

PUBLIC GOOD OR PRIVATE WEALTH?

Methodology note

1 INTRODUCTION

This methodology note accompanies the 2019 Oxfam report *Public Good or Private Wealth?* It documents and describes the in-house estimations carried out for the report in the following four areas:

1. Wealth and inequality trends
2. Unpaid care work
3. Public services
4. Taxes

For each of these areas, we document sources and methods of estimation.

Icons used



Most of the information Oxfam uses in the calculations are open data. We point to the sources where data can be accessed and downloaded.



Important reminders and caveats.

2 WEALTH AND INEQUALITY TRENDS

2.1 BILLIONAIRES AND EXTREME WEALTH

Data source

Forbes publishes a ranked list of billionaires' net worth both annually and daily on their Real Time Ranking of billionaires. For the present analysis, Oxfam used the annual list published in March 2018 combined with historical data available from 2000 (when *Forbes* started this list). This allowed an examination of changes in the wealth of billionaires over time, as well as the number of people joining (or leaving) the list each year.

Wealth data is presented in billions of dollars for the day/month the information is captured.



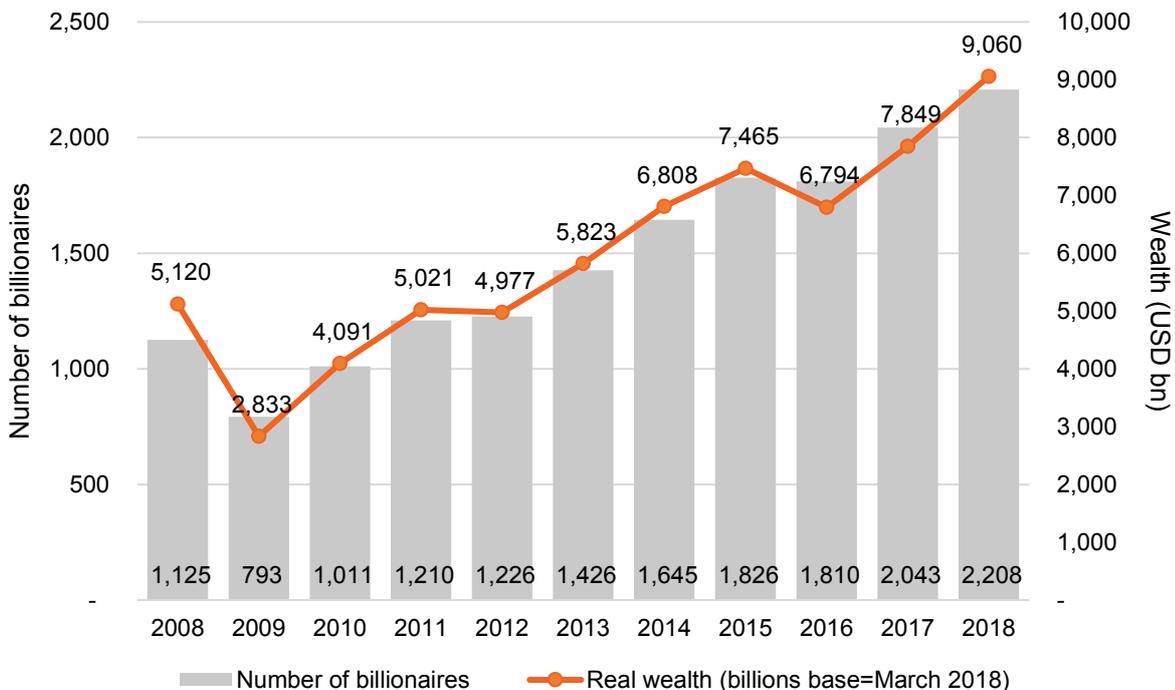
Forbes 2018 Billionaires List <https://www.forbes.com/>

Oxfam's calculations

Changes in the number of billionaires and their wealth since the financial crisis

- Reference period: March 2008 to March 2018
- Adjustment: Value of wealth adjusted to be expressed in March 2018 prices
- Deflator: US Consumer Price Index (CPI) from the US Labour Bureau of Statistics (data in **Annex 1**)

