.** For example, mobile operators are subject to up to 12.5% higher corporation tax than other companies in Bangladesh and a 1% National Fiscal Stabilization tax levied on revenues in Ghana.
- **One-off spectrum payments:** a key feature of the industry is that mobile operators typically pay significant licence and spectrum fees upfront, and are then granted the right to provide mobile services. However, this investment is made under the expectation of a certain tax treatment.

Often, taxes on mobile services are increased substantially throughout the duration of a licence, negatively impacting the operators’ business case and investment returns.

- **Recurring spectrum payments and other regulatory fees:** in addition to annual fees for spectrum administration and licence fees, other regulatory contributions include Universal Service Fund (USF) and numbering fees. USF contribution is often levied on revenues. In Colombia operators pay 5% of revenues and in Sub-Saharan Africa 18 countries levy fees on operator revenues.<sup>19</sup> These taxes tend to be specific to the industry and can represent a significant proportion of total mobile tax payments.
- **Surcharges on imported goods:** import taxes can also apply to essential network equipment, such as base stations, which are used by operators for infrastructure roll-out.

This review considers the different type of taxes applied on mobile in a selection of countries and estimates their impact for mobile consumers and operators.

## 1.4 The benefits of a balanced taxation structure

While the mobile industry already provides an important contribution to economies worldwide and to the tax revenues of their government, it is often taxed more than other goods and services. As such, a more balanced and equitable taxation structure presents the potential for many countries to further unlock the benefits of mobile technologies and extend them to a wider part of the population.

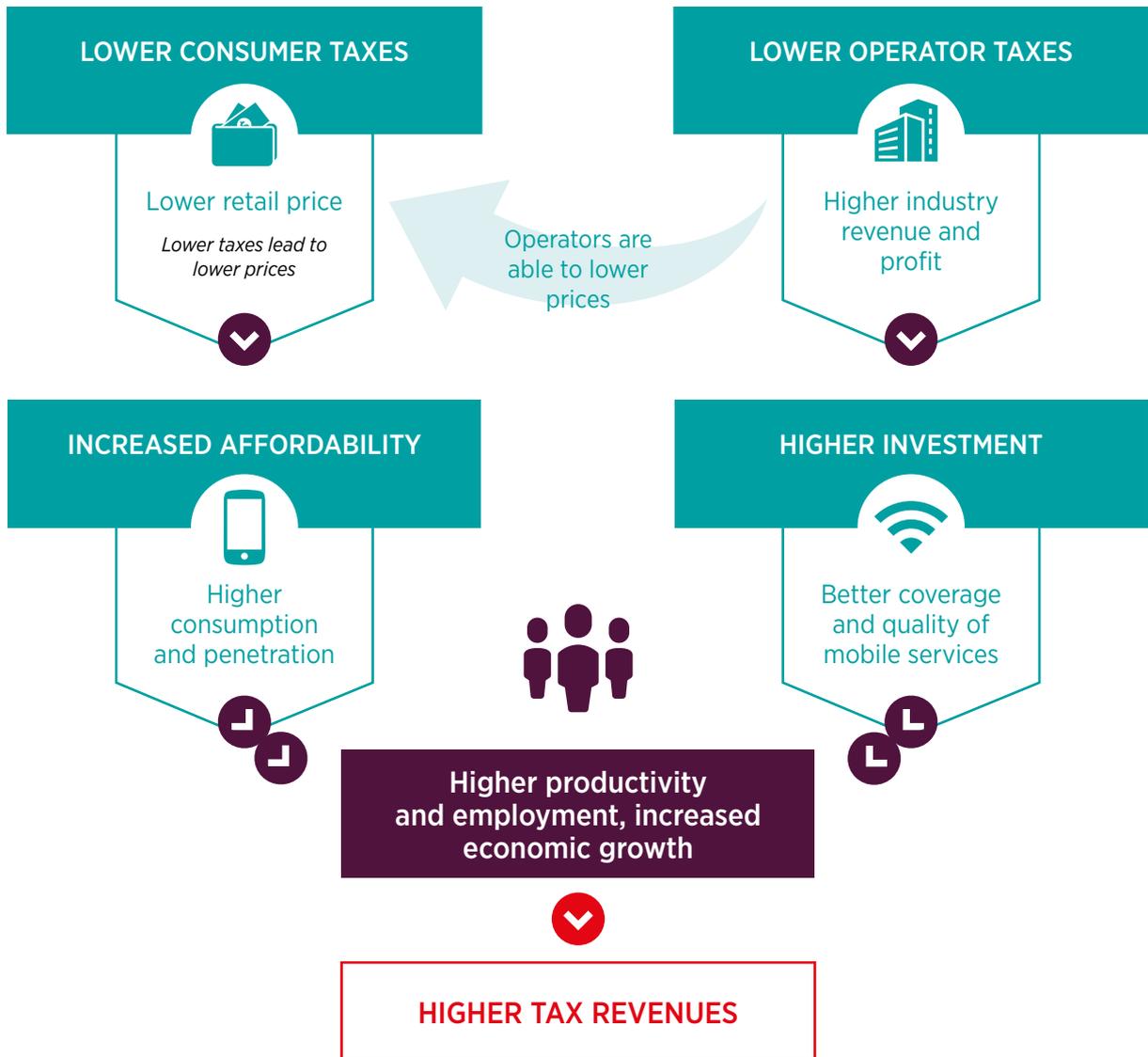
- Tax rebalancing can lower barriers to affordability and increase network investment, in turn promoting mobile penetration.

- In the medium term, this spurs economic and infrastructure development, increased productivity and employment across the economy.
- Through the effect on mobile penetration, tax rebalancing could have positive effects on education, healthcare and overall development.
- In the medium-term, higher sector revenues and increased economic growth throughout the economy could result in increased tax revenue for the government.

19. GSMA, Digital Inclusion Report 2014, 2014 and GSMA, Universal Service Fund Study, 2013.

Figure 12

### The impact of tax rebalancing on the economy



Source: Deloitte

The GSMA has investigated the relationship between taxes and mobile broadband in emerging markets and estimated that a one percentage point reduction in taxation on mobile broadband would result in up to a 1.8 percentage point increase in penetration, and up to US\$ 0.7 billion increase in GDP over five years in emerging markets.<sup>20</sup>

Rebalancing the level of taxation on the mobile sector may take time to implement and could impact

government revenues in the short-term. However, by increasing mobile penetration and promoting economic growth, reducing taxation on mobile could also increase the tax base, presenting the potential for the government to recover these revenues. A series of principles for transitioning to a tax framework where mobile consumers and operators are taxed similarly to standard goods are discussed in Section 4 of this report.

20. GSMA, Impact of taxation on the development of the mobile broadband sector, 2012.

# 2

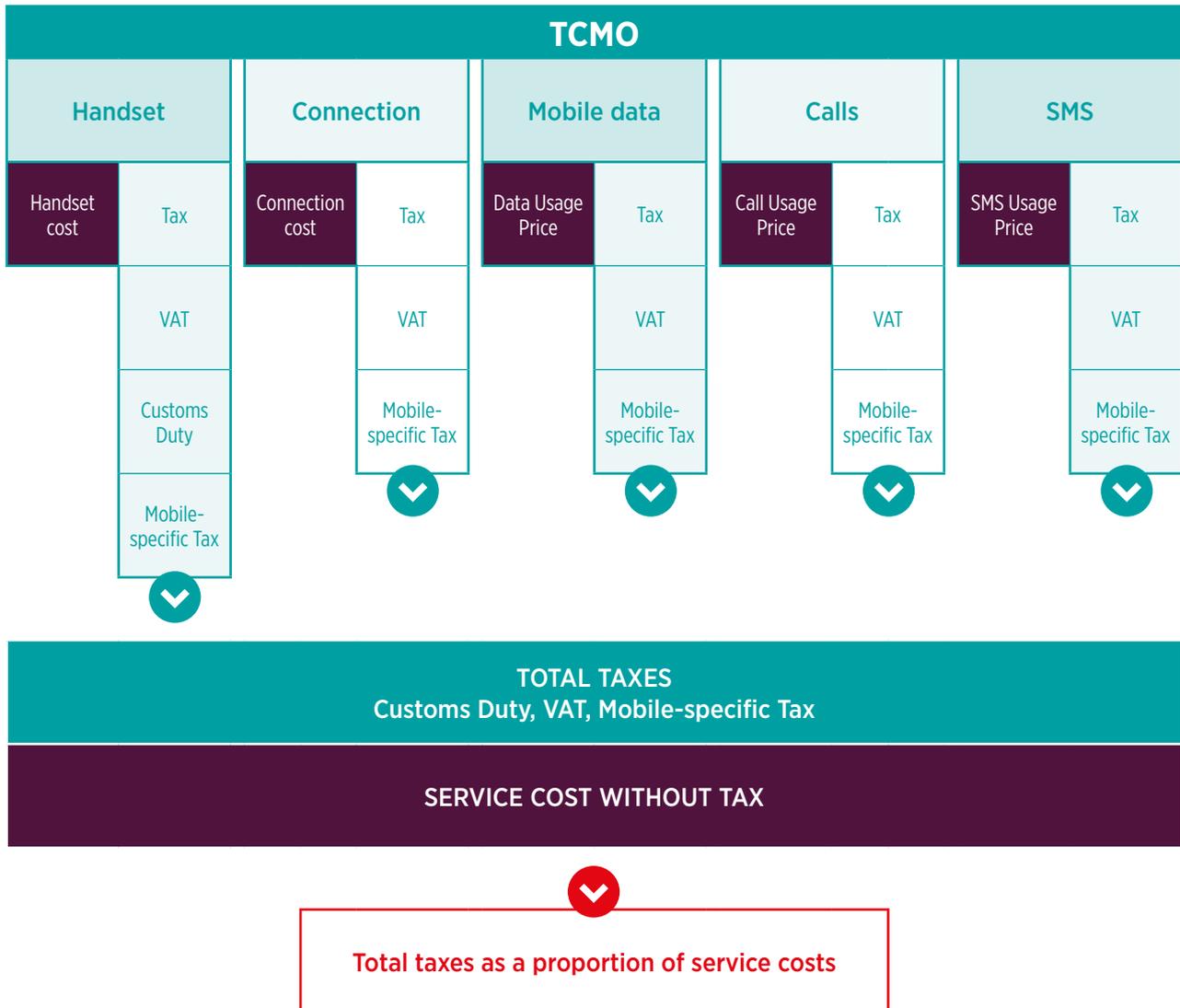
## Taxation on mobile consumers

In order to access and use mobile services, consumers incur the one-off cost of purchasing a handset or device and the recurring costs of using it for calls, SMS and data. The sum of these cost components is referred to as Total Cost of Mobile Ownership (TCMO). This review estimates how much of this cost is accounted for by taxation, which is reflected in the retail price that consumers pay.

The figure on the next page illustrates the approach employed to estimate total taxes incurred by consumers as a proportion of TCMO. The methodology is illustrated in detail in Appendix A.

Figure 13

## Methodology



Source: Deloitte

Typically, a large part of the consumer taxes that contribute to TCMO is due to general taxes such as VAT. However, mobile consumers worldwide often incur higher taxes, over and above VAT, compared to other goods and services.

The taxes levied directly on consumers, and the resulting impact on the cost of accessing and using mobile services, have been reviewed for 110 countries worldwide.

## 2.1 Taxation on mobile consumers

This review finds that, in 2014, consumer taxes represented 20.1% of the TCMO on average. Taxation accounts for more than a third of TCMO in 6 countries and is over 25% in 19 countries. Notably:

- Across the sample of countries the level of mobile taxation has been increasing in recent years: in 2011 tax as a proportion of TCMO was on average 18.2% over a similar sample of countries, and it was 17.4% in 2007.<sup>21</sup>
- Consumer tax represents the highest proportion of TCMO in Turkey, Jordan, Tanzania, Gabon, Jamaica and Greece; other than Greece, the ten countries with the highest tax as a proportion of TCMO are all emerging economies.

Most of the highest consumer tax countries impose specific taxes on mobile services and have increased taxation in recent years. For example:

- Turkey is the country where tax as a proportion of TCMO is the highest, due to a 25% excise tax on calls and SMS, a 5% tax on data usage, a 25% tax on the sale on handsets and a fixed fee of nearly US\$ 24 on SIM card sales, in addition to a standard VAT rate of 18%.

- Compared to 2011, Jordan has joined the top five highest taxed countries as a result of an increase in the mobile-specific tax on usage from 8% to 24%.
- Jamaica also has one of the highest taxation regimes due to higher sales tax on calls and handsets (25% on calls and handsets compared to the standard rate of 16.5%), a substantial custom duty of 12.5%, a US\$ 0.004 tax per minute of call and an additional 0.80% tax on handsets and activation. The latter consists of a 0.5% Environmental Levy and a 0.3% Standard Compliance Fee applied to all imported goods.<sup>22</sup>

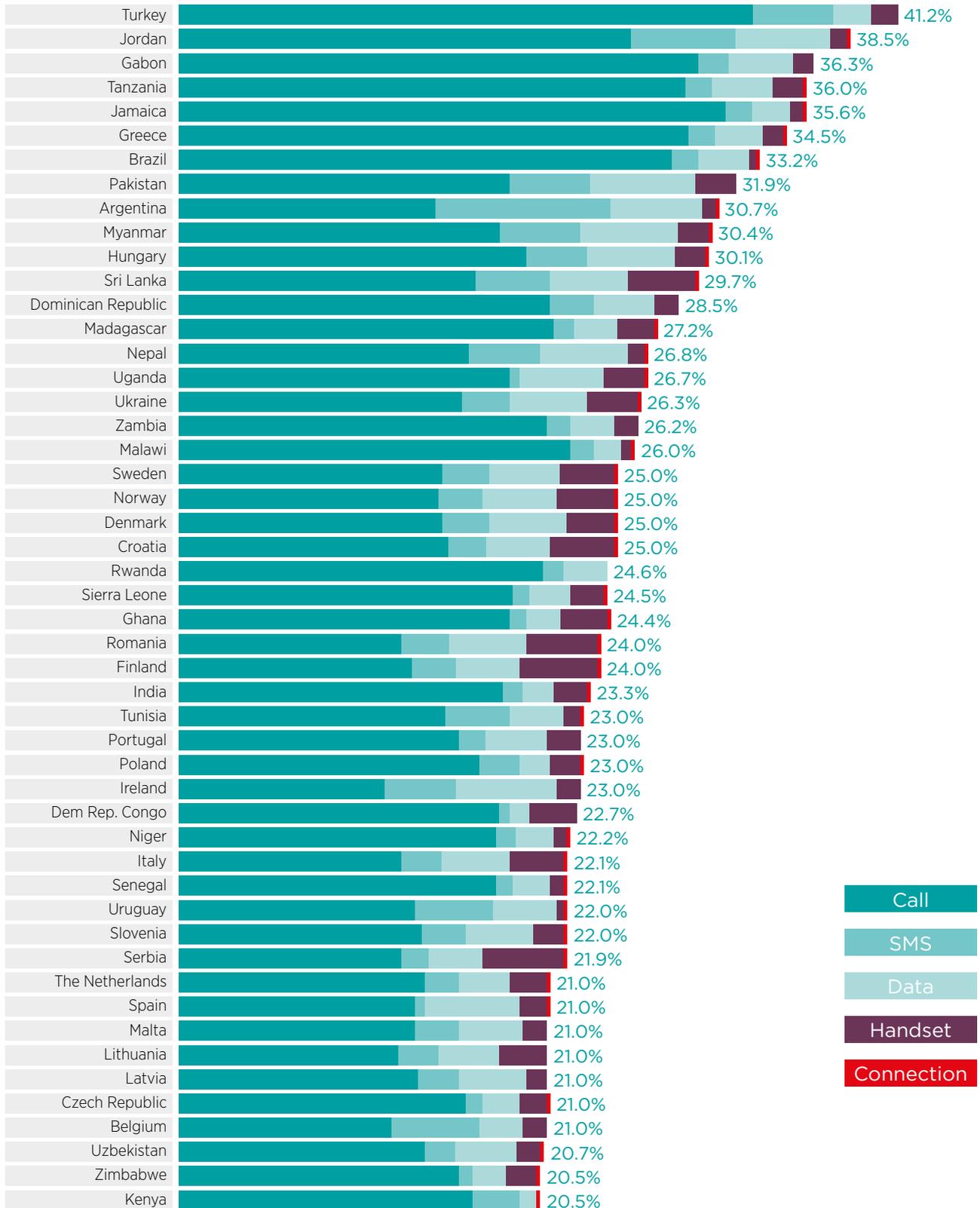
Typically, taxes on usage make up the largest component of total taxes, followed by handset taxes and taxes on activation. The following figure illustrates the proportion of TCMO that is accounted for by consumer taxes, by ranking the 110 jurisdictions in the sample and showing how taxes are divided across service components. In some countries, if the pass-through of operator taxes to consumers were accounted for, the total consumer tax burden could be higher.

21. GSMA/Deloitte, Global Mobile Tax Review, 2011 and 2007.

22. Government of Jamaica National Environment and Planning Agency: <http://www.nepa.gov.jm/>

Figure 14

### Consumer taxes as a proportion of TCMO in the top 50 countries, by component, 2014



Source: Deloitte analysis based on GSMA Intelligence Database and other sources identified in the methodology.



