



## **Mobile Taxation Survey**

### A methodological note for GSMA

February 2017

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# Methodology of the mobile taxation survey

This document describes the methodology used in the taxation survey to estimate the total tax and fee payments for mobile consumers and mobile operators. It also discusses data sources, main assumptions made, and the limitations of the analysis.

## 1. Sample and data collection

The study focusses on recurring tax and regulatory fee payments by the mobile sector in calendar year 2015. Tax and fee payments were sourced from mobile operators in the 27 countries listed in Table 1. All operators in each country were contacted and provided with the same data request template for completion, in order to promote consistency and accuracy of the data received.

In line with previous studies undertaken by Deloitte and the GSMA, total payments applicable to the mobile sector were defined as total recurring tax and regulatory fee payments made by mobile operators. Non-recurring payments, such as one-off spectrum payments, were excluded from the analysis.

Table 1: Countries included and regional classification

Sub-Saharan Africa	Cameroon, Chad, DRC, Ghana, Guinea, Niger, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania
South Asia	Bangladesh, Nepal, Pakistan, Sri Lanka
Middle East and North Africa	Algeria, Egypt, Jordan, Tunisia
Latin America and the Caribbean	Argentina, Brazil, Ecuador, Jamaica, Mexico
East Asia and Pacific	Thailand
Europe and Central Asia	Hungary, Italy

The following additional sources were used to conduct the analysis of tax and regulatory fee payments:

- Total revenues, connections, unique subscribers, operator market shares, and exchange rates in each market were retrieved from the GSMA Intelligence database on 1 November 2016.
- Country-level data on Gross Domestic Product (GDP), Gross National Income (GNI), GDP deflator, and the income share held by the poorest 20% were retrieved from the World Bank's World Development Indicators on 17 November 2016.

- Country-level data on tax revenues as a proportion of GDP was retrieved from the International Monetary Fund (IMF) World Revenue Longitudinal Data on 17 November 2016.

Further research was undertaken regarding the rates of Value-Added Tax (VAT), taxes on handsets, connection taxes, usage taxes and corporation tax. Tax rates were provided by operators and further desktop-based research was conducted using sources such as Deloitte International Tax Source<sup>1</sup>, IBFD<sup>2</sup>, PKF<sup>3</sup>, World Bank Doing Business<sup>4</sup>, PwC<sup>5</sup>, and previous studies produced by Deloitte for the GSMA between 2014 and 2016. The most recent customs duty rates on handsets were retrieved from the World Trade Organisation (WTO) database via World Bank WITS<sup>6</sup>, using the Harmonised System (HS) code 851712: 'Telephones for cellular networks mobile telephones or for other wireless networks'.

## 2. Estimation of market-level payments, classification and analysis

For each country included in the study where only some of the operators provided data, the tax and regulatory fee payments reported by those operators were scaled to market level based on market share, effectively estimating missing payments for the operators that did not provide data.<sup>7</sup> Local currency units were converted into USD using average exchange rates for 2015. In some rare cases, a payment was not uplifted, as it was likely to be specific to a single operator. An example of this is the tax on operators with a market share greater than 30% in Ecuador, which applies to only one operator. The estimates are dependent on the data supplied by mobile operators at the time of the study, and reflect only tax and fee payments provided by mobile operators.

Each tax or regulatory fee was attributed to either operators or consumers for categorisation purposes.

- Operator taxes and regulatory fees include corporate taxes, revenue-based taxes, regulatory taxes and fees, including infrastructure related fees and Universal Service Fund (USF) contributions, import duties on network equipment, and taxes related to property holdings and royalties.
- Consumer taxes and fees include sales taxes, such as VAT and GST, excise duties on usage, luxury taxes on handsets, connection and activation fees, and import duties on handsets and SIM cards.

The payments were also divided between general taxes and sector-specific taxes and fees, based on information provided by mobile operators and desktop-based research. In those countries where the mobile sector is subject to general taxes, such as corporate tax or VAT rates, but with special rates that differ from the standard rates, these are treated as general taxes, due to data limitations. Each tax and regulatory fee payment was also assigned to one of the following groups: spectrum fees, regulatory fees, import duties, VAT, excise duties, and other.

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<sup>1</sup> <https://dits.deloitte.com/>

<sup>2</sup> <http://www.ibfd.org/>

<sup>3</sup> <http://www.pkf.com/publications/tax-guides/pkf-international-worldwide-tax-guide/>

<sup>4</sup> <http://www.doingbusiness.org/>

<sup>5</sup> <http://www.pwc.com/gx/en/services/tax/corporate-tax/worldwide-tax-summaries.html>

<sup>6</sup> <http://wits.worldbank.org>

<sup>7</sup> This was done by dividing the total tax and regulatory fee payments from operators providing data by the combined market shares of those operators in 2015.

The impact of taxation on affordability of mobile services was estimated by calculating tax and regulatory fee payments per unique subscriber in each country. This was then compared with:

- Annual average income (GNI) per capita in the country; and
- Annual average income (GNI) per capita for the poorest 20% of the country's population, which is estimated on the basis of the bottom quintile's share of total income, as published by World Bank.

### 3. Limitations of the methodology

The methodology uses data from a subset of operators in each market to estimate tax and regulatory fee payments for the entire market. As such, it relies on the subset of operators for which data is provided being representative of the market overall.

Two factors in particular may determine the extent to which the analysis for each country is robust and representative of the entire mobile sector:

- Market share coverage: when data is available from operators with a relatively high combined market share, it is more likely that the results are representative of the entire market. This is because the analysis relies on a smaller degree of extrapolation in order to estimate data for the entire market.
- Number of operators: when data is available from a larger number of operators, it is more likely that the results are representative of the entire market. This is for two main reasons:
  - Operator's tax and regulatory fee payments may differ significantly within the same market, not only because of differences in size but also as a result of different business models, financial performance and other characteristics. For example, it is not unusual for corporation tax payments to vary across operators within the same country and year; one operator might pay a substantial sum and another might not make any payment, having registered a negative taxable profit. When data from only one operator is available, the analysis is reliant on that operator being representative of the entire market.
  - Relevant tax and regulatory fee payments may have been omitted. When data from multiple operators is available, it is easier to identify these instances and in some cases to correct for these. For example, missing data for one operator may be estimated based on another operator's data, when it is known that the tax or fee applies to all operators. The accuracy of results therefore may tend to be higher when data from multiple operators is available.

Where possible, clarifications were sought from operators in relation to data that was incomplete or unclear, but only a limited set of responses were received. In a number of instances, it has been necessary to make assumptions about the correct interpretation of the data on the basis of third party sources.