Figure 1: Number of billionaires and value of their wealth since 2008



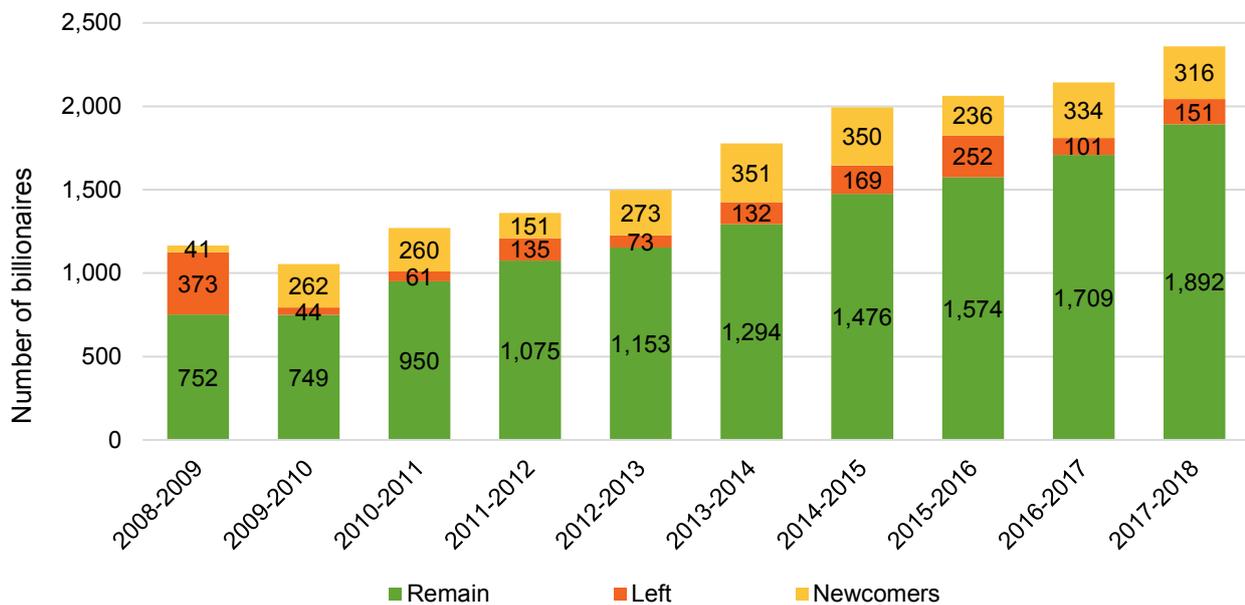
Highlight: Since 2008, the year of the financial crisis, the number of billionaires and the wealth they hold has nearly doubled.

Oxfam has also examined the number of billionaires joining and leaving the *Forbes* list since 2008. This was estimated by simply counting the number of unique names in the list in each year for two consecutive years and grouping them in three categories:

1. remain;
2. left; and
3. newcomer.

Counting unique names means that whenever a stock of wealth was transferred from one person to another – even if they are related – it was recorded as one person leaving the list, and a new one joining; for example, Liliane and Francoise Bettencourt were counted as one exit and one entrance. Between 2017 and 2018, 1,892 billionaires remained in the list, 316 were newcomers, and 151 left (see **Figure 2**).

Figure 2: Number of billionaires joining, leaving and remaining in the *Forbes* list since 2008



Highlight: The net increase in the number of billionaires between 2017 and 2018 was 165. This is equivalent to almost one billionaire every two days.

Changes in the wealth of billionaires in the last year

- Reference period: March 2017 to March 2018
- Adjustment: Value of wealth adjusted to be expressed in March 2018 prices
- Deflator: US CPI from the US Labour Bureau of Statistics (data in **Annex 1**)

The increase in the net wealth of billionaires is partly accounted for by the increase in the number of billionaires included in the cohort. For this reason, to calculate the accumulation of wealth, Oxfam considered the wealth of 1,892 billionaires who were listed in both 2017 and 2018 (see **Table 1**).

Table 1: Increase in wealth of billionaires between 2017 and 2018

No. billionaires in both years	Real wealth 2017 (USD bn)	Real wealth 2018 (USD bn)	Mean increase in wealth 2017–18 (USD bn)	% increase in wealth	Mean increase in wealth 2017–18 per billionaire (USD bn)	Mean increase in wealth 2017–18 per day (USD bn)
1,892	7,502	8,436	934	12%	0.5	2.5

Highlight: The wealth held by these 1,892 billionaires increased by about \$900bn (12%) between 2017 and 2018. This is equivalent to an increase in total wealth of \$2.5bn per day.

The magnitude of the wealth held by the wealthiest billionaire in 2018

In March 2018, Jeff Bezos’s wealth was estimated by *Forbes* to be \$112bn (current prices of March 2018). His fortune increased by \$39bn from March 2017 to March 2018, placing him top in the list and, thus, the richest man in the world.

According to Government Spending Watch, Ethiopia’s planned health budget in 2017 was \$1.235bn (current prices of 2017). Adjusting for average US inflation between 2017 and 2018 prices using Calculator.net’s Inflation Calculator,¹ this corresponds to approximately \$1.26bn in 2018 dollars.



Government Spending Watch – Spending on Health in Ethiopia 2017

<http://www.governmentspendingwatch.org> (accessed in November 2018)

Highlight: One percent of the total wealth of the world’s richest person in 2018 (\$1.1bn) is equivalent to almost the whole health budget of Ethiopia in 2017, a country of 105 million people.