Across regions:

- Tax represents the highest proportion of TCMO in Eastern Europe and Central Asia with 22.4%, followed by the EU at 21.6%. These results are due to higher VAT rates, especially in Scandinavian countries, and a number of EU economies that have increased their VAT in recent years.
- Sub-Saharan Africa and MENA countries apply on average 20.2% taxation as a proportion of TCMO.

- Asia Pacific is the region with lowest tax as a proportion of TCMO, mainly due to lower general taxation.

In developed economies handset prices represent a larger part of TCMO as a result of more expensive smartphones, leading to a higher weighting of ad valorem taxes such as VAT in TCMO. In emerging markets, unbalanced taxation profiles and cheaper handsets mean that taxes on devices have less weight in TCMO.

## 2.2 Mobile-specific taxation on consumers

Mobile-specific and special taxes contribute to raise the level of the taxes as a percentage of TCMO in the most heavily taxed countries. While typically general taxes such as VAT are applied uniformly on all goods and services, as a result of sector-specific taxation, this review finds that globally mobile services are subject to on average 16%<sup>23</sup> more taxation compared to other goods and services that are only subject to VAT:

- In total, 44 countries charge a form of specific taxation. Of these, 17 are African countries, seven

are in Latin America, seven in the Asia Pacific region, five in the MENA region, four in the European Union ('EU') and four in Eastern Europe and Central Asia.

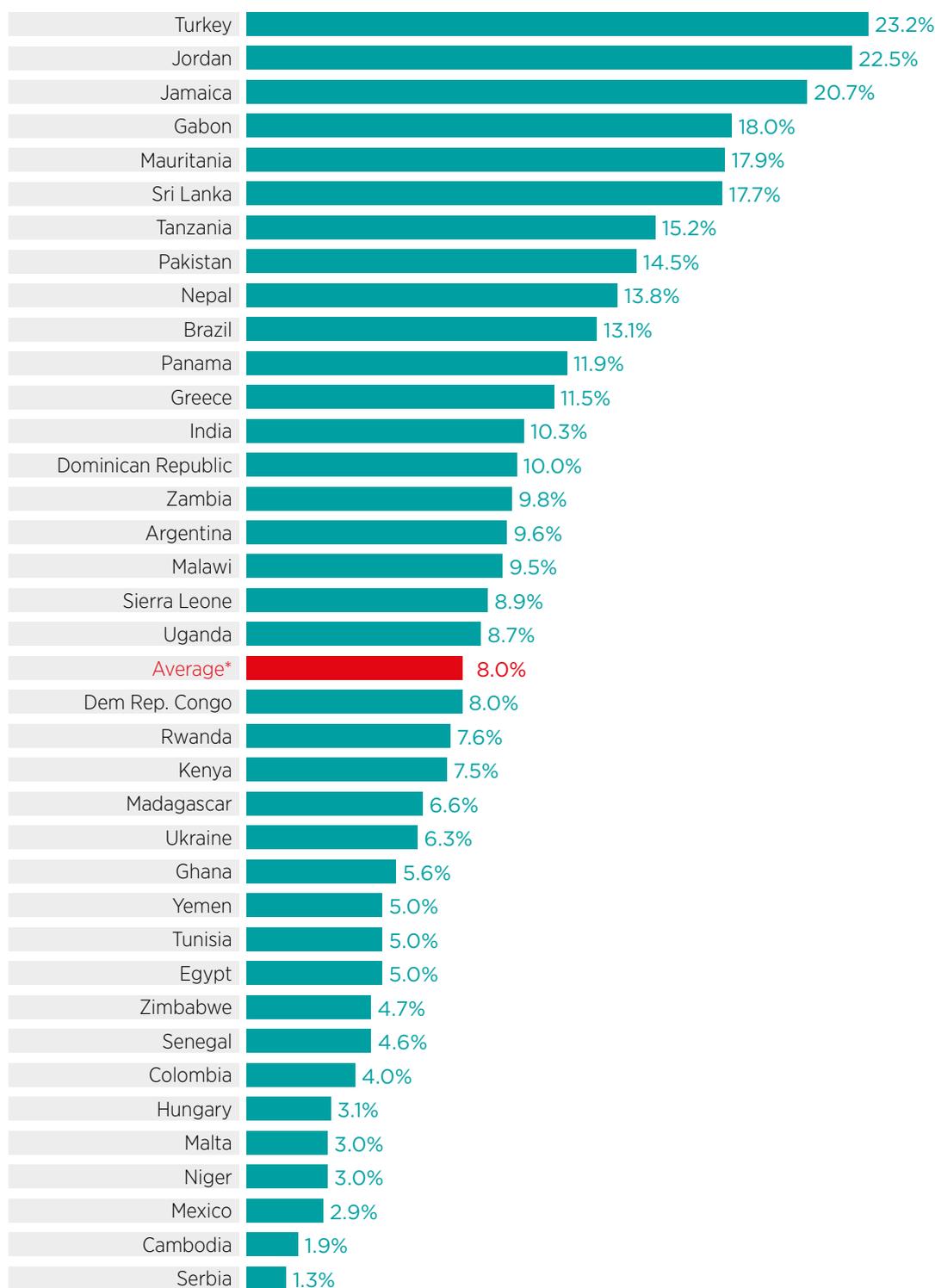
- Within the countries that apply some form of mobile-specific taxation on consumers, sector-specific taxation accounted for 8% of TCMO on average and mobile services were found to be subject to over 33%<sup>24</sup> more taxation than other goods and services.

<sup>23</sup> This estimate is obtained by dividing the average mobile-specific consumer taxation (3.2%) by the average taxes as a proportion of TCMO (20.1%). Both averages refer to the full panel of countries average.

<sup>24</sup> This estimate is obtained by dividing the average mobile-specific consumer taxation across countries that apply mobile-specific consumer taxes (8.0%) by the average taxes as a proportion of TCMO across countries that apply mobile-specific taxes on consumers (24.1%).

Figure 15

## Mobile-specific consumer taxes as a proportion of TCMO, 2014



\*Countries with mobile-specific taxes

Source: Deloitte analysis based on GSMA Intelligence Database and other sources identified in the methodology  
 Note: The estimate excludes import duties on handsets. The chart excludes the countries where mobile-specific consumer taxes are less than 1% of TCMO. This amounts to 7 countries.

The review of the mobile-specific consumer taxes shows that they have increased with respect to 2011:

- 30 countries have increased or introduced taxes specific to mobile services or devices. This includes nine countries that increased additional VAT on mobile services only.
- 24 countries apply specific usage taxes on mobile data usage, while seven impose higher VAT compared to the standard rate. At the same time, two countries, Vietnam and Angola, apply a lower-than-standard VAT to all usage services, including data.

There have been a few examples of countries that have decreased mobile-specific consumer taxation. Indeed, 15 countries have reduced or removed one or more taxes on mobile since 2011. Of these:

- 4 countries reduced mobile-specific taxes on usage. Malaysia removed a 6% excise tax on mobile services; the Democratic Republic of Congo abolished a 10% tax; Uganda and the Dominican Republic reduced the excise tax from 12% to 10%.
- 3 countries reduced 'luxury' taxes on handsets; Bangladesh, China and Colombia. Bangladesh also decreased taxes on connection/activation.

- Angola, China, Congo, India, Lesotho, Rwanda, Venezuela and Vietnam decreased the VAT rate on one or more mobile services or on handsets, for a total of eight countries.

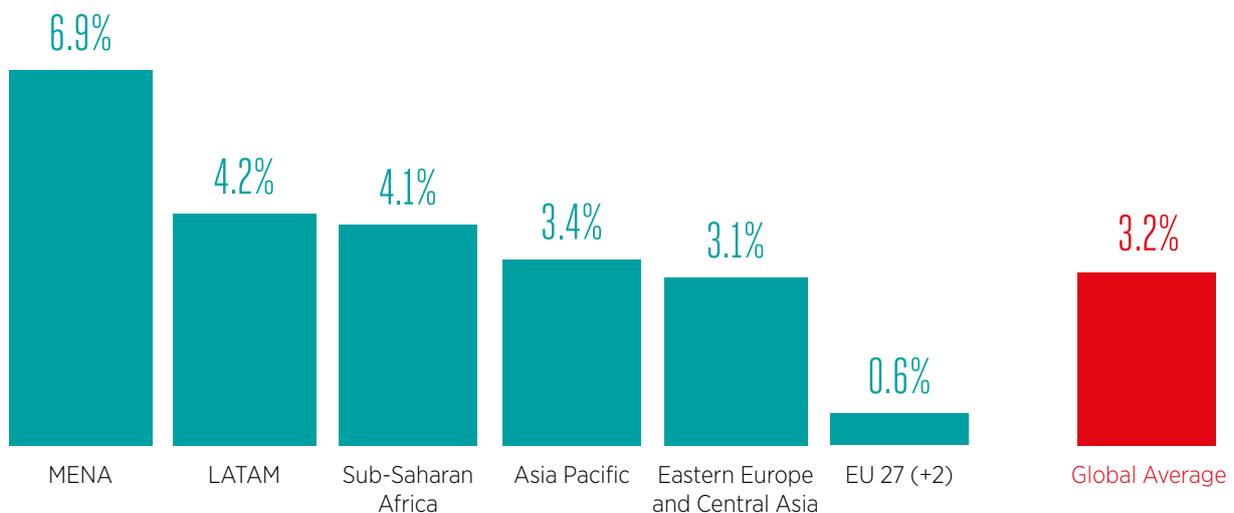
The three regions with the highest mobile-specific consumer taxation as a proportion of TCMO include mostly developing economies. MENA has the highest tax as a proportion on TCMO, reaching an average of 6.9% in 2014. Latin America and Sub-Saharan Africa reach 4.2% and 4.1% respectively.

Mobile-specific taxation has increased since 2011, largely due to increased or new airtime excises:

- In MENA, Jordan has increased the airtime excise from 8% to 24% and Tunisia has introduced a new one at 5%. These countries drive the regional results.
- In Asia, Cambodia has introduced a new airtime excise and Pakistan has increased an ad valorem tax on usage to 14%.
- In Sub-Saharan Africa, 4 countries increased or introduced airtime taxes. These are Zimbabwe, Tanzania, Rwanda and Malawi.

Figure 16

### Mobile-specific taxes on consumers as a proportion of TCMO by region, 2014



Source: Deloitte analysis based on GSMA Intelligence Database and operator data

Note: To ensure consistency with the previous global taxation surveys carried out by GSMA and Deloitte, the regional split adopted in these studies was adopted. A detailed list of countries by region can be found in the Appendix.

## Changes in tax policy on mobile in Africa

In line with a similar exemption introduced in Kenya in 2009,<sup>I</sup> countries such as Rwanda and Senegal have also exempted all mobile handsets from VAT taxation. In Senegal, the government removed VAT on mobile handsets in 2009,<sup>II</sup> while in Rwanda, VAT exemptions on mobile handsets were implemented in 2010. As in the case of Kenya, which is discussed later on in this report, these exemptions have had a positive impact by lowering the cost of handsets.<sup>III</sup>

However, the same countries have simultaneously introduced excise taxes on mobile usage:<sup>IV</sup>

- In Rwanda, excise taxes were recently raised from 5% to 8%.

- In Senegal, excise taxes on mobile usage increased from 2% to 5% in 2010.<sup>V</sup>

Similarly, in Malawi, customs and excise duties on mobile handsets were replaced by an excise tax on mobile usage at a rate of 10%.<sup>VI</sup>

On the other hand, in November 2014, the government of Ghana has recently approved the removal of the 20% import duty on handsets, without increasing any other taxes on mobile. The policy is effective starting in 2015 and has been adopted with the objective of helping bridge the digital divide in the country and support the development of mobile broadband.<sup>VII</sup>

I GSMA, Taxation of mobile telecoms: Sector-specific taxes on consumption and international traffic, 2012.

II Telecompaper, 6th February 2009, "Senegal to exempt phones from VAT, import taxes".

III GSMA, Taxation of mobile telecoms: Sector-specific taxes on consumption and international traffic, 2012.

IV Bizcommunity, 30th May 2008, "Malawi introduces new tax measures on mobile phone services".

V ITU (2011). "Taxation of telecommunications services in Senegal".

VI Bizcommunity, 30th May 2008, "Malawi introduces new tax measures on mobile phone services".

VII <http://www.theafricareport.com/West-Africa/ghana-to-remove-import-duties-on-smartphones-raise-tobacco-taxes.html>

### 2.3 Mobile-specific taxation on usage

Once the access investment of purchasing a handset and a connection have been made, mobile consumers incur the cost of using the mobile phone or device. This cost includes spend on calls, SMS and data and can be measured by the Total Cost of Mobile Usage (TCMU), which is affected by sales and other mobile airtime taxes.

In 2014, consumer taxes represented 20% of the TCMU on average over the sample. This is an increase with respect to 2011 and 2007, when tax stood at 18% and 16.9% respectively.<sup>25</sup>

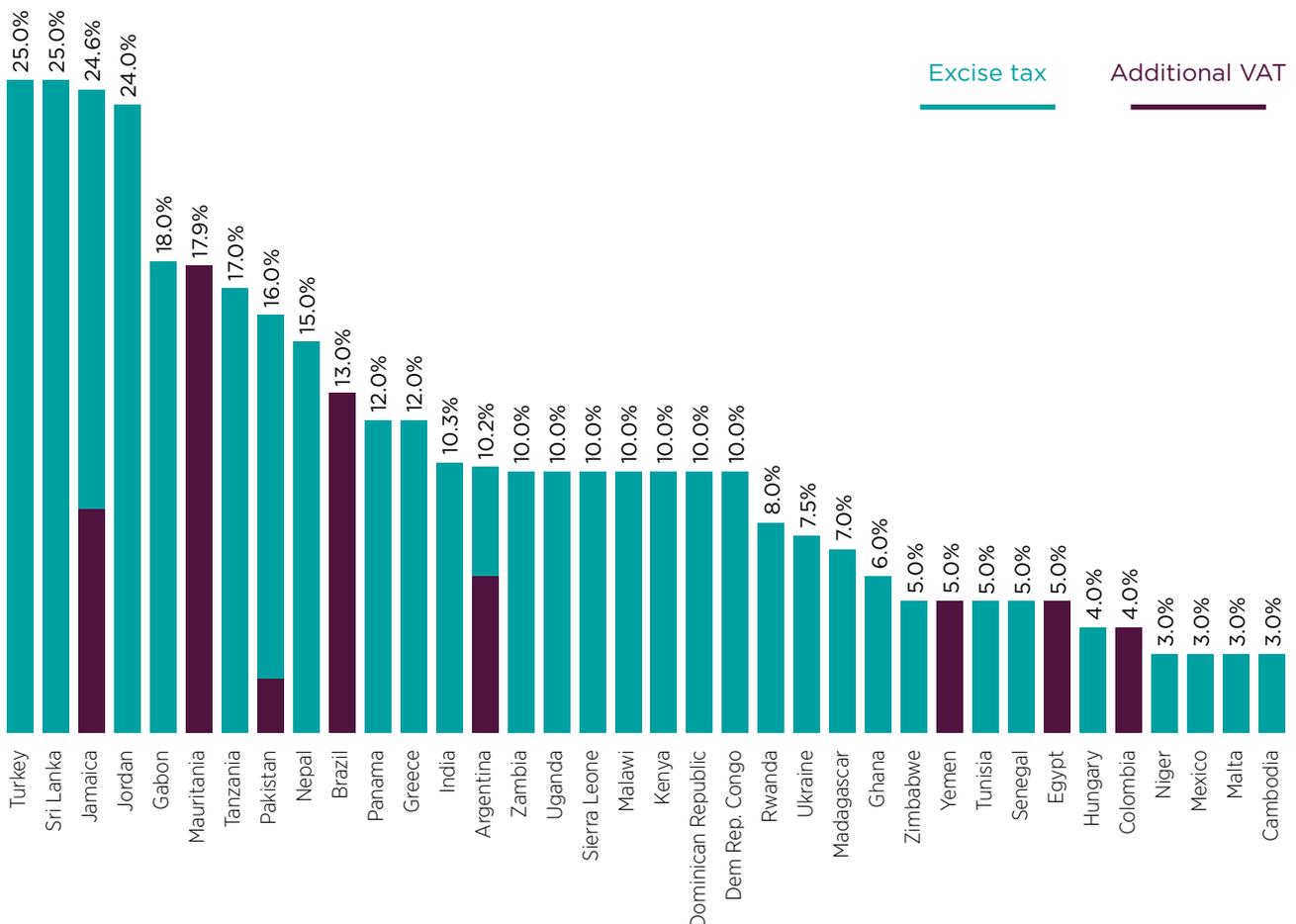
- Out of 110 countries, 37 impose a special tax on usage, which can have different rates for calls, SMS and data services or have a higher VAT rate for mobile services.

- Overall, 14 countries have introduced or increased excises on usage since 2011, of which four are in Africa and four are in Asia Pacific.
- Four countries have decreased them: the Dominican Republic and Uganda both have reduced a special excise on calls and SMS from 12% to 10%, Malaysia eliminated a 6% excise tax and the Democratic Republic of Congo eliminated a 10% excise tax on SMS.

25. The results on tax as a proportion of TCMU by country are contained in the appendix.

Figure 17

## Countries that impose an airtime excise or additional VAT on calls and corresponding rates, 2014



Source: Deloitte analysis based on GSMA Intelligence Database and other sources identified in Appendix A

For most of the countries reviewed, the rates for SMS are the same as for calls. However, some countries apply specific taxes on SMS.