2.2 GLOBAL WEALTH DISTRIBUTION

Data sources

Every year, Credit Suisse publishes their *Global Wealth Report* and an accompanying *Global Wealth Databook*. These contain estimates of the wealth holdings of households around the world since 2000. Estimates are provided for more than 200 countries in the world; however, as no country has a single comprehensive source of information on personal wealth, and some others have few records of any kind, different methods are employed to estimate wealth figures when missing. As a result, wealth estimates show different quality levels. Despite this shortcoming, Credit Suisse’s *Global Wealth Data* is the most comprehensive reference allowing for an in-depth, long-term overview on how household wealth is distributed within and across nations.

In the latest edition, data are available from 2000 to 2018. As new data on wealth are made available each year, wealth estimates from previous years have been revised. This means that previous figures used and reported in the new Oxfam report may not match those published in previous years.



Credit Suisse *Global Wealth Report* and *Global Wealth Databook*. Available at:

<https://www.credit-suisse.com/corporate/en/research/research-institute/global-wealth-report.html>

Wealth data are presented in nominal terms. For the period 2000–17, the data refer to the amount of wealth accumulated until the fourth quarter (Q4) of each year. For 2018, data refer to the second quarter (Q2). This information is also available for the year 2017. Oxfam has adjusted the figures on the basis of these different reference periods to transform the value of wealth from nominal to real terms.

Oxfam’s calculations

Changes in wealth between 2017 and 2018

- Reference period: 2017 Q2 to 2018 Q2
- Adjustment: Value of wealth adjusted to be expressed in June 2018 prices
- Deflator: US CPI from the US Labour Bureau of Statistics (data in **Annex 1**)

Table 2: Changes in wealth, 2017–18

	Wealth (USD bn, base=June 2018)		
	Total	Top 1%	Bottom 50%
<i>2017 Q2</i>	311,831	147,118	1,541
<i>2018 Q2</i>	317,084	149,514	1,370
<i>Change</i>	5,254	2,396	-172
<i>% change</i>	1.7%	1.6%	-11.1%

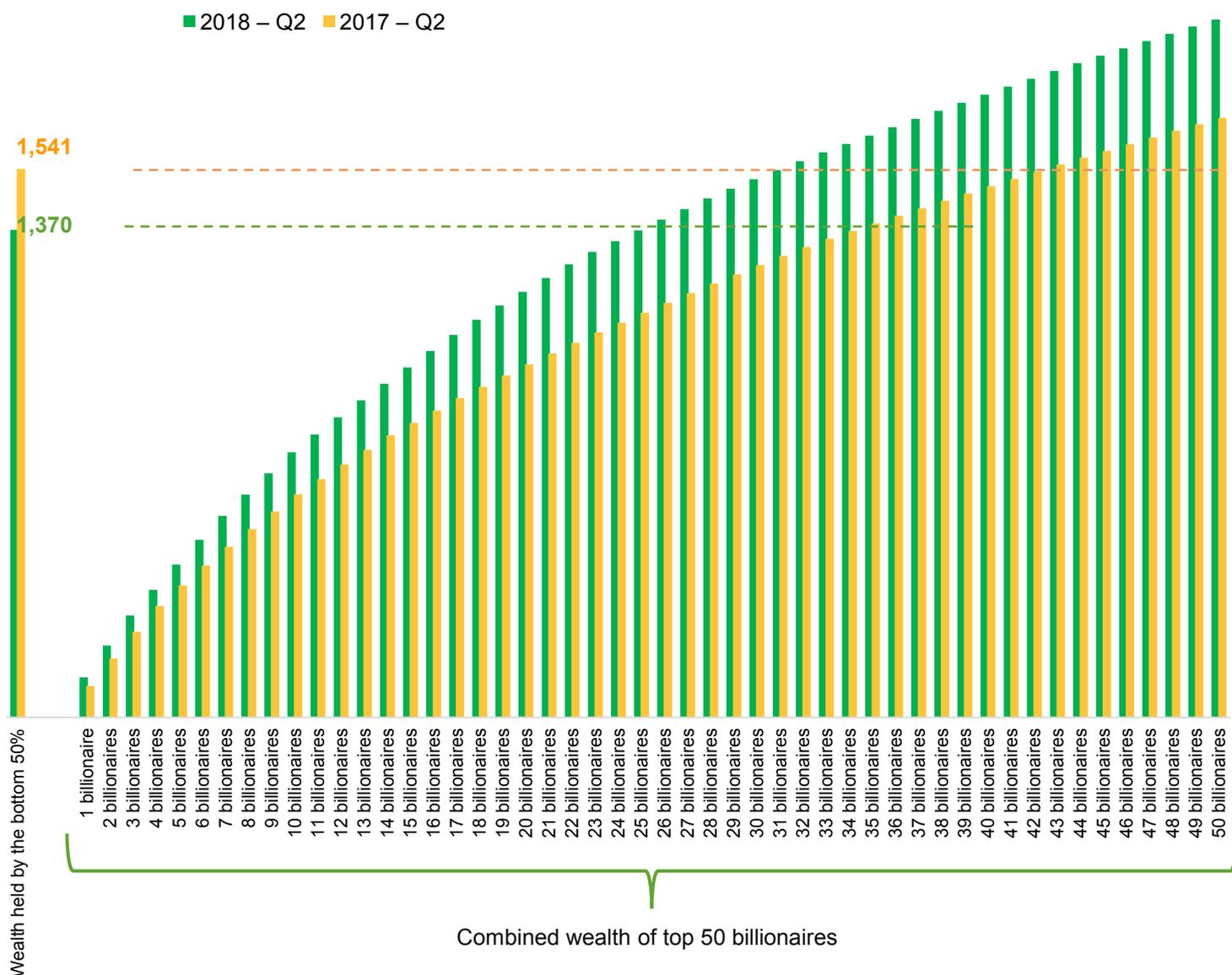
Highlight: The wealth of the bottom 50% of the distribution declined by 11 percentage points since the second quarter of 2017.

Billionaires’ wealth vs the wealth of the bottom 50%

- Reference period: 2017 Q2 and 2018 Q2
- Adjustment: Value of wealth adjusted to be expressed in June 2018 prices, value of billionaires’ wealth adjusted to be expressed in March 2018 prices.
- Deflator: US CPI from the US Labour Bureau of Statistics (data in **Annex 1**)

Oxfam has compared the wealth of the billionaires on the *Forbes* list with the wealth of the bottom 50%, as presented in the Credit Suisse data. **Figure 3** shows the total wealth in real terms of the bottom 50% in 2018 and 2017. The figure also shows the number of billionaires who together (accumulated wealth sorted in descending order of wealth) add up to that figure.

Figure 3: Wealth of the bottom 50% of global population and the accumulated wealth of top 50 billionaires, 2017 and 2018



Highlight: Wealth is becoming increasingly concentrated: in 2017, 43 billionaires held as much wealth as the bottom 50% of the world population; in 2018, this figure decreased to 26 billionaires.



1. These results should not be compared like-for-like against the comparisons made in previous Oxfam reports. As mentioned earlier, every year Credit Suisse revises past wealth data, reflecting changes in the availability and quality of household wealth data, rather than changes in wealth year to year.
2. Wealth information from both sources are for two different months: March for *Forbes* and June and December for Credit Suisse in 2018 and 2017, respectively. Strictly speaking, this means that 26 (43) billionaires had as much wealth in March 2018 (2017) as half the population did in June 2018 (2017).

3 UNPAID CARE WORK

The McKinsey Global Institute estimated that unpaid care work – defined as all unpaid services provided within the household for its members, including caring, housework and voluntary community work – could be valued at \$10 trillion per year. This figure was estimated by applying a minimum wage rate to the total hours spent in unpaid care work, so is a conservative estimate.

According to Apple’s consolidated statement of operations, the company’s annual net sales by September 2017 was \$229.2bn.

Data sources



McKinsey’s report *The Power of Parity: How Advancing Women’s Equality Can Add \$12 Trillion to Global Growth*. <https://mck.co/2K9L1mf>



Apple’s consolidated statement of operations. <https://apple.co/2jwkRvD>

Highlight: The annual value of all unpaid care work done by women is equivalent to 43 times the annual sales of Apple in 2017.

4 PUBLIC SERVICES

4.1 COMPARING GOVERNMENT EDUCATION SPENDING TO INCOME IN THE POOREST DECILE

Data sources

Education spending data are taken from the UNESCO Institute for Statistics (known as 'UIS.Stat'). The variable used is 'initial government funding per primary student', which includes all forms of primary level education spending – local, regional and national, current and capital – but excludes donor funding to education, whether project-based or education budget support. Data are for the most recent year available of either 2014 or 2015.



UNESCO Institute for Statistics (UIS.Stat) <http://data.uis.unesco.org/Index.aspx> (accessed in November 2018)

Income data is from the Global Consumption and Income Project, a dataset of income and consumption for more than 160 countries between 1960 and 2015 (disaggregated by quintiles), built on a variety of household surveys by a team of international academics.² This source was chosen because it offers more comprehensive coverage of income distribution data than other more commonly used datasets, such as Povcal. In this instance, Oxfam used income rather than consumption data in order to avoid the risk of double counting spending on education. The variable adopted is 'mean monthly per capita income for the poorest decile of population', at 2005 US dollars PPP, for the most recent year available of either 2014 or 2015.