- In Jamaica a sales tax of 16.5% applies to SMS and data, lower than the 25% levied on calls. The 16.5% rate is the standard sales tax rate. Jamaica also applies a tax of US\$ 0.004 for each minute of call.<sup>26</sup>
- The Democratic Republic of Congo and Cambodia have no excise tax on SMS.
- In Colombia no additional VAT applies to SMS.

Compared to previous studies, consumption of mobile data has increased significantly, and typically the same level of taxation applies to data as to the consumption of other mobile services.

However, a number of countries seek to encourage the development and take-up of mobile broadband through imposing lower taxes on the data usage. For example Jamaica and Colombia have lower VAT rates on data, while Sri Lanka and Turkey have a lower excise tax.

In Nigeria, instead, a 2% additional VAT is levied on mobile data.

26. Assuming the average cost of a minute of call is US\$ 0.025, this tax represents a 16% excise tax on calls. The cost of a minute of call was sourced from the Gleaner, 2013: <http://jamaica-gleaner.com/gleaner/20130614/lead/lead1.html>

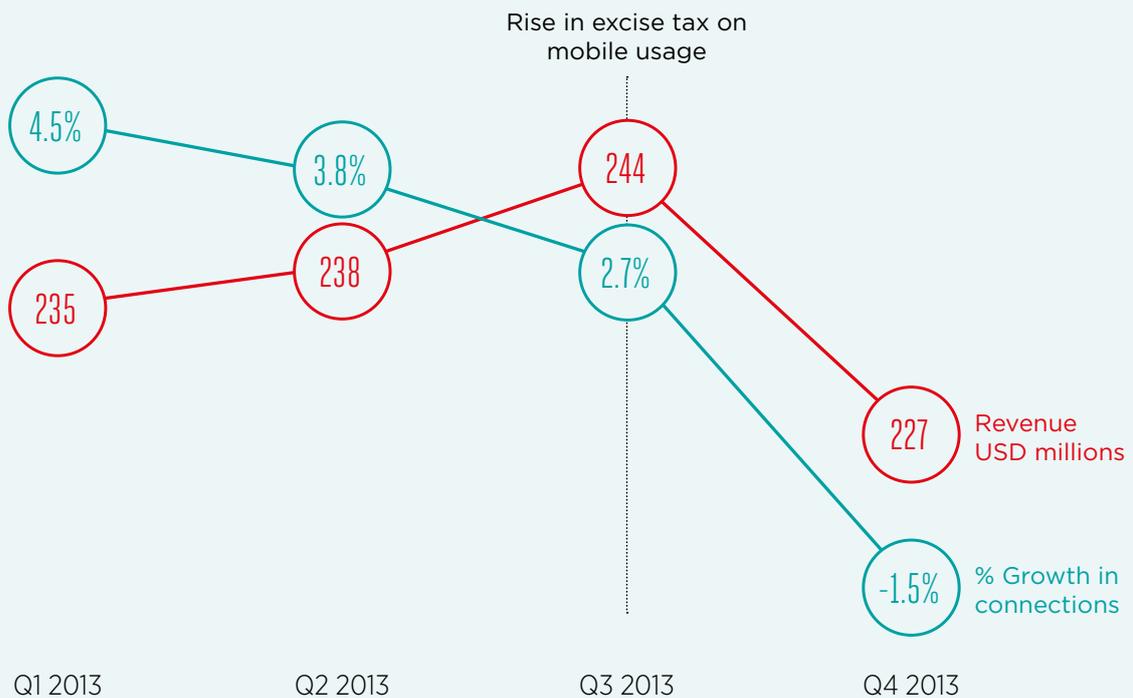
# Increases in mobile-specific consumer taxes in Jordan have hindered sector growth

The Jordanian government increased taxes on mobile usage on calls, SMS and data from 12% to 24% in July 2013. This followed a previous tax increase from 8 to 12% in July 2010.<sup>I</sup>

Since the increase, sales of mobile subscriptions and pre-paid cards have dropped by around 15%.<sup>II</sup> At the same time, MNO's revenues dropped by 9% and profits dropped by 30-40% between 2012 and 2014.<sup>III</sup>

Figure 18

## Effect of tax increase on revenues and growth in connections in Jordan



Source: GSMA Intelligence Database and Deloitte analysis

I Financial Times, 16th July 2013, "Jordan to double taxes on mobile phones".  
 II TeleGeography, 24th July 2013, "Tax hike takes its toll on sales".  
 III Albawaba, 27th January 2014, "Jordan's telecom industry feeling the pain of increased taxes".

## Introduction of a fixed tax on mobile usage in Hungary

A unique case in Europe, in 2012 the Hungarian government introduced a tax on per-minute mobile usage.<sup>I</sup> The tax is payable by mobile service providers at a rate of HUF 2 for phone calls and per SMS/MMS sent,<sup>II</sup> and replaced a 6.5% tax on revenues<sup>III</sup> which was introduced in 2010. In January 2013, Hungary's mobile tax was challenged by the European Commission as part of an infringement procedure regarding these tax changes.<sup>IV</sup>

I [http://www.kormany.hu/download/3/e8/80000/1-A\\_k%C3%B6vetkez%C5%91\\_%C3%A9p%C3%A9s%20%28SzkT%20%29.pdf](http://www.kormany.hu/download/3/e8/80000/1-A_k%C3%B6vetkez%C5%91_%C3%A9p%C3%A9s%20%28SzkT%20%29.pdf)

II Telenor Hungary, August 2013.

III AT Kearney, Taxing Telecom: The Case for Reform, 2013.

IV Telenor Hungary, August 2013.

## 2.4 Mobile-specific taxation on devices

Taxes on handsets and devices are an important component of TCMO and contribute to raise barriers to access to mobile services, both for first time users and for the take-up of new technologies, for example mobile broadband services enabled by smartphones.

The main types of taxes that are levied specifically on the mobile sector are:

- Special mobile-specific consumer taxes, for example the 20.5% tax on handsets in Argentina or US\$ 5 in Gabon. In total 21 countries impose a special tax on handsets. Of these, 12 have increased or imposed the tax since 2011, while Bangladesh, Colombia and Argentina have reduced it. Among the highest taxes on handsets, those in Turkey are imposed as a special 'luxury' tax at 25%, while in India a 10.4% tax on handset was introduced.
- Innovative devices that enable broadband services such as smartphones or dongles are in some cases taxed at higher rates, effectively regarded as 'luxury items'. For example, in Pakistan devices are subject to different rates of custom duties, with higher rates being applied to smartphones (up to US\$ 5 per device).

- Italy imposes a 'copyright tax' in the form of a fixed fee on smartphones, arguing that consumption of media content should be taxed.

In addition, although they are typically applied uniformly across sectors, higher-than-standard import duties apply to handsets in some countries. This may lead to limited availability of high-quality imported devices and latest technologies.<sup>27</sup>

In 2014, the average consumer tax as a proportion of handset costs was estimated at 22.6% on the sample of 110 countries. A number of countries apply a special VAT rate to devices:

- Across the sample, 25 countries impose a special tax on mobile devices or additional VAT on handsets.
- Since 2011, 12 countries have increased or introduced the additional VAT on handset, while 12 have increased the special tax on handsets.
- Five countries have decreased additional VAT on handsets, while Bangladesh, Argentina and Colombia have decreased special taxes on handsets. In Bangladesh a 1% surcharge on handsets replaced a fixed fee of 100 BDT, in Argentina luxury tax on handset decreased from 25.2% to 20.5%, while in Colombia a 1.2% tax was abolished.

27. A summary on import duties across the 110 countries in the review can be found in the Appendix.

# VAT exemptions on handsets in Kenya led to increased penetration and economic growth

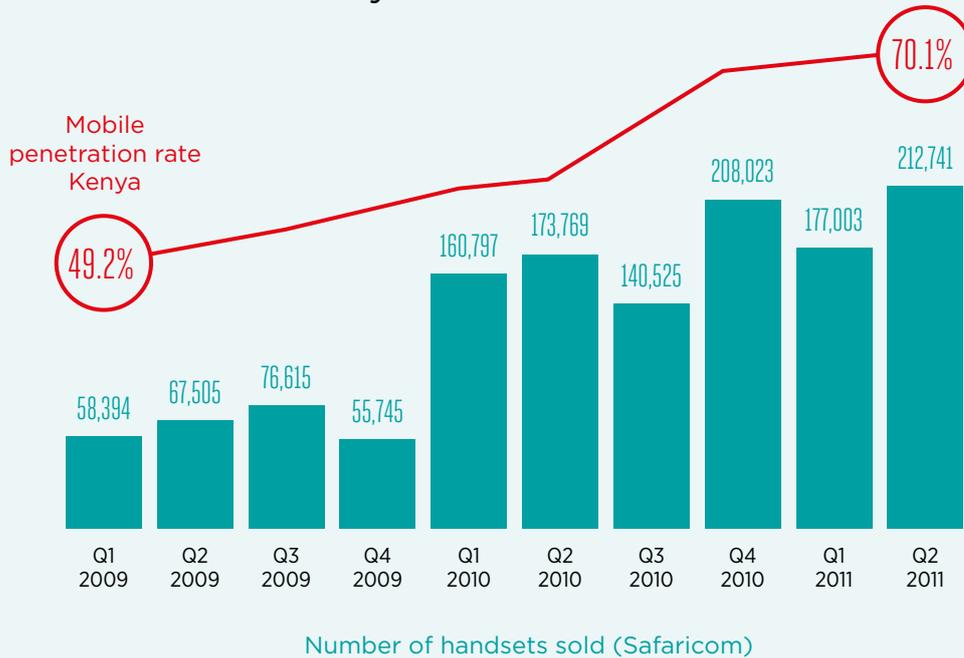
The cost of access has been widely recognised as a barrier to the adoption of mobile technology. The Kenyan government removed the 16% VAT rate on mobile handsets in 2009.<sup>I</sup>

- In the three years following, the VAT reduction contributed to an increase in handset sales of 200%, outpacing growth elsewhere in Africa. This increase contributed to increase penetration from 50% to 70%, above the 63% average across Africa.<sup>II</sup>

- Combined with wider market price reductions, the VAT exemption helped to increase access to a wide range of mobile services, with mobile usage increasing by 113%. Over the same period, the contribution of mobile telephony to the Kenyan economy grew by nearly 250%, while mobile-related employment increased by 67%.<sup>III</sup>

Figure 19

## Increase in mobile penetration and handset sales following removal of VAT in Kenya

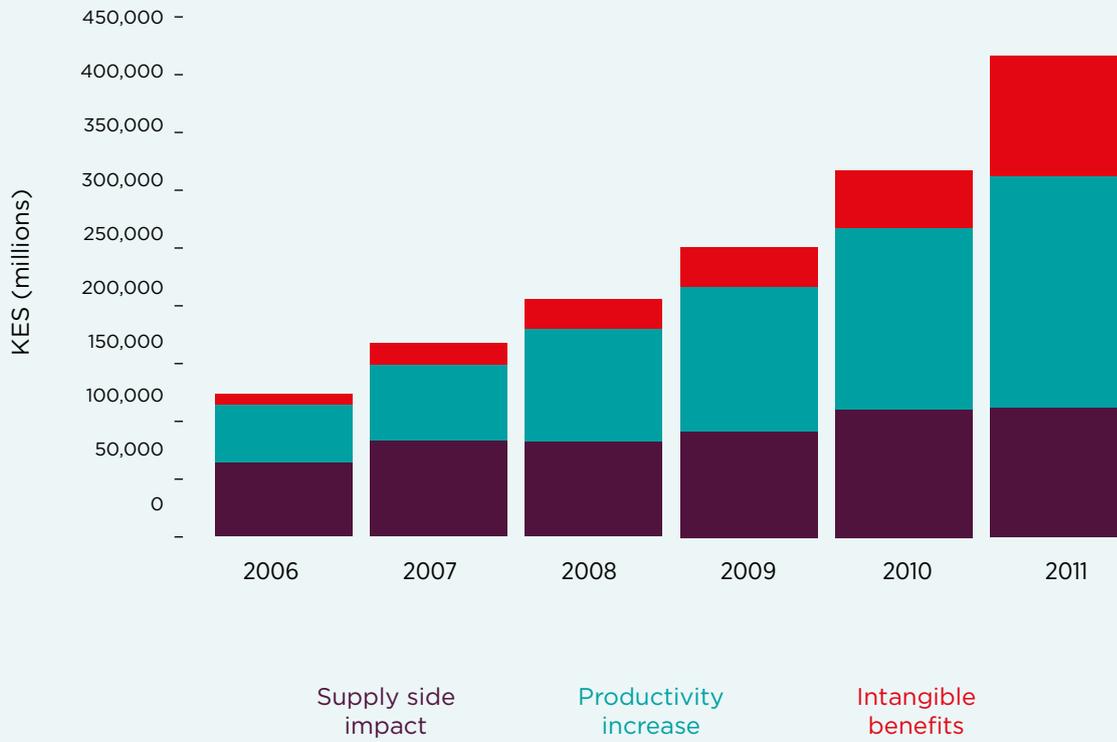


Source: GSMA 2012

I Deloitte, Mobile telephony and taxation in Kenya, 2011.  
 II GSMA, Taxation of mobile telecoms: Sector-specific taxes on consumption and international traffic, 2012.  
 III Deloitte, 'Mobile telephony and taxation in Kenya, 2011.

Figure 20

## Economic impact of mobile telephony in Kenya



Source: GSMA 2012

## 2.5 Mobile-specific taxation on activation

Some countries impose a mobile-specific consumer tax in the form of a fee or tariff on the activation of SIM cards. Similarly to handset taxes, these special taxes raise the cost of access to both basic mobile services and mobile broadband and have particularly adverse effects on affordability in lower-income countries.

Among the 110 countries reviewed, 10 countries impose an activation tax on connection. These take either the form of a fixed fee, which range from US\$ 0.5 in Niger to almost US\$ 24 in Turkey, or they can be expressed as a percentage of the SIM value, such as the 0.80% of SIM value in Jamaica.

- Most of these taxes have been introduced recently, except in Niger and Pakistan, where the tax was already in place in 2011.
- Brazil, Chad and Egypt have introduced a tax on the sales of SIM cards of over US\$ 3, Jamaica has introduced a 0.8% tax on activation together with a similar rate on handsets, Montenegro has introduced SIM taxes between at just under US\$ 1.5, Nigeria introduced a 1% tax on SIM sales.
- Countries that have reduced SIM taxes since 2011 are Bangladesh, where the tax went from around US\$ 11 per connection to US\$ 3.8, and Sri Lanka, where a 20% tax on activation was abolished.
- In Pakistan there were also reductions in the SIM tax, which has been gradually reduced in recent years from around US\$ 20 before 2004 to about US\$ 2.5 in 2009.
- In addition to the activation tax, Brazil and Egypt impose an annual connection tax of US\$ 3.6 and US\$ 2.2 respectively.

Table 1

### Countries that impose a tax on activation of SIM cards, 2014

COUNTRY	ACTIVATION TAX	UNIT
Turkey	<b>23.3</b>	US\$
Brazil	<b>11.6</b>	US\$
Chad	<b>4.1</b>	US\$
Bangladesh	<b>3.8</b>	US\$
Egypt	<b>3.5</b>	US\$
Pakistan	<b>2.5</b>	US\$
Montenegro	<b>1.3</b>	US\$
Niger	<b>0.5</b>	US\$
Nigeria	<b>1.0</b>	%
Jamaica	<b>0.8</b>	%

Source: Deloitte analysis

Note: For Nigeria and Jamaica taxes are expressed as a proportion of the connection value.



## 44 OF THE 110 COUNTRIES SURVEYED

levy taxes that are specific to  
or are applied at higher rates  
on mobile services.

# Reduction of SIM card taxes in Pakistan and Bangladesh

In Pakistan and Bangladesh, taxes are imposed on the purchase and replacement of SIM cards. This type of tax has a particularly adverse impact in these countries, given the low average income of the population. By constraining mobile access, these taxes represent a significant barrier to access to basic mobile services and mobile internet.

Recognising these impacts, both countries have implemented a series of tax reductions in recent years.

In Pakistan, the SIM tax was reduced from PKR 2000 to PKR 1000 per SIM in 2004, PKR 500 in 2005, and to the current level of PKR 250 in 2009.<sup>1</sup> Over this period, market penetration has increased rapidly, from 3% in 2004, to 56% in 2009, reaching 71% in 2013.