Global Consumption and Income Project (GCIP). <http://gcip.info/> (accessed in November 2018)

Oxfam's calculations

Data adjustment

Both the education spending and income data series were rebased as 2011 US dollars PPP to make them directly comparable. Rebasing of education spending data takes advantage of the fact that the UIS.Stat database provides all spending series expressed at both constant and current US dollars PPP, from which the conversion factor for 2011 PPP is obtained. Rebasing of income data used a ratio between mean income at 2005 PPP and mean income at 2011 PPP, both series being available in the GCIP dataset for all countries.

The rebasing exercise restricts the sample to those countries with data for both 2011 and either 2014 or 2015, making a total of 78 countries (full list in **Annex 2**).

Calculations

As a first step, government funding for primary education is compared with the mean annual income of a person in the poorest decile. Oxfam found that government funding per primary student is a multiple of per

capita income of people in the poorest quintile for the majority (70 out of 78) of countries; more detailed results can be seen in **Table 3**.

Table 3: Ratio between government funding of primary education per pupil and annual income per capita for different-sized families in the poorest quintile in 78 selected countries

No. of countries with a ratio:	Ratio between primary spending per pupil and annual income per capita of the poorest quintile	Ratio between primary spending for three pupils and annual income of a family of five in the poorest quintile	Ratio between primary spending for two pupils and annual income of a family of three in the poorest quintile
>1:1	70	48	54
>2:1	36	15	16
>3:1	16	6	8
>4:1	9	4	5

Table 4 shows that these results hold for countries at all income levels; for instance, spending per student is more than double the income of the poorest quintile in 15 high-income countries and in 13 upper middle-income countries.

To obtain a more realistic assessment of the scale of the benefit provided by public spending in primary education for poor households, we simulated two cases:

1. a family in the poorest decile composed of two adults and three children in primary school; and
2. a family in the poorest decile composed of a single parent with two children in primary school.

In both cases, household income is estimated by multiplying income per capita for the number of family members; the benefit accruing from public education spending is given by multiplying spending per primary pupil by the number of children in primary school. The results are summarized in **Table 4**.

Table 4: Ratio between government funding of primary education per pupil and annual income per capita of the poorest quintile by countries' income level in 78 selected countries

No. of countries with a ratio:	High-income	Upper middle-income	Lower middle-income	Low-income	Total
>1:1	34	17	11	8	70
>2:1	15	13	5	3	36
>3:1	3	9	3	1	16
>4:1	1	6	1	1	9

4.2 DEMAND FOR PUBLIC HEALTH SERVICES BY THE BOTTOM QUINTILE

Data sources

Data for this exercise come from the Demographic and Health Surveys (DHS) Program, which collects, analyses and disseminates representative data on population, health, nutrition and HIV in more than 90 countries through more than 300 surveys. DHS are carried out in less-developed countries only, or those which receive (or have received) US foreign aid. For this exercise, Oxfam has used the DHS STATcompiler, an online tool that allows users to create custom tables with demographic and health indicators.



Demographic and Health Surveys STATcompiler <https://www.statcompiler.com/en/> (accessed in November 2018).

Oxfam's data analysis

For the present analysis, Oxfam used the following DHS indicators on childbirth:

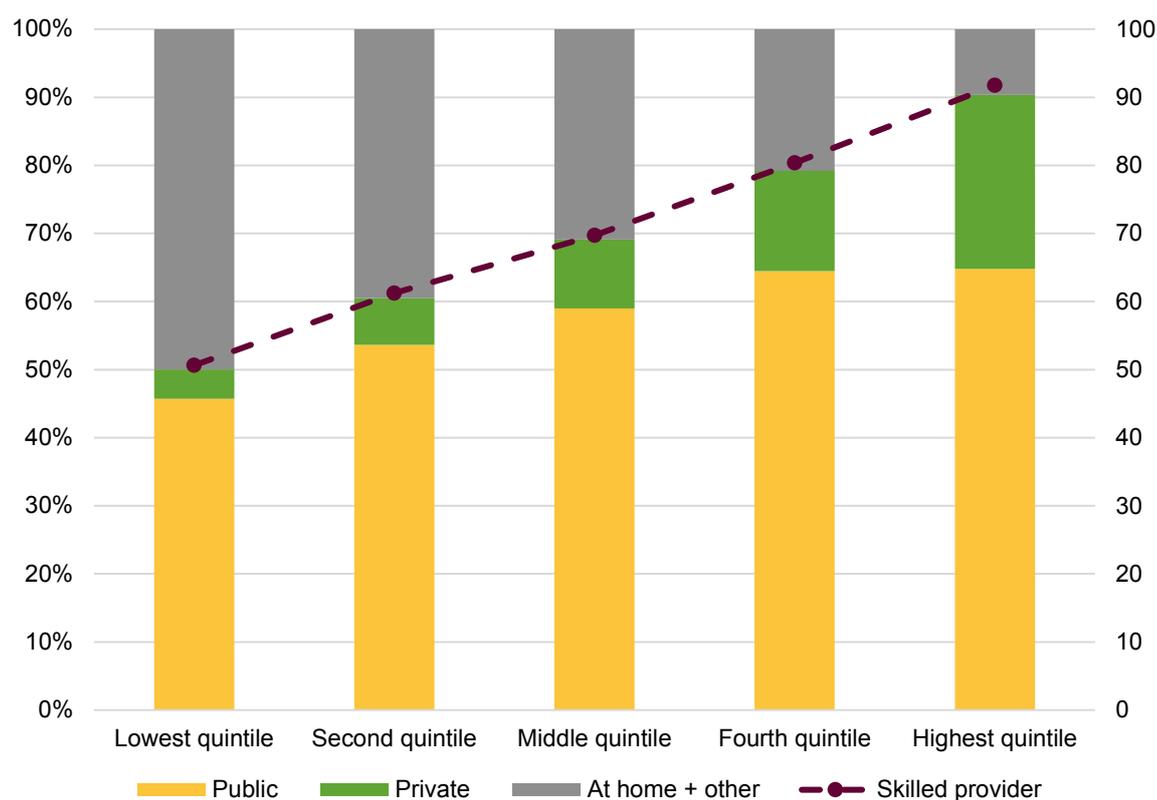
- Assistance during delivery: from a skilled (health) provider, includes doctors, nurses, midwives and auxiliary midwives
- Place of delivery:
 - Public sector, includes giving birth at a government hospital, health centre, health post or other public sector institution
 - Private sector, includes giving birth in a private hospital, clinic or other medical institution
 - At home
 - Other

The data were disaggregated by wealth quintiles. Wealth is constructed by the DHS using household asset data via principal component analysis.³

The analysis considered all countries with a DHS conducted in the last 10 years, giving a sample of 62 countries. In a further step, Liberia was dropped from the analysis, as the DHS does not have information on the first indicator (percentage of live births assisted by a skilled provider). The full list of countries included in this analysis is given in **Annex 3**.

Figure 4 summarizes the information for all wealth quintiles in the public and private sector, as well as births at home and other place for all 61 countries in the exercise. Note that the total share of births assistance by a skilled provider does not necessarily equal the sum of the shares of births delivered in public and private health centres. This is because births could have been assisted by skilled health providers at home or in other places, though these numbers are negligible.

Figure 4: Percentage of live births delivered in public and private institutions, and percentage of births attended by a skilled health provider, by wealth quintile in 61 low- and middle-income countries

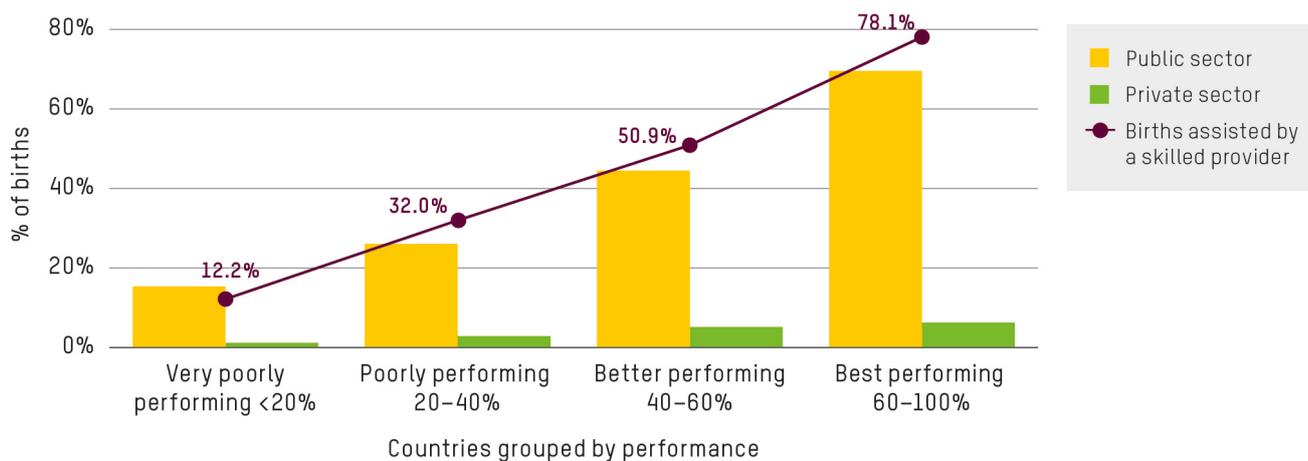


In the next step, we categorize the lowest quintile by the percentage of deliveries assisted by a skilled health provider as follows:

- Group 1: <20% of births assisted by a skilled birth provider (very poorly performing)
- Group 2: 20–39% (poorly performing)
- Group 3: 40–59% (better performing)
- Group 4: 60–100% (best performing)

Annex 3 provides a complete list of countries in each one of these groups. For each group, simple averages for the percentages of live births assisted in public and private places are estimated.