Figure 21

## Total market penetration and SIM card taxes over time in Pakistan



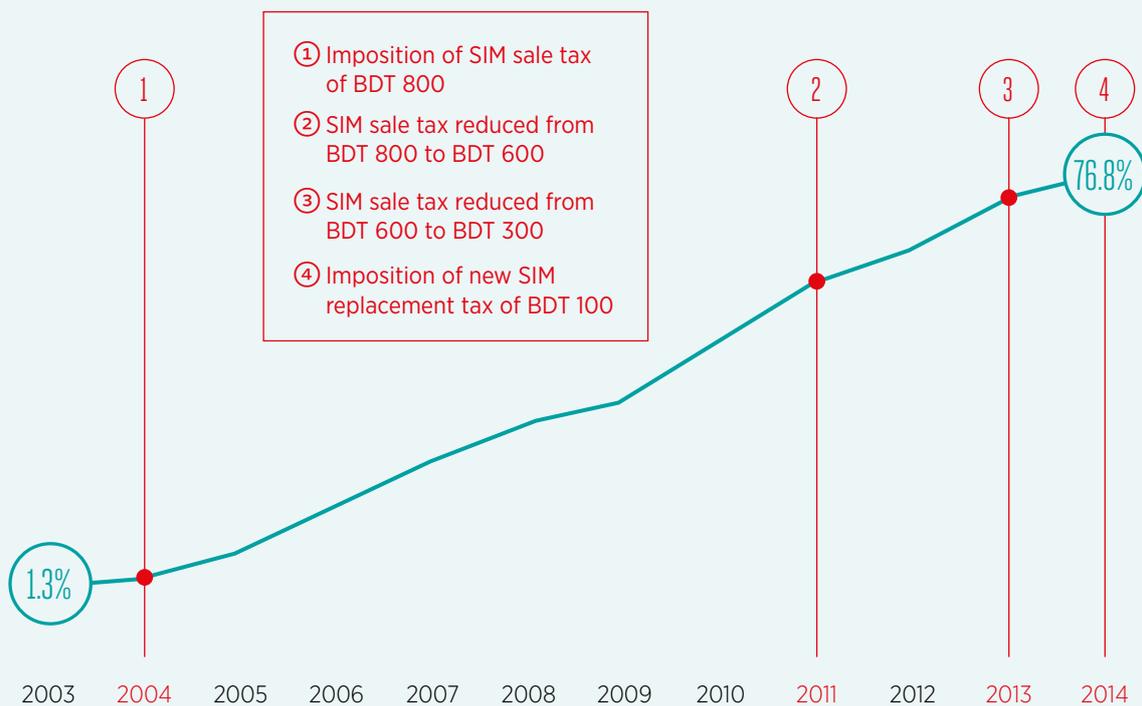
Source: GSMA Intelligence Database and Deloitte analysis

<sup>1</sup> Some operators have indicated that there exists an additional PKR 250 tax on activation, but its application is in dispute.

Similarly, the Bangladeshi government charges a fixed tax on the activation of SIM cards, which stood at BDT 800 in 2005 and was then reduced to BDT 600 in 2011.<sup>II</sup> It was further reduced to BDT 300 in 2013.<sup>III</sup> However, in 2014, the Bangladeshi government introduced a BDT 100 tax on replacement SIM cards.<sup>IV</sup>

Figure 22

## Total market penetration and SIM card taxes over time in Bangladesh



Source: GSMA Intelligence Database and Deloitte analysis

II Dhaka Tribune, April 25th 2014, "Mobile operators for SIM tax withdrawal".

III The Financial Express, May 30th 2012, "Mobile phone operators urge govt to reduce SIM card tax".

IV Telecompaper, June 7th 2014, "Bangladesh imposes new tax on SIM replacement".



In countries that impose mobile-specific taxes,

**MOBILE IS TAXED  
AT A RATE ABOUT  
33% HIGHER THAN  
THE STANDARD  
VAT RATE**

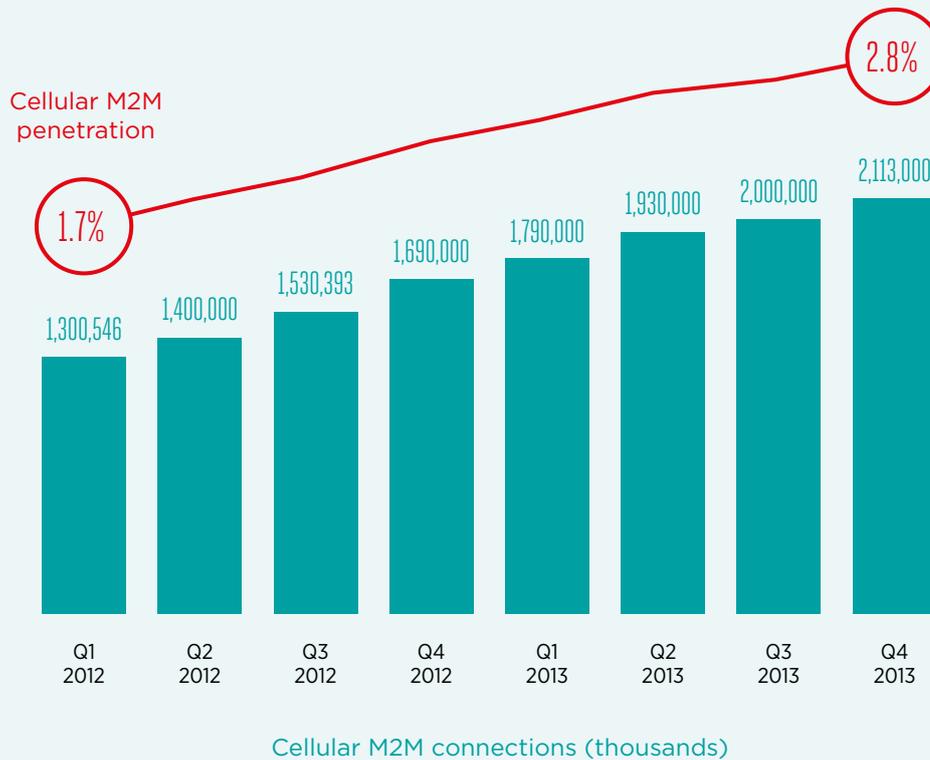
# Reduction of SIM card taxes on cellular M2M services in Turkey and Brazil

In July 2012, M2M SIM cards were exempted from the TRY 37 activation tax that applies to standard SIM cards in Turkey.<sup>I</sup> Prior to the tax exemption, mobile operators in Turkey had identified the activation tax as one of the biggest obstacles to growth in the cellular M2M market due to the low ARPU of these services,<sup>II</sup> which would otherwise present considerable potential for growth.<sup>III</sup>

The number of cellular M2M connections in Turkey increased from 1.3 million in March 2012 before the tax exemption to 2.1 million connections in December 2013. This represents an overall increase of 25% in cellular M2M connections.<sup>IV</sup>

Figure 23

## Cellular M2M market growth in Turkey



Source: GSMA Intelligence Database and Deloitte analysis

- I Mobile Marketing Magazine, July 16th 2012, "Turkey lifts SIM tax".
- II Wall Street Journal, March 21st 2011, "Turkcell targets smartphones as key to growth".
- III Ibid.
- IV GSMA Intelligence Database.



Similarly, recognising the tax pressure on cellular M2M services in Brazil,<sup>V</sup> the Brazilian government decided to introduce tax reductions on M2M SIM over the time period 2012-2014. The reductions were approved in 2012<sup>VI</sup> and came into effect in April 2014.<sup>VII</sup> The SIM card tax for new connections was reduced from BRL28.63 (USD 11.56) to BRL5.68 (USD 2.29) for M2M SIM and the annual connection tax was lowered from BRL 8.94 (USD 3.61) to BRL1.89 (USD 0.76).<sup>VIII</sup> This equates to a combined reduction of 80 per cent.<sup>IX</sup>

The tax cut is likely to have a significant positive impact on the development of the Brazilian cellular M2M market, providing a positive stimulus for mobile operators to develop these services. Shortly after the tax cut was enacted, mobile operators invested BRL 13 billion (USD 6 billion) in development of M2M services.<sup>X</sup> The Brazilian Communications Minister estimates that as a result of the tax cut the number of M2M devices in Brazil will increase by 33%, from 17.5m to 23.3m in 2016.<sup>XI</sup>

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V TechPolis, July 23rd 2013, "The take-off of M2M in Brazil".

VI Ibid.

VII GSMA, May 9th 2014, "GSMA welcomes Brazilian government decision to reduce machine-to-machine taxation".

VIII GSMA, 2014, "The Mobile Economy Latin America 2014".

IX GSMA, May 9th 2014, "GSMA welcomes Brazilian government decision to reduce machine-to-machine taxation".

X TelecomEngine, May 7th 2014, "Brazilian operators invest USD 6 billion in M2M".

XI Telefonica, June 4th 2014, "Brazil tax reductions: A movement to the leadership"

# 3

## Taxation and other fees on mobile consumers and operators in 26 selected countries

In addition to consumer taxes that specifically affect mobile consumers, mobile operators also face industry-specific taxes and other fees. The extent to which these charges ultimately fall on operators or consumers depends on individual market conditions. Some taxes and fees may be absorbed by operators in the form of lower profits, whilst others may be passed through in terms of higher prices for consumers, or a combination of the two.

Taxes imposed on mobile consumers and the mobile industry were reviewed for 26 markets selected by the GSMA. These countries represent economies at

various stages of development, different taxation structures and different maturity of the mobile sector.<sup>28</sup>

Especially in emerging markets, tax and fee payments from mobile provide a significant contribution to public revenues. For example, in Pakistan mobile operators' turnover represented about 1.3% of the country's GDP in 2013 while they contributed 7% to Pakistan's total tax revenues;<sup>29</sup> in Ghana mobile operators contributed 9.1% to the government's total tax revenues, with their turnover representing about 3.2% of Ghanaian GDP.<sup>30</sup>

28. More details are provided in the appendix.

29. GSMA/Deloitte, Digital inclusion and Mobile Taxation in Pakistan, forthcoming.

30. GSMA/Deloitte, Digital inclusion and Mobile Taxation in Ghana, forthcoming.

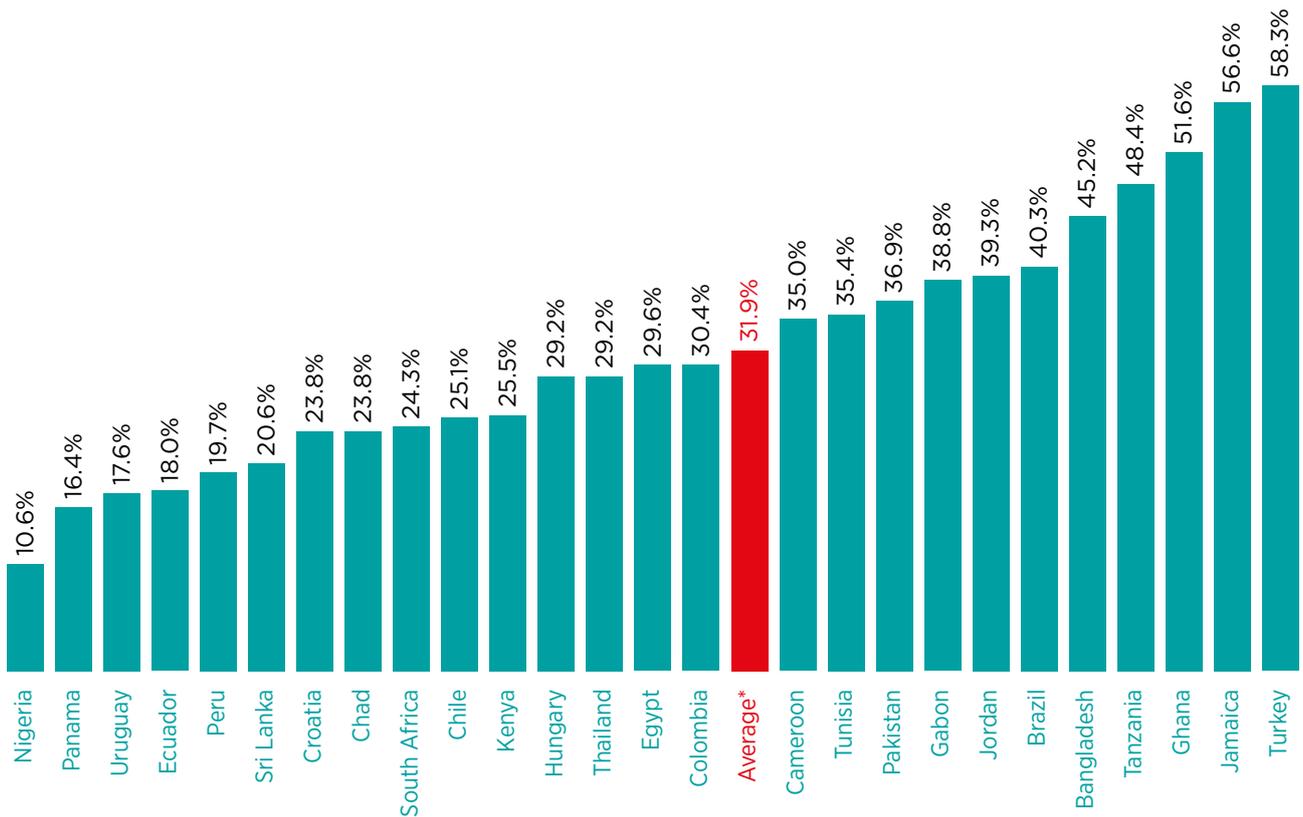
### 3.1 Total mobile tax and fee payments

This review has firstly considered the total tax and fee payments made by the industry. Total recurring tax and fee payments as a proportion of market revenues, including taxes on both consumers and operators, vary extensively across the 26 countries reviewed. They are estimated to range from 10.6% in Nigeria to 58.3% in Turkey. In Turkey, against market revenues of US\$ 9.8 billion in 2013, an estimated US\$ 5.7 billion was paid in tax in 2013.

- Total payments on mobile across the sample represent more than a third of sector revenues in 11 of the 26 countries surveyed.
- The 5 countries that were found to have the highest tax as a percentage of TCMO in the previous section are among the countries with the highest tax and fee payments as a proportion of mobile revenues, with Turkey occupying the first position in both rankings.

Figure 24

Total tax and fee payments as a proportion of mobile revenues in selected countries, 2013



\*Across 26 selected countries

Source: Deloitte analysis based on GSMA Intelligence Database and operator data



The proportion of the total tax and fee payments paid by operators was also reviewed. On average, total tax payments as a proportion of market revenues across the sample of 26 countries were about 31.9%. Of this, an estimated US\$ 17.8 billion were taxes levied directly on operators, equivalent to 15.4% of market revenues on average.<sup>31</sup> Across the 10 countries with highest total payments as a proportion of revenues, taxes levied on operators accounted for up to 19% of the total.<sup>32</sup>

- Mobile operators in Turkey pay a 15% tax on revenues, a 15% Treasury share tax and a 10% Universal Service Fund contribution.
- In Jamaica and Ghana operators pay a 20% import duty on imported network equipment. In Ghana, operators also pay a 1% tax on revenues and another 1% of revenues for the Ghana Investment Fund for Electronic Communications.
- In Bangladesh, the high incidence of taxes on operators is mainly due to a higher corporation tax rate levied in addition to the standard rate of 27.5%, for a total of 40%.<sup>33</sup>
- In Tanzania, on top of a 30% corporation tax, operators also pay a 10% tax on mobile money and a 0.3% Local Service Levy.

31. The total payments were estimated based on information on taxes and fees gathered from selected operators in each market. According to mobile operators who provided the data, the calculation may understate the overall payments as the datasets may not have identified the full range of fees levied.

32. The actual incidence of operator taxes is likely to be higher, given this estimate excludes the payments incurred in order to acquire spectrum at auction, which are generally a significant part of operators' total payments.

33. Different rates apply to companies depending on whether they are listed or not on the national stock exchange. Specifically the standard rates are 27.5% and 37.5% for publicly and non-publicly traded companies respectively, while the corresponding rates for mobile operators are 45% and 40%.