Figure 5: Percentage of live births delivered in public and private institutions by women in the lowest wealth quintile, according to level of skilled birth attendance in 61 low- and middle-income countries (listed in Annex 3)



Highlight: Countries in which most women from the poorest households have skilled birth attendants (over 60% of live births) are 10 times more likely to be assisted through the public than the private sector.

5 TAXES

5.1 TAX SHIFTS FROM CORPORATIONS TO HOUSEHOLDS

Data source

The data for this section come from the OECD Global Revenue Statistics Database (OECD.Stat), which includes information for 35 OECD and 43 non-OECD countries (see full list in **Annex 4**).



OECD.Stat – Global Revenue Statistics Database.
https://stats.oecd.org/Index.aspx?DataSetCode=RS_GBL

Oxfam's calculations

Oxfam estimated annual (unweighted) averages of corporate income taxes (CIT), wealth taxes (including property, inheritance, net wealth, and financial and property transaction taxes), personal income taxes (PIT), payroll taxes (including social security and other payroll taxes), taxes on goods and services, and other taxes from 2007 to 2015 – before the financial crisis until the most recent year with the most complete data for a sample of 78 countries.⁴

Tax shifts are estimated as the difference of tax revenues (as a percentage of GDP) between 2015 and 2007. Positive results point to a higher tax burden in 2015 than in 2007, negative results reflect a higher tax burden in 2007 than in 2015. **Table 5** summarizes the results.

Table 5: Composition and variation in taxes as a percentage of GDP, 2007–15

	2007	2015	Variation 2007–15	2015 % total tax
<i>Corporate income tax</i>	3.6%	3.1%	-0.5%	11.3%
<i>Wealth taxes</i>	1.2%	1.2%	0.0%	4.5%
<i>Personal income tax</i>	5.4%	5.8%	0.4%	21.2%
<i>Payroll taxes</i>	5.5%	6.1%	0.6%	22.2%
<i>Taxes on goods and services</i>	10.4%	10.8%	0.3%	39.4%
<i>Other taxes</i>	0.4%	0.4%	0.0%	1.3%
<i>Total</i>	26.4%	27.4%	0.9%	100.0%

Between 2007 and 2015, CIT revenue decreased by 0.5 percentage points of GDP, while revenues on payroll taxes, PIT, and taxes on goods and services increased by 0.6, 0.4 and 0.3 percentage points, respectively. This implies a shift from corporate to household taxes during this period.

Highlight: Wealth is particularly undertaxed: only about 4 cents of every dollar of tax revenue comes from taxes on wealth.

5.2 INCOME TAX PAID BY TOP AND BOTTOM 10%

Data sources

Data to estimate the share of taxes on household' income in the UK in 2016–17 come from the Office for National Statistics (ONS), which provides information on average annual households' income and taxes in the UK.



ONS – Effects of taxes and benefits on household income. <https://bit.ly/2FoZbuC> (for Financial year ending 2017)

We compare the share of taxes on household income in the UK to that of Brazil. Information for Brazil was taken from the 2014 Instituto de Estudos Socioeconomicos (INESC) report *As Implicacoes do Sistema Tributario Brasileiro nas Desigualdades de Renda* (see Table 2, page 22 in <https://bit.ly/2GYXCrW>).