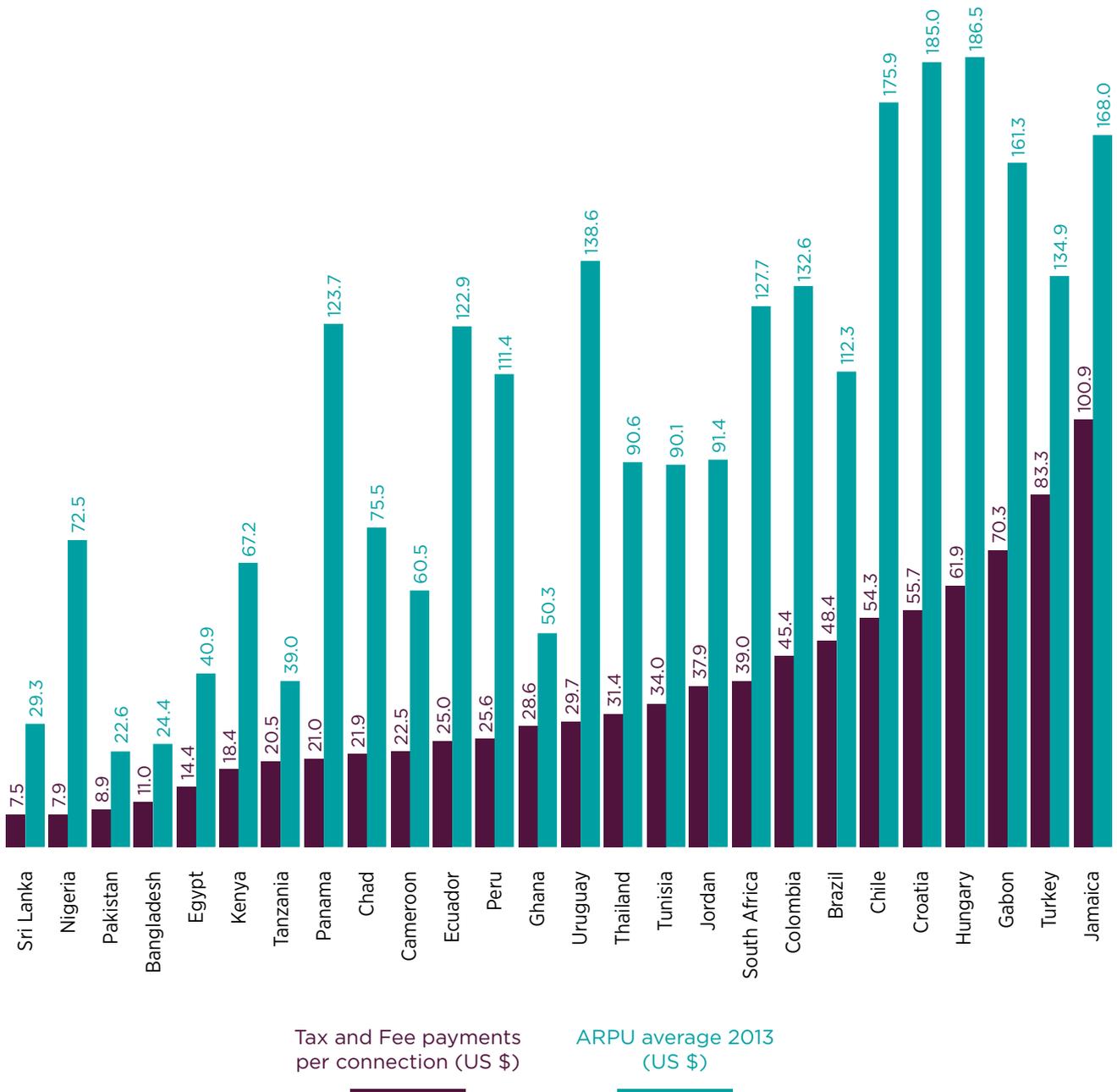


Having reviewed total tax and fee payments from mobile consumers and operators, the amount paid in taxes per mobile connection in each market was also estimated:

- On average, the cost per connection accounted for by tax payment was about US\$ 35.6, and ranges from US\$ 7.5 in Sri Lanka to US\$ 100.9 in Jamaica.
- Countries with high taxation on consumers as a proportion of TCMO, such as Turkey and Jamaica, also have a high incidence of overall taxation per connection.
- In some countries, operators have indicated that a portion of taxes levied on operators are passed onto consumers in the form of higher retail prices. For example, in Thailand, operators are subject to a 30% tax on gross revenues, and in Bangladesh, operators are subject to a similar 5.5% tax on revenues. A portion of these taxes are passed onto consumers. Inclusion of this pass-through effect would increase the proportion of tax in TCMO.
- Seven out of the 10 countries with the highest payments per connection are also among the 20 highest taxed countries in terms of consumer taxation as a proportion of TCMO.
- There is no clear relationship between tax and fee payments per connection and ARPU. Nigeria and Chad, for example, have similar ARPU but different payment per connection. As a result, tax payments over revenues are significantly different in these countries, with Chad's tax payments over revenues reaching 23.8%, while Nigeria's reaching 10.6%.

Figure 25

Total tax and fee payments per connection and ARPU per year in selected countries in US\$, 2013



Source: Deloitte analysis based on GSMA Intelligence Database and operator data

### 3.2 Total tax and fee payments from mobile-specific taxation

Similarly to the review of consumer taxes, this review finds that an important component of the total payments is represented by mobile-specific taxes and fees that apply to the sector.

Mobile-specific payments are due to two main components:

- Payments for mobile-specific taxes, either on operators or on consumers, as seen in Section 2, such as airtime excises and special taxes on mobile services' revenues. The latter are discussed in Section 3.3.
- Recurring regulatory fees, including USF and spectrum annual fees. While these do not represent taxes, they are paid to the government

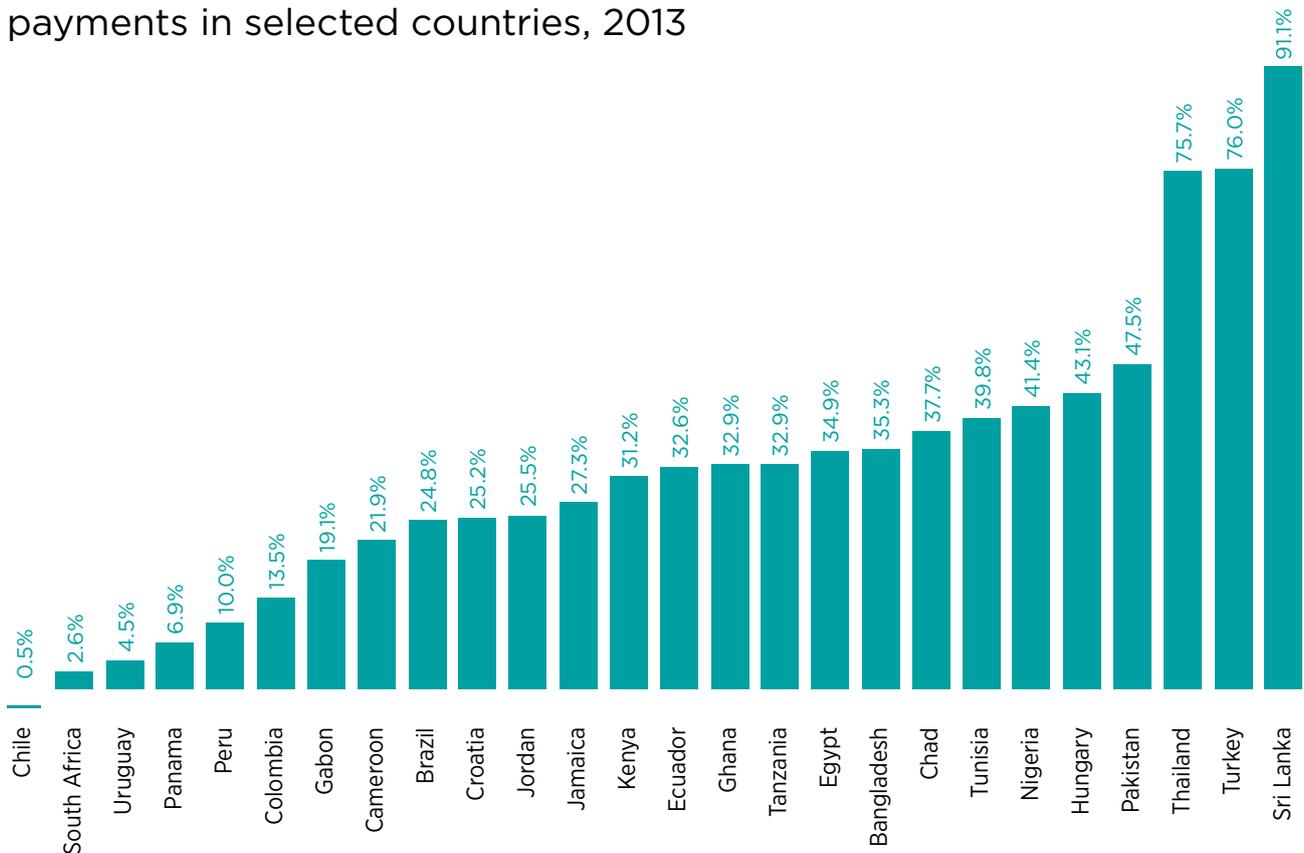
similarly to taxes. These are discussed in Section 3.4. Spectrum auction payments are not included in the estimates and are discussed separately below, but are also specific to the mobile sector and often contribute to a significant part of operators' expenses.

A review of the mobile-specific taxes finds that:

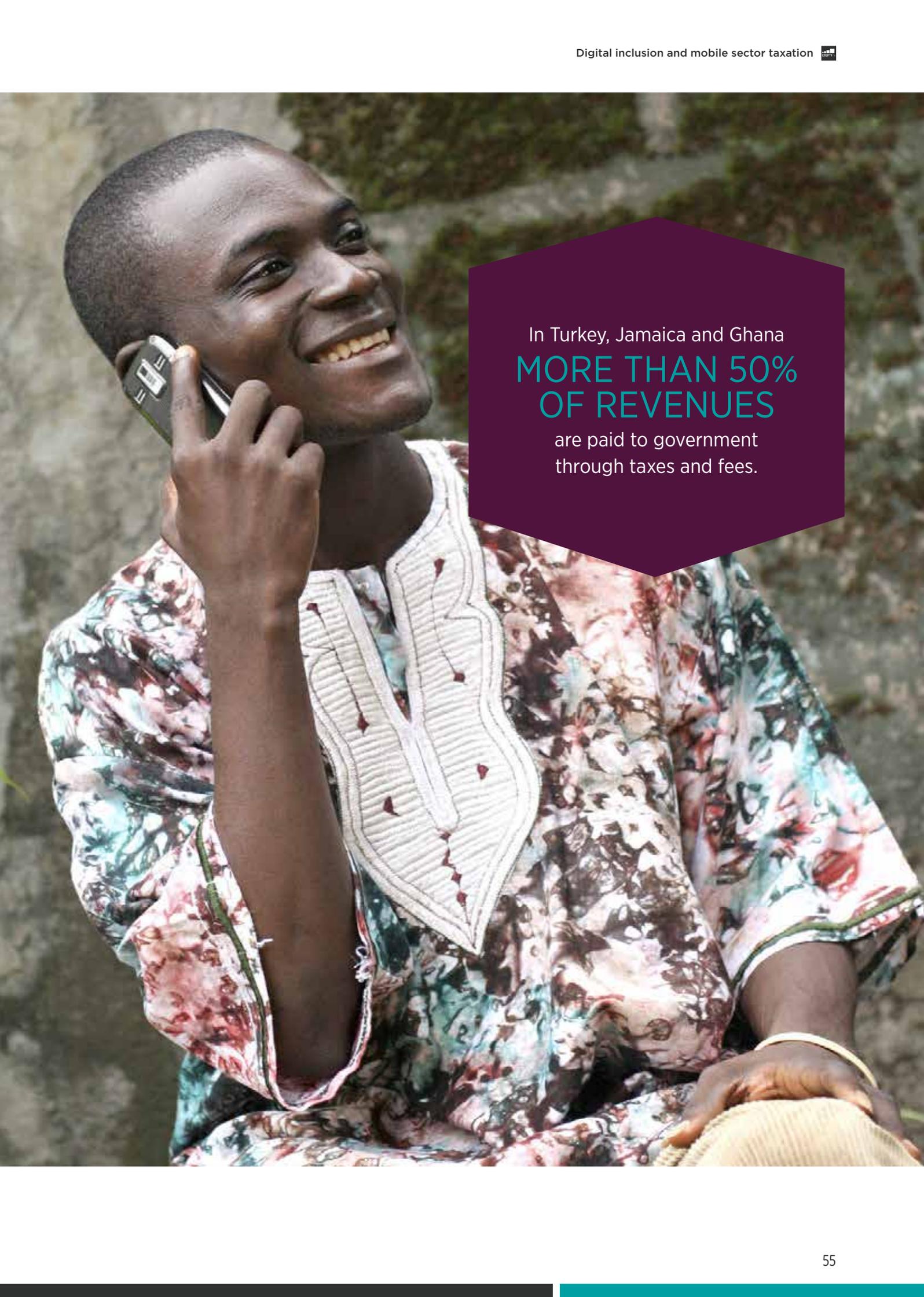
- Over the sample, sector-specific payments make up on average 32.1% of the payments on mobile services.
- The proportion of the total payments accounted for by sector-specific taxes and fees varies considerably across countries, ranging from 0.5% in Chile to over 91% in Sri Lanka.

Figure 26

#### Mobile-specific taxes and fees as a proportion of the total tax payments in selected countries, 2013



Source: Deloitte analysis based on GSMA Intelligence Database and operator data



In Turkey, Jamaica and Ghana  
**MORE THAN 50%  
OF REVENUES**  
are paid to government  
through taxes and fees.

## Increased mobile-specific taxation on operators reduced investment and usage in Croatia

After years of growth, Croatia suffered from a recession in 2009 following the global financial crisis. In addition to the direct impact of the recessionary environment on the mobile industry, in June 2009 the Government introduced a 6% tax on MNOs' gross revenue from mobile calls and SMS.

Following the introduction of this tax, the tax pressure on mobile increased to 28% of the cost of mobile ownership, the highest at the time in Europe.<sup>I</sup> At the same time:

- Volumes of mobile calls and SMS decreased in 2010 by 4% and 14% respectively.
- Mobile-specific taxation as a proportion of MNOs' revenue increased significantly after 2008. The total tax burden on mobile grew by 2% in 2009 and by 10% in 2010.
- Reductions in operator revenues led to decreases in MNO capital expenditure.<sup>II</sup>

The Croatian government removed the 6% tax on calls and SMS in 2012. MNO capital expenditure increased by 5% between 2012 and 2013.

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I Deloitte/GSMA, Mobile Taxes and Fees: A toolkit of principles and evidence, 2014.  
 II GSMA Intelligence Database.

### 3.3 Taxes on profits and revenues

After corporation tax and other taxes on profits which usually apply on all sectors, mobile operators are also subject to additional taxes on profits or revenues, or have to face higher rates for corporation tax in some countries. For instance, in Cameroon and Tunisia operators pay 39% and 35% for corporation tax respectively against standard rates of 25%.<sup>34</sup>

Revenue taxes often apply to several sectors, but it is not rare to find mobile-specific revenue taxes. For example, in Tanzania mobile money revenues are subject to a 10% tax, while in Bangladesh operators pay 5.5% of their revenues as a "revenue share tax".<sup>35</sup>

A review of turnover taxes across the 26 countries studied shows that:

- Of the 26 countries reviewed, 12 impose some taxes on operators' turnover.
- In six of the 26 countries reviewed turnover taxes contribute to over 10% of total tax payments. These are Hungary, Tunisia, Ghana, Brazil, Bangladesh and Pakistan.
- Across the 12 countries that impose taxes on revenues, these taxes amount to an average of 7.8% of total tax payments.

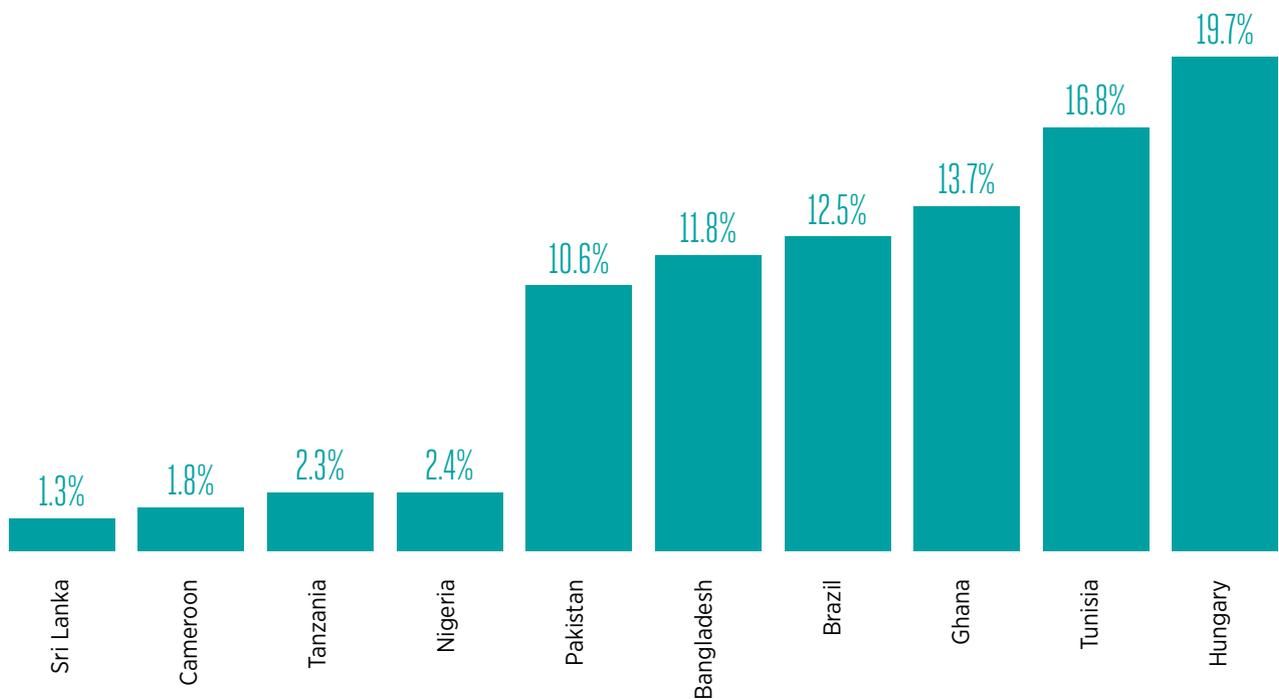
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34. GSMA, Digital Inclusion Report, 2014.

35. GSMA/Deloitte, Digital inclusion and Mobile Taxation in Bangladesh, forthcoming.

Figure 27

Turnover taxes contribution to total tax and fee payments as a percentage of revenues in selected countries, 2013



Source: Deloitte analysis based on GSMA Intelligence Database and operator data

Note: The chart excludes the countries where the proportion is less than 1%. This amounts to 2 countries.

Revenue taxes may have distortionary effects in that they imply lower EBITDA margins and affect equally operators that undertake high investment and those that do not. They are particularly adverse where

ARPU levels have been declining due to competition, which has typically been the case in most countries in recent years.

### 3.4 Regulatory and spectrum fees

Mobile operators are subject to various regulatory fees, including annual fees such as the USF contributions, annual numbering and licence fees, as well as one-off fees that are paid by operators in order to acquire and provide for the administration of spectrum frequencies.

Regulatory taxes and fees, in particular if subject to frequent changes and lack of transparency, may negatively affect the roll-out of network infrastructure<sup>36</sup> through:

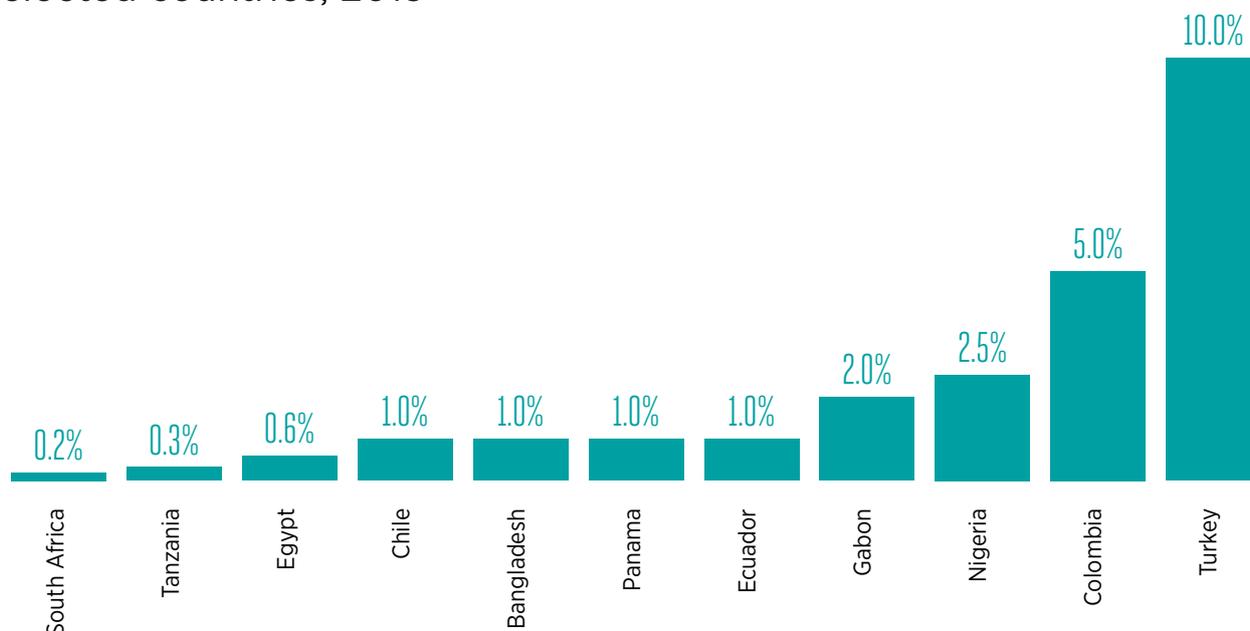
- Reduced incentives to invest due to lower returns on the capital employed.
- Increased uncertainty on future tax liability, which is also likely to impact investment decisions.
- Distortions across industries and within ICT sector due to higher costs for mobile operators, further driving (local and foreign) investment away from mobile.

Additionally, these fees are usually levied as a percentage of revenues, as in the case of the USF and the numbering fees, which causes further distortions to investment compared to profit taxes. USF funds are used in some markets as a means to addressing access gaps in remote and under-served locations and are often levied as a fixed percentage of revenues. Numerous countries apply a USF contribution, usually ranging between 1% and 2% and up to 5% of revenues. However, a number of cases have been reported where the payments have not been utilised. In Sub-Saharan Africa 18 countries were found to apply USF contributions on operator revenues.<sup>37</sup>

The figure below shows the countries that apply a USF among the 26 countries reviewed and shows the rate of the USF contribution in these countries.

Figure 28

#### Universal Service Fund contribution as a proportion of revenues in selected countries, 2013



Source: Deloitte analysis based on GSMA Intelligence Database and operator data

Note: Jamaica applies the USF as a monetary tax of US\$ 0.02 on each minute of international traffic.

36. Gorecki, Hennessy, Lyons, 'How impact fees and local planning regulation can influence deployment of telecoms infrastructure', 2011.

37. GSMA, Digital Inclusion Report, 2014 and GSMA, Universal Service Fund Study, 2013.



In addition to recurring fees, spectrum acquisition costs represent the largest part of operators' payments. Across the countries reviewed, payments for spectrum licence awarded in a year can represent up to US\$ 2.5 billion.

The table below shows, for the sample of 26 countries, the spectrum award payments aggregated

by country and by year of auction held between 2009 and 2014. Due to data limitations these payments may not fully represent the active licences in the reviewed countries; however their magnitude suggests that they constitute a substantial proportion of the operators' tax and fee payments.<sup>38</sup>

Table 2

## Spectrum auction payments between 2009 and 2014 in million US\$, selected countries

Country, Licence payments, year		
<b>Bangladesh</b>		
2011:	485	
2013:	525	
<b>Brazil</b>		
2010:	901	
2012:	1,394	
2014:	2,495	
<b>Cameroon</b>		
2012:	39	
<b>Chile</b>		
2009:	18	
2012:	0.02	
2014:	20	
<b>Colombia</b>		
2010:	42	
2011:	16	
2012:	52	
2013:	412	
<b>Croatia</b>		
2012:	51	
2013:	38	
<b>Gabon</b>		
2014:	0.01	
<b>Ghana</b>		
2009:	206	
2011:	17	
<b>Hungary</b>		
2014:	165	
<b>Jamaica</b>		
2014:	201	
<b>Jordan</b>		
2009:	71	
2012:	71	
2014:	344	
<b>Kenya</b>		
2010:	20	
<b>Mexico</b>		
2010:	651	
<b>Nigeria</b>		
2014:	23	
<b>Pakistan</b>		
2014:	1,113	
<b>Peru</b>		
2009:	5	
2011:	1	
2012:	324	
2013:	258	
<b>Sri Lanka</b>		
2013:	25	
<b>Thailand</b>		
2012:	1,340	
<b>Tunisia</b>		
2010:	80	
<b>Turkey</b>		
2009:	624	
<b>Uruguay</b>		
2013:	62	

Source: Deloitte analysis based on GSMA and operator data

38. Due to difficulties in gathering auction data, it was not possible to analyse the magnitude of all active licences in the years under analysis.

### 3.5 Import duties on network equipment

Around the world, some countries impose additional duties and surcharges on network equipment at import. This can include items such as antennae and base stations, which are vital to telecoms operators and underpin the extension of mobile coverage.

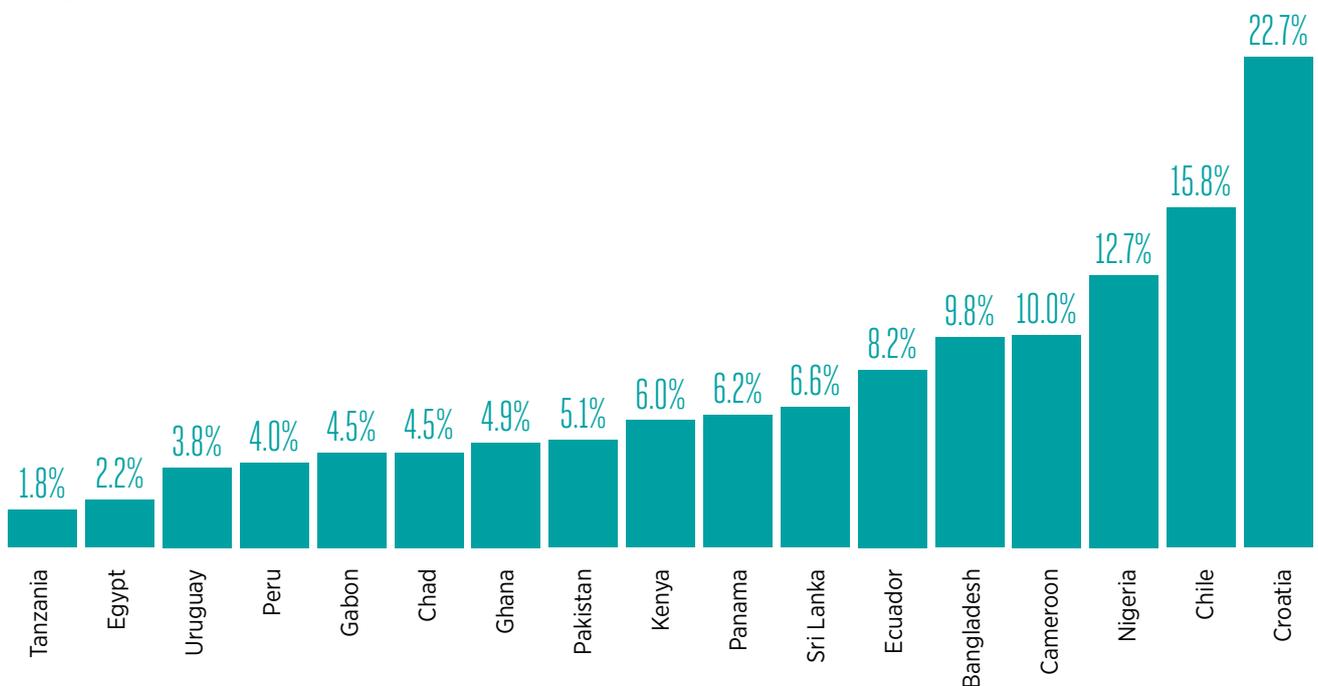
The cost of the duties is not only passed on to consumers through higher prices, but also causes underinvestment and inefficient production decisions which affect network roll-out and spectrum distributions. Furthermore, it reduces the economic viability of infrastructure investment in remote areas and is expected to have a particularly detrimental impact on 3G coverage.

- It is estimated that in 2013, across the panel of 26 countries operators paid around US\$ 0.85 billion in duties on network equipment, equivalent to an average of 5% of the total tax payments on mobile.<sup>39</sup>

- Import duties contribution varies across the sample, with the highest rate - 22.7% of taxation payments – being levied in Croatia and the lowest – 0.1% of tax payments – in South Africa. It is estimated that around US\$ 65 million of customs duty were paid by Croatian operators in 2013. In Jamaica, on the other hand, custom duties represented only 0.2% of total tax payments, with payments of about US\$ 0.7m in 2013.
- In Pakistan, certain companies which use imported goods for their core operations are allowed to claim back the amount paid on a 5.5% advance tax payment, which is imposed on imported equipment on top of up to 25% custom duty. Mobile operators are not granted similar treatment, although base stations and other imported equipment are essential to maintaining and rolling-out new network.

Figure 29

#### Import duties on network equipment as a proportion of total tax payments in selected countries, 2013



Source: Deloitte analysis based on GSMA Intelligence Database and operator data

Note: The chart excludes the countries where the proportion is less than 1% of TCMO. This amounts to 4 countries.

39. For some countries in the panel it was not possible to separate import duties on network equipment from import duties on imported handsets. Due to the higher incidence of the latter, in these cases these payments were considered as consisting entirely of import duties on network equipment.

# 4

## Transitioning to a taxation structure where mobile is treated equally to other services

This review has found that mobile-specific taxation is applied in 44 countries out of the 110 included. Furthermore, it has found that taxation on mobile has been increasing in recent years. This comes at a time when investment in mobile broadband can allow to connect more and more people in emerging economies that currently remain unconnected. The economic and social potential that access to mobile broadband can provide is being recognised by several governments and, as noted by former International Telecommunication Union (ITU) Secretary General Dr Hamadoun Touré:

'It is encouraging to see a growing number of tax administrators recognize that ICT services are different from other services, because of their capacity to stimulate economic growth and social development. Governments who have committed to following best-practice ICT regulation are now reducing or even eliminating some sector-specific taxes. ITU would like to see all governments follow their lead'<sup>40</sup>

Supportive taxation policies can be an effective tool to stimulate both demand for ICT services and promote investment. Transitioning to a tax system where mobile is treated equally to other goods, governments around the world can not only increase digital and financial inclusion and economic growth, but also recover higher tax revenues through more efficient and broad-based taxation. Transitioning to a balanced taxation on mobile has the potential to increase and enable the investment required to further improve mobile broadband network infrastructure.

Recognising the potential benefits that mobile could bring to economies worldwide, including contributing significantly to government tax revenues, a number of options have been identified to enable taxation systems to transition to an equitable and more balanced structure and align with international best practice.

40. ITU Press, Geneva, 24 February 2012.



## 4.1 Principles of taxation best practice

Taxation best practice rests on a number of principles that are acknowledged internationally to minimise the inefficiencies associated with taxation and the distortive impacts that taxes may have on the wider economy. A balanced taxation structure for mobile could be based on the following principles:<sup>41</sup>

1. **In general, taxation should be broad-based:** Taxation alters incentives for production and consumption, and so economic distortions will generally be minimised where the burden of taxation is spread evenly across the economy. In practice this equates to adopting broadly defined bases for taxation, limiting rate variations and effectively enforcing tax compliance.
2. **Taxes should account for sector and product externalities:** The case for taxation to address negative externalities<sup>42</sup> (such as those arising from tobacco consumption) is recognised. The same logic also applies to sectors and products with positive externalities. Taxation policy should encourage sectors, such as mobile, that create positive network effects and externalities in the wider economy.
3. **The tax and regulatory system should be simple, easily understandable and enforceable:** Uncertainty and lack of transparency over taxation systems and liabilities may deter investors and are also likely to increase enforcement costs for government.
4. **Dynamic incentives for the operators should be unaffected:** Taxation should not disincentivise efficient investment or competition in the ICT sector. In situations where the tax system does provide disincentives, tax revenue could be significantly reduced in the long run.
5. Finally, it is widely accepted that **taxes should be equitable, and that the burden of taxation should not fall disproportionately on the lower income members of society.**

41. IMF, Tax policy for developing countries, 2001.

42. An externality refers to an impact on the wider economy that is not accounted for by the consumer purchasing the good. For example, consumers of tobacco create an additional cost for others through second-hand smoke, but do not take into account this impact when choosing whether to smoke.

The table below summarises how the main taxes covered in this survey align with these principles. General taxes, such as VAT and corporation tax, are broad-based and as such they apply to all sectors in the economy. For the same reason, they are equitable and do not distort investment incentives by penalising some industries over other. On the contrary, the majority of the mobile-specific taxes on consumers and operators do not align with these principles.

Table 3

## Alignment of the main taxes on the mobile sector with the principles of taxation

	Broad-based	Accounts for externalities	Simple and enforceable	Incentives for competition and investment	Equitable
<b>Corporation Tax</b>	✓	✗	✓	✓	✓
<b>Value added (VAT)</b>	✓	✗	✓	✓	✓
<b>Airtime Excise on Mobile Services</b>	✗	✗	✓	✗	✗
<b>Activation/ Connection Tax</b>	✗	✗	✓	✗	✗
<b>Customs Duty on handsets</b>	✓	✗	✗	✗	✗
<b>Universal Service Fund contribution</b>	✗	✓	✓	✗	✓
<b>Annual Licence fee</b>	✗	✗	✓	✗	✓
<b>Numbering Fee</b>	✗	✗	✓	✗	✓
<b>Spectrum Auction Fee</b>	✗	✓	✗	✓	✓

Source: Deloitte analysis

## 4.2 Options to align mobile taxation to standard goods taxation

Many governments around the world recognise the potential of mobile to advance economic development and are including the development of ICT technologies and widespread of access to mobile broadband services in their long-term objectives, particularly in developing countries where fixed line networks are often not available. Some positive changes towards a more balanced and equitable taxation structure have already been made in a number of countries, for example Turkey, Brazil, Malaysia and Sri Lanka, which have all reduced or abolished one or more mobile-specific consumer tax.

While the importance of the mobile industry in contributing to government revenues is recognised, an equitable and balanced taxation structure could benefit the economy as a whole and support growth and fiscal stability in the medium term. The transition to a balanced taxation on mobile, in line with that applying to standard goods and services, could boost digital inclusion and broadband penetration and further enhance the industry's contribution to economic and social development.

Based on evidence from a series of studies<sup>43</sup> and the best practice principles outlined in Table 3,<sup>44</sup> as well as on consultation with GSMA and mobile operators, a number of areas for tax reform have been identified which could support the mobile sector to further contribute to economic growth and government revenues over and above its current impact:

- **Apply phased reductions of taxes on established services:** phased reduction of mobile-specific taxes on operators' revenues and on usage offer governments the opportunity to benefit from the economic contribution from mobile whilst limiting short-term fiscal costs.
- **Reduce taxation on access:** 44 countries still impose mobile-specific taxes on access, it is important that any barrier to access mobile broadband is reduced, especially in emerging markets. Governments can benefit in the medium term by reduction in access charges as more users consume mobile services.
- **Reduce complexity and uncertainty of mobile taxation:** taxation on mobile operators has varied rapidly and unexpectedly. Any unpredicted tax change that occurs after investment in spectrum licence is made may negatively impact an operator's business plan. The risk of future tax rises is priced into investment decisions and can therefore be expected to reduce both Foreign Direct Investment (FDI) and domestic investment in the medium-term.
- **Facilitate the development of emerging services through supportive taxation:** the growth of mobile data and Machine to Machine communications opens up the possibility for the sector to increase its economic value through a whole new generation of products and services ranging from health care services to education and finance. Governments in countries such as Turkey and Brazil have recognised this potential and reduced SIM taxes on M2M SIM cards.
- **Reduce specific taxation of the mobile sector:** higher than normal taxation on mobile operators and consumers distorts production and consumption behaviour: it may limit usage of digital services, reduce the ability of mobile operators to finance investment in digital infrastructure, and can in the long term reduce government revenues.

43. Four GSMA/Deloitte forthcoming studies; GSMA/Deloitte, Mobile taxes and Fees - A Toolkit of Principles and Evidence, 2014.

44. IMF, Tax policy for developing countries, 2001.

# Appendix A

## Methodology

This section describes the methodology used in this review to estimate the total tax payments for mobile consumers and operators, discusses the main assumptions made and presents the data sources used in the analysis.

## A.1 Countries included in this review

Table 4 lists the 110 countries included in the review of consumer taxation. The countries marked in red are the 26 countries covered in the deep-dive on total tax payments.

Table 4

### Countries included and regional classification

Asia Pacific	Eastern Europe and Central Asia	EU 27 (+2)	Latin America	MENA	Sub-Saharan Africa
Australia	Albania	Austria	Argentina	Algeria	Angola
Bangladesh	Azerbaijan	Belgium	Bolivia	Egypt	Botswana
Bhutan	Croatia	Bulgaria	Brazil	Iran	Burkina Faso
Cambodia	Kazakhstan	Cyprus	Chile	Jordan	Cameroon
China	Montenegro	Czech Republic	Colombia	Mauritania	Chad
India	Russia	Denmark	Dominican Republic	Morocco	Congo
Indonesia	Serbia	Estonia	Ecuador	Tunisia	Cote d'Ivoire
Lao PDR	Turkey	Finland	Guatemala	Yemen	Dem Rep. Congo
Malaysia	Ukraine	France	Jamaica		Ethiopia
Myanmar	Uzbekistan	Germany	Mexico		Gabon
Nepal		Greece	Nicaragua		Gambia
New Zealand		Hungary	Panama		Ghana
Pakistan		Ireland	Paraguay		Guinea
Philippines		Italy	Peru		Kenya
Sri Lanka		Latvia	Trinidad and Tobago		Lesotho
Thailand		Lithuania	Uruguay		Madagascar
Vietnam		Luxembourg	Venezuela		Malawi
		Malta			Mozambique
		Norway			Niger
		Poland			Nigeria
		Portugal			Rwanda
		Romania			Senegal
		Slovakia			Sierra Leone
		Slovenia			South Africa
		Spain			Swaziland
		Sweden			Tanzania
		Switzerland			Uganda
		The Netherlands			Zambia
		United Kingdom			Zimbabwe

Source: Deloitte analysis

Note: Regions were defined as to ensure consistency with the previous GSMA/Deloitte Global Taxation surveys. Hence, Croatia is included in Eastern Europe and Central Asia, while EU27 (+2) includes all other EU member states, Norway and Switzerland.



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## A.2 Mobile consumer tax

In line with previous GSMA/Deloitte studies, total tax payments on mobile consumers are estimated as tax as a proportion of ownership and usage costs of mobile services and includes handset taxes as a proportion of handset costs. The analysis was undertaken for 110 countries worldwide.

The total cost to an average consumer of owning and using mobile telephony can be defined using the concepts of TCMO and TCMU. The TCMO consists of all price components associated with owning a mobile phone and purchasing mobile phone services. These cost components include:

- **Handset cost:** this relates to the cost of the mobile device required to make and receive calls.

- **Connection cost:** this component relates to the cost of connecting to the network of Mobile Network Operators (MNOs) to obtain mobile services. For pre pay customers,<sup>45</sup> this usually consists of an initial start-up cost on activating the SIM card.
- **Call, SMS, and data usage costs:** the cost an average consumer incurs in making calls, sending SMS messages, and using mobile internet.

TCMU is a similar measure to TCMO, however it does not include the handset and connection cost.

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45. Whereby users purchase mobile services on a "pay as you go" basis by paying for an allowance of minutes/SMS upfront on a prepaid card.

The cost components identified above include the actual component price as well taxes paid by consumers. These taxes can vary from standard consumer taxes such as VAT, GST and custom duty, to include telecom or mobile-specific consumer taxes. In particular they include:

- **VAT or GST:** these are consumer taxes incurred when purchasing any of the goods or services associated with owning and using a mobile phone. These taxes are often expressed as a proportion of the value of the good or service.
- **Custom duty and excise taxes on imported goods:** in mobile telephony, users in emerging markets typically pay import taxes on handsets and other mobile devices. These can either be

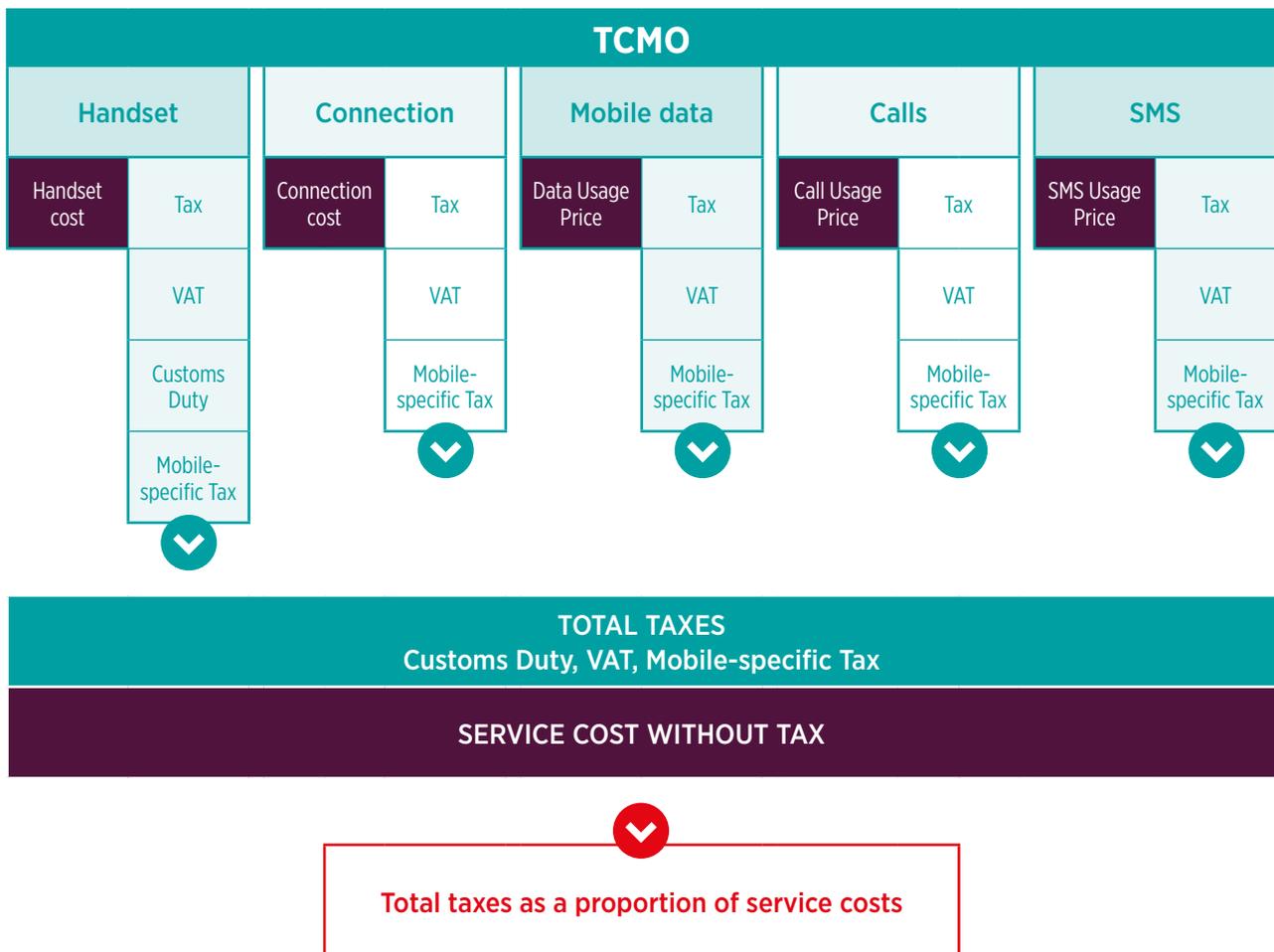
expressed as a proportion of the handset value or as a fixed sum or both.

- **Other mobile-specific taxes:** as discussed in the main body of this report, a number of countries still impose specific taxes on consumers for using mobile services. These can include luxury item duties on handsets, SIM activation taxes or other taxes on connection, special communication taxes on mobile usage, and monthly contributions for post-pay customers. These have all been accounted for in these calculations.

The figure below illustrates the approach employed to estimate total taxes incurred by consumers as a proportion of TCMO and TCMU. The methodology is described in greater detail below.

Figure 30

### Methodology applied



Source: Deloitte analysis

In order to calculate the impact of consumer taxes as a proportion of TCMO and TCMU, the following approach was taken:

- For each country in the analysis, tax rates applicable to mobile telephony services were compiled. These were divided into: VAT/Sales taxes, mobile-specific (excise taxes, luxury taxes on handset and connection/activation charges) and import duty on handsets.
- For each of the five components above, based on the tax rates identified in this review, the proportion of TCMO represented by tax was estimated. Considering that the vast majority of taxes are proportional to the service value to which they apply; for handsets, it was assumed that import duty is applied to the final cost of handset, in line with the previous surveys.

- The contribution of each mobile service to the TCMO was estimated as a proportion of total contribution. This allowed to attribute the TCMO between handset, activation, call, SMS and data.
- Similarly, the contribution to the TCMU was attributed between call, SMS, and data.

Consumer taxes as a proportion of the TCMO were obtained by dividing the applicable tax amounts by the TCMO, TCMU and handset costs. Mobile-specific taxes as a percentage of the TCMO were estimated in a similar way by considering only consumer taxes that are specific to mobile services (e.g. excluding VAT/GST).

When calculating the proportion of TCMO due to mobile-specific consumer taxation, custom duty is excluded given it is a charge applied to other goods as well. However it should be noted that in some instances higher rates apply to mobile goods.

## A.2.1 Data sources

Tax rates were sourced from a variety of databases:

- VAT rates were obtained from Deloitte tax source 2014<sup>46</sup>, Deloitte Global indirect tax rates website<sup>47</sup> and IBFD.<sup>48</sup>
- Mobile-specific consumer taxes were sourced from IBFD, from previous studies produced by Deloitte for the GSMA between 2014 and 2015, in some cases from discussions with mobile operators, and from desktop research.
- Custom duties on handsets were collected from the World Trade Organisation ('WTO') website.<sup>49</sup> These refer to the Harmonised System 'HS' code 85172<sup>50</sup>: 'Telephones for cellular networks mobile telephones or for other wireless networks'. 2014 data was used when available. When 2014 data was unavailable, 2013 data was used. When 2013 was unavailable, data was sourced from each government custom website for the same HS code or through desktop based research.

Data on the proportion of each service component as part of TCMO, TCMU and handset costs in the 110 countries was based on TCMO data provided by the GSMA in 2011 and updated to 2014 based on GSMA Intelligence Database on revenue by service. Regional averages were applied when data was unavailable.

To divide the TCMU between call, data and SMS, the value of revenues was used. This refers to operators' revenues by service type for the year 2013, the latest available in December 2014. Regional averages were used when data on specific countries was missing. This data was used also to split the share of usage in the TCMO among the three services comprising it – calls, SMS, data.

46. Deloitte Tax database : <https://dits.deloitte.com/#DomesticRatesSubMenu>

47. Deloitte, Global indirect tax rates: <http://www2.deloitte.com/global/en/pages/tax/solutions/global-indirect-tax-rates.html>

48. IBFD: <http://www.ibfd.org/>

49. World Trade Organization Statistics dataset: [http://www.wto.org/english/res\\_e/statis\\_e/data\\_pub\\_e.htm](http://www.wto.org/english/res_e/statis_e/data_pub_e.htm)

50. The Harmonized Commodity Description and Coding System of tariff nomenclature is an internationally standardized system of names and numbers to classify traded products.

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## A.3 Total mobile tax and fee payments

In line with previous studies undertaken by Deloitte and the GSMA,<sup>51</sup> total tax payments applicable to the mobile sector were defined as total recurring tax payments<sup>52</sup> made by mobile operators. These are expressed as a proportion of the size of the sector, measured by mobile revenues and by number of active connections.

The split of the total payments between operator and consumer taxation assumes that taxes for which the cost is incurred directly by operators are bared by operators, while those whose cost is initially bared by consumers are paid by consumers. Total operator payments and total consumer payments are also estimated as a proportion of market revenues. Total tax and fee payments were estimated for 26 selected countries.

As discussed in the report, the analysis considered operator and consumer taxes:

- The operator taxes on which the analysis focuses are corporate taxes, revenue-based taxes, regulatory fees – including infrastructure related fees and the Universal Service Fund ('USF'), import duties on equipment, and taxes related to property holdings and royalties.
- The consumer taxes on which the analysis focuses include sales taxes such as VAT, excise duty on usage, luxury taxes on handsets, connection and activation fees and import duties on handsets.

Spectrum award payments were sourced from the GSMA spectrum database and aggregated by year in current US dollars. Only auctions that took place between 2009 and 2014 were considered. Therefore, the analysis does not include all active licences in the years of reference.

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### A.3.1 Data sources

Total revenues in each of the markets studied were sourced from GSMA Intelligence Database.

Tax payments were sourced directly from previous studies undertaken by the GSMA and Deloitte based on data provided by mobile operators over the years, and a number of country studies. A market uplift was applied when data for some operators was unavailable. The uplift was calculated using operators' market shares sourced from the GSMA.

While the analysis refers to 2013, some of the tax payments refer to 2012 or 2011. For these countries, payments were adjusted using year-on-year change in market revenues.

Spectrum award payments were sourced from the GSMA and from several operators.

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51. GSMA/Deloitte, Mobile taxes and Fees - A Toolkit of Principles and Evidence, 2014.

52. Due to limitations to the available data, the analysis excludes non-recurring taxes such as spectrum auction payments.

# Appendix B

## Country Tables

For each of the 110 countries reviewed, the table below shows: tax as a percentage of the TCMO, tax as a percentage of the TCMU, handset tax as a percentage of handset cost, mobile-specific taxes as a percentage of the TCMO. The countries are sorted in alphabetical order.

Table 5

## Consumer taxes as a proportion of TCMO, TCMU and handset cost by country, 2014

	Country	Region	Tax / TCMO	Tax/TCMU	Handset tax/ Handset cost	Mobile-specific taxes/TCMO
1	<b>Albania</b>	Eastern Europe and Central Asia	20.0%	20.0%	20.0%	0.0%
2	<b>Algeria</b>	MENA	17.4%	17.0%	22.0%	0.0%
3	<b>Angola</b>	Sub-Saharan Africa	5.6%	5.0%	15.0%	0.0%
4	<b>Argentina</b>	Latin America	30.7%	30.4%	58.1%	9.6%
5	<b>Australia</b>	Asia Pacific	10.0%	10.0%	10.0%	0.0%
6	<b>Austria</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
7	<b>Azerbaijan</b>	Eastern Europe and Central Asia	18.8%	18.0%	33.0%	0.0%
8	<b>Bangladesh</b>	Asia Pacific	17.6%	15.0%	33.5%	0.1%
9	<b>Belgium</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%
10	<b>Bhutan</b>	Asia Pacific	20.0%	20.0%	20.0%	0.0%
11	<b>Bolivia</b>	Latin America	13.4%	13.0%	23.0%	0.0%
12	<b>Botswana</b>	Sub-Saharan Africa	12.0%	12.0%	12.0%	0.0%
13	<b>Brazil</b>	Latin America	33.2%	33.0%	43.4%	13.1%
14	<b>Bulgaria</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
15	<b>Burkina Faso</b>	Sub-Saharan Africa	18.6%	18.0%	32.5%	0.6%
16	<b>Cambodia</b>	Asia Pacific	11.9%	11.9%	10.0%	1.9%
17	<b>Cameroon</b>	Sub-Saharan Africa	19.6%	19.3%	29.3%	0.0%
18	<b>Chad</b>	Sub-Saharan Africa	18.8%	18.0%	37.6%	0.5%
19	<b>Chile</b>	Latin America	19.1%	19.0%	25.0%	0.0%
20	<b>China</b>	Asia Pacific	15.9%	15.8%	17.0%	0.0%
21	<b>Colombia</b>	Latin America	19.1%	19.1%	21.0%	4.0%
22	<b>Congo</b>	Sub-Saharan Africa	18.4%	18.0%	28.0%	0.0%
23	<b>Cote d'Ivoire</b>	Sub-Saharan Africa	18.4%	18.0%	28.0%	0.0%
24	<b>Croatia</b>	Eastern Europe and Central Asia	25.0%	25.0%	25.0%	0.0%
25	<b>Cyprus</b>	EU 27 (+2)	18.0%	18.0%	18.0%	0.0%

	Country	Region	Tax / TCMO	Tax/TCMU	Handset tax/ Handset cost	Mobile-specific taxes/TCMO
26	<b>Czech Republic</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%
27	<b>Dem Rep. Congo</b>	Sub-Saharan Africa	22.7%	21.5%	39.5%	8.0%
28	<b>Denmark</b>	EU 27 (+2)	25.0%	25.0%	25.0%	0.0%
29	<b>Dominican Republic</b>	Latin America	28.5%	28.0%	48.0%	10.0%
30	<b>Ecuador</b>	Latin America	12.3%	12.0%	19.5%	0.0%
31	<b>Egypt</b>	MENA	15.0%	15.0%	15.0%	5.0%
32	<b>Estonia</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
33	<b>Ethiopia</b>	Sub-Saharan Africa	15.0%	15.0%	15.1%	0.0%
34	<b>Finland</b>	EU 27 (+2)	24.0%	24.0%	24.0%	0.0%
35	<b>France</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
36	<b>Gabon</b>	Sub-Saharan Africa	36.3%	36.0%	45.7%	18.0%
37	<b>Gambia</b>	Sub-Saharan Africa	15.4%	15.0%	20.0%	0.0%
38	<b>Germany</b>	EU 27 (+2)	19.0%	19.0%	19.0%	0.0%
39	<b>Ghana</b>	Sub-Saharan Africa	24.4%	23.5%	37.5%	5.6%
40	<b>Greece</b>	EU 27 (+2)	34.5%	35.0%	23.0%	11.5%
41	<b>Guatemala</b>	Latin America	12.0%	12.0%	12.0%	0.0%
42	<b>Guinea</b>	Sub-Saharan Africa	18.5%	18.0%	38.0%	0.0%
43	<b>Hungary</b>	EU 27 (+2)	30.1%	30.3%	27.0%	3.1%
44	<b>India</b>	Asia Pacific	23.3%	23.3%	23.3%	10.3%
45	<b>Indonesia</b>	Asia Pacific	10.2%	10.0%	17.5%	0.2%
46	<b>Iran</b>	MENA	18.9%	8.0%	88.0%	0.0%
47	<b>Ireland</b>	EU 27 (+2)	23.0%	23.0%	23.0%	0.0%
48	<b>Italy</b>	EU 27 (+2)	22.1%	22.0%	22.2%	0.1%
49	<b>Jamaica</b>	Latin America	35.6%	35.6%	38.3%	20.7%
50	<b>Jordan</b>	MENA	38.5%	40.0%	16.0%	22.5%
51	<b>Kazakhstan</b>	Eastern Europe and Central Asia	12.0%	12.0%	12.0%	0.0%
52	<b>Kenya</b>	Sub-Saharan Africa	20.5%	25.2%	0.0%	7.5%
53	<b>Lao</b>	Asia Pacific	10.3%	10.0%	20.0%	0.0%
54	<b>Latvia</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%
55	<b>Lesotho</b>	Sub-Saharan Africa	14.0%	14.0%	14.0%	0.0%
56	<b>Lithuania</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%
57	<b>Luxembourg</b>	EU 27 (+2)	15.0%	15.0%	15.0%	0.0%
58	<b>Madagascar</b>	Sub-Saharan Africa	27.2%	27.0%	31.0%	6.6%

	Country	Region	Tax / TCMO	Tax/TCMU	Handset tax/ Handset cost	Mobile-specific taxes/TCMO
59	<b>Malawi</b>	Sub-Saharan Africa	26.0%	26.5%	16.5%	9.5%
60	<b>Malaysia</b>	Asia Pacific	6.0%	6.0%	6.0%	0.0%
61	<b>Malta</b>	EU 27 (+2)	21.0%	21.0%	21.0%	3.0%
62	<b>Mauritania</b>	MENA	18.1%	18.0%	23.0%	17.9%
63	<b>Mexico</b>	Latin America	18.9%	18.9%	16.0%	2.9%
64	<b>Montenegro</b>	Eastern Europe and Central Asia	19.1%	19.0%	19.0%	0.1%
65	<b>Morocco</b>	MENA	20.0%	20.0%	20.0%	0.0%
66	<b>Mozambique</b>	Sub-Saharan Africa	17.5%	17.0%	24.5%	0.0%
67	<b>Myanmar</b>	Asia Pacific	30.4%	30.0%	40.0%	0.0%
68	<b>Nepal</b>	Asia Pacific	26.8%	28.0%	13.0%	13.8%
69	<b>New Zealand</b>	Asia Pacific	15.0%	15.0%	15.0%	0.0%
70	<b>Nicaragua</b>	Latin America	15.0%	15.0%	15.0%	0.0%
71	<b>Niger</b>	Sub-Saharan Africa	22.2%	22.0%	29.0%	3.0%
72	<b>Nigeria</b>	Sub-Saharan Africa	5.8%	5.2%	12.3%	0.0%
73	<b>Norway</b>	EU 27 (+2)	25.0%	25.0%	25.0%	0.0%
74	<b>Pakistan</b>	Asia Pacific	31.9%	33.0%	22.5%	14.5%
75	<b>Panama</b>	Latin America	19.0%	19.0%	19.0%	11.9%
76	<b>Paraguay</b>	Latin America	10.1%	10.0%	11.9%	0.0%
77	<b>Peru</b>	Latin America	18.0%	18.0%	18.0%	0.0%
78	<b>Philippines</b>	Asia Pacific	12.0%	12.0%	12.0%	0.0%
79	<b>Poland</b>	EU 27 (+2)	23.0%	23.0%	23.0%	0.0%
80	<b>Portugal</b>	EU 27 (+2)	23.0%	23.0%	23.0%	0.0%
81	<b>Romania</b>	EU 27 (+2)	24.0%	24.0%	24.0%	0.0%
82	<b>Russia</b>	Eastern Europe and Central Asia	18.7%	18.0%	23.0%	0.0%
83	<b>Rwanda</b>	Sub-Saharan Africa	24.6%	26.0%	0.0%	7.6%
84	<b>Senegal</b>	Sub-Saharan Africa	22.1%	23.0%	10.0%	4.6%
85	<b>Serbia</b>	Eastern Europe and Central Asia	21.9%	20.0%	35.0%	1.3%
86	<b>Sierra Leone</b>	Sub-Saharan Africa	24.5%	25.0%	20.0%	8.9%
87	<b>Slovakia</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
88	<b>Slovenia</b>	EU 27 (+2)	22.0%	22.0%	22.0%	0.0%
89	<b>South Africa</b>	Sub-Saharan Africa	14.0%	14.0%	14.0%	0.0%
90	<b>Spain</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%

	Country	Region	Tax / TCMO	Tax/TCMU	Handset tax/ Handset cost	Mobile-specific taxes/TCMO
91	<b>Sri Lanka</b>	Asia Pacific	29.7%	36.0%	14.0%	17.7%
92	<b>Swaziland</b>	Sub-Saharan Africa	14.0%	14.0%	14.0%	0.0%
93	<b>Sweden</b>	EU 27 (+2)	25.0%	25.0%	25.0%	0.0%
94	<b>Switzerland</b>	EU 27 (+2)	8.0%	8.0%	8.0%	0.0%
95	<b>Tanzania</b>	Sub-Saharan Africa	36.0%	38.1%	18.6%	15.2%
96	<b>Thailand</b>	Asia Pacific	7.0%	7.0%	7.0%	0.0%
97	<b>The Netherlands</b>	EU 27 (+2)	21.0%	21.0%	21.0%	0.0%
98	<b>Trinidad and Tobago</b>	Latin America	15.4%	15.0%	27.5%	0.0%
99	<b>Tunisia</b>	MENA	23.0%	23.0%	23.0%	5.0%
100	<b>Turkey</b>	Eastern Europe and Central Asia	41.2%	41.1%	43.0%	23.2%
101	<b>Uganda</b>	Sub-Saharan Africa	26.7%	28.0%	18.0%	8.7%
102	<b>Ukraine</b>	Eastern Europe and Central Asia	26.3%	27.5%	20.0%	6.3%
103	<b>United Kingdom</b>	EU 27 (+2)	20.0%	20.0%	20.0%	0.0%
104	<b>Uruguay</b>	Latin America	22.0%	22.0%	23.9%	0.0%
105	<b>Uzbekistan</b>	Eastern Europe and Central Asia	20.7%	20.0%	40.0%	0.0%
106	<b>Venezuela</b>	Latin America	12.1%	12.0%	15.0%	0.0%
107	<b>Vietnam</b>	Asia Pacific	0.0%	0.0%	0.0%	0.0%
108	<b>Yemen</b>	MENA	10.5%	10.0%	15.0%	5.0%
109	<b>Zambia</b>	Sub-Saharan Africa	26.2%	26.0%	31.0%	9.8%
110	<b>Zimbabwe</b>	Sub-Saharan Africa	20.5%	20.0%	28.3%	4.7%
	<b>Average</b>		<b>20.1%</b>	<b>20.0%</b>	<b>22.5%</b>	<b>3.2%</b>

Source: Deloitte analysis based on methodology and sources discussed above

The table below shows the result of the analysis of total tax payments. Countries are ordered alphabetically.

Table 6

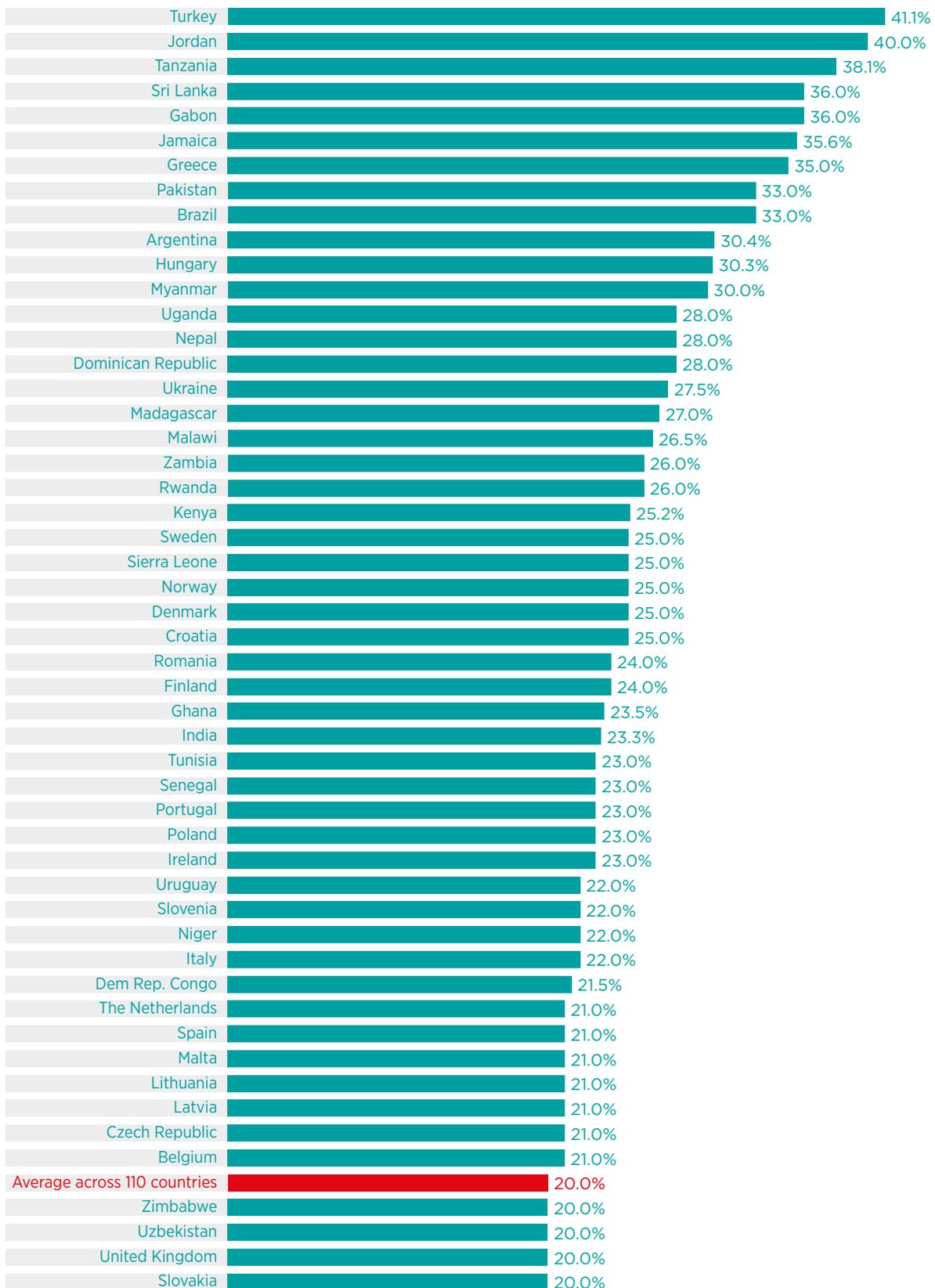
## Total tax payments as a proportion of mobile revenues by country, 2013

	Country	Total taxes and fees as a proportion of mobile revenues
1	Bangladesh	45.2%
2	Brazil	40.3%
3	Cameroon	35.0%
4	Chad	23.8%
5	Chile	25.1%
6	Colombia	30.4%
7	Croatia	23.8%
8	Ecuador	18.0%
9	Egypt	29.6%
10	Gabon	38.8%
11	Ghana	51.6%
12	Hungary	29.2%
13	Jamaica	56.6%
14	Jordan	39.3%
15	Kenya	25.5%
16	Nigeria	10.6%
17	Pakistan	36.9%
18	Panama	16.4%
19	Peru	19.7%
20	South Africa	24.3%
21	Sri Lanka	20.6%
22	Tanzania	48.4%
23	Thailand	29.2%
24	Tunisia	35.4%
25	Turkey	58.3%
26	Uruguay	17.6%

Source: Deloitte analysis based on methodology and sources discussed above

Figure 31

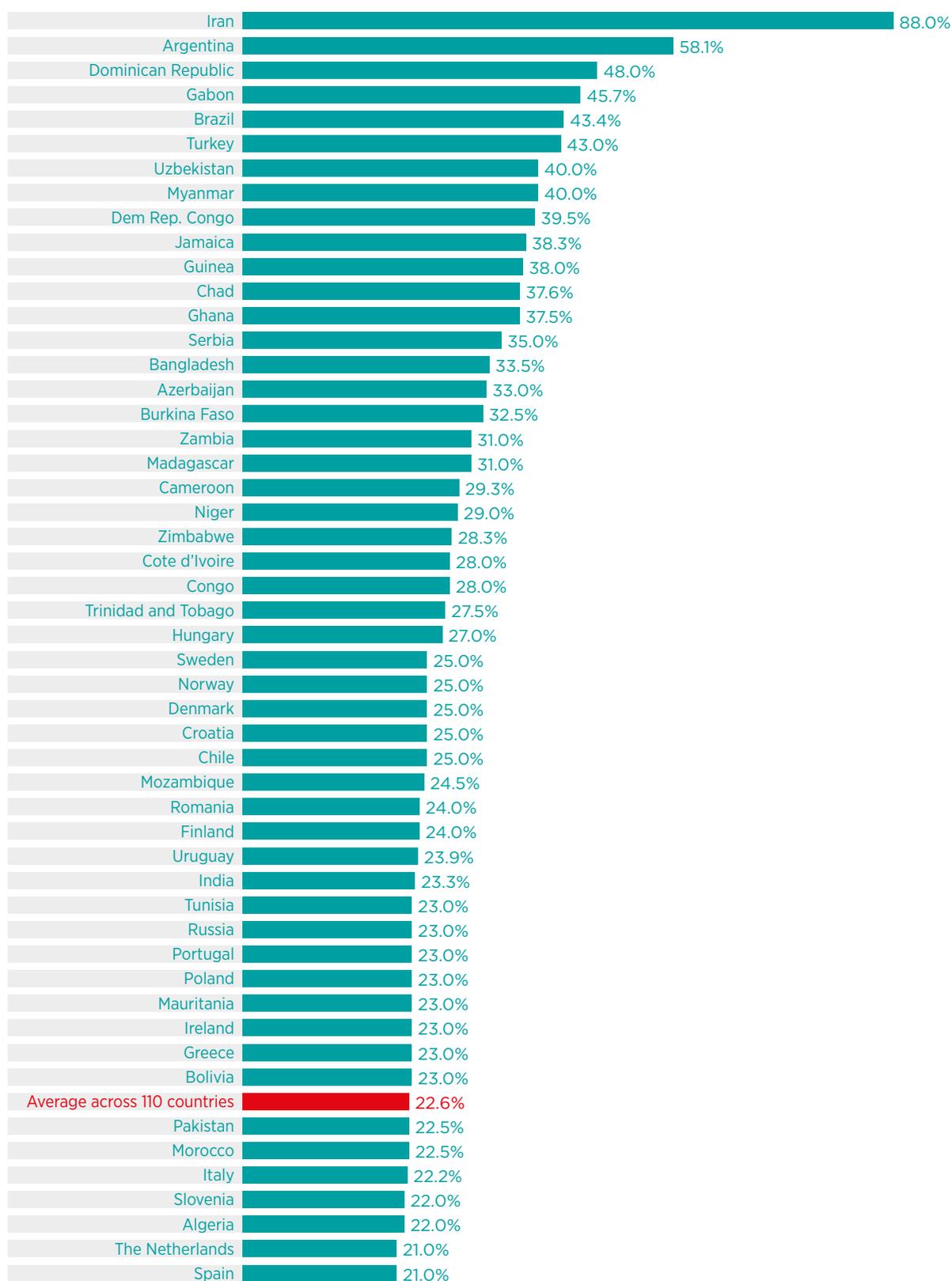
## Tax as a proportion of TCMU in the top 50 countries, 2014



Source: Deloitte analysis based on methodology and sources discussed above

Figure 32

## Tax as a proportion of handset cost in the top 50 countries, 2014



Source: Deloitte analysis based on methodology and sources discussed above





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