Oxfam's calculations

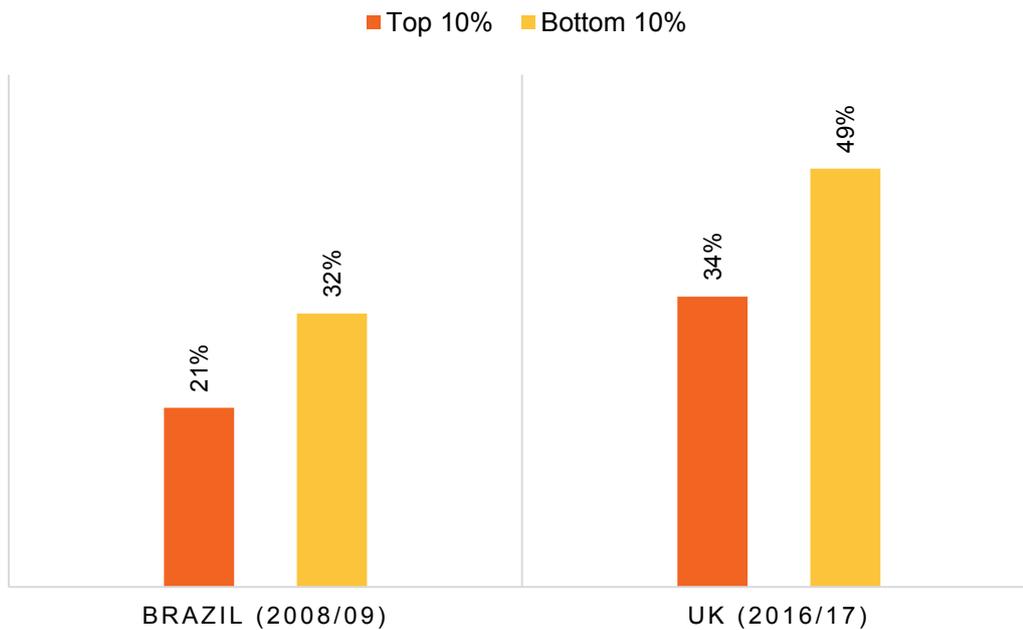
Using data on average incomes, taxes and benefits by decile groups of all households (ranked by unadjusted disposable income) for 2016–17 (Table 14 in the ONS dataset), Oxfam estimated the proportion of household income paid in tax by adding direct and indirect taxes (which include intermediary taxes), and dividing this figure by the total gross household income for each income decile.

Table 6: Proportion of household income paid in tax in the UK for the bottom and top income deciles

	Bottom 10%	Top 10%
<i>Average gross income (£)</i>	9,228	123,637
<i>Direct taxes (£)</i>	1,483	29,688
<i>Indirect and intermediary taxes (£)</i>	2,999	12,682
<i>Total taxes (£)</i>	4,482	42,370
<i>Effective tax rate (%)</i>	49%	34%

INESC's figures for Brazil, based on the Consumer Expenditure Survey for 2008–09, shows that the proportion of household income paid in tax for the bottom 10% is 32%, and for the top 10% is 21%. The methodology for these estimates follows a similar logic that the one for the UK and can be found on page 16 of the *Fiscal Equity in Brazil* report (available at: <https://bit.ly/2BtD6KI>).

Figure 6: Share of taxes on household incomes from the bottom and top income deciles in Brazil and the UK



NOTE: Countries presented together for illustrative purposes only. They are not directly comparable, as tax bases and years are different.

Highlight: In some countries, like Brazil and the UK, the poorest 10% of the population pay a higher proportion of their income in tax than the richest 10%.



Data for both countries are based on official national-level statistics. The precise tax bases of Brazil and the UK are not directly comparable

5.3 RAISING A 0.5% WEALTH TAX FOR THE TOP 1%

Data sources

Data for wealth tax revenues come from two main sources: the OECD's Global Revenue Statistics Database and the IMF's macroeconomic and financial data. The total number of countries covered by both sources is 111: 78 from the OECD and 33 from IMF (list of countries and sources in **Annex 5**). For countries with data in both datasets, the OECD data was chosen. For countries with neither OECD nor IMF data, Oxfam estimated wealth tax revenues by multiplying the effective wealth tax rate of that country's income group by total wealth.



OECD.Stat – Global Revenue Statistics Database.
https://stats.oecd.org/Index.aspx?DataSetCode=RS_GBL



IMF– Government Finance Statistics: Revenue.

<http://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&slid=1479329334655>

In addition, data for household wealth (net of debt) and wealth distribution were taken from Credit Suisse *Global Wealth Report* and *Global Wealth Databook*.

Oxfam's calculations

In order to estimate what an additional 0.5% tax to the wealthiest 1% individuals in each country would amount to, Oxfam has estimated the following:

Total wealth: Estimate of wealth (net of debt) for all individual residents in a country gathered from Credit Suisse data for the year 2015. While more recent data are available, 2015 was chosen to match the most recent data for wealth tax revenues and social spending.

Wealth tax revenues: Government revenues at all levels (i.e. central, regional and local governments) from all taxes on wealth, including property taxes, inheritance and gift taxes, net wealth taxes, and property and financial transaction taxes (but excluding capital gains taxes that are accounted as income taxes) were gathered from the OECD and IMF. Data for 2015 are used, as this is the latest year with data for most countries (111 countries).

Effective wealth tax rate: Estimated by dividing wealth tax revenues by total wealth.

Wealth of 1% richest: Net wealth of individual residents in a country belonging to the top 1% in the wealth distribution of that country. It is important to note that this is not the top 1% in the world, but the richest 1% in each country. This information was gathered from Credit Suisse.

Costs of reaching specific SDGs: Oxfam has run various simulations of the costs associated with reaching specific health- and education-related Sustainable Development Goals (SDGs) based on estimates by the World Health Organization (WHO) and UNESCO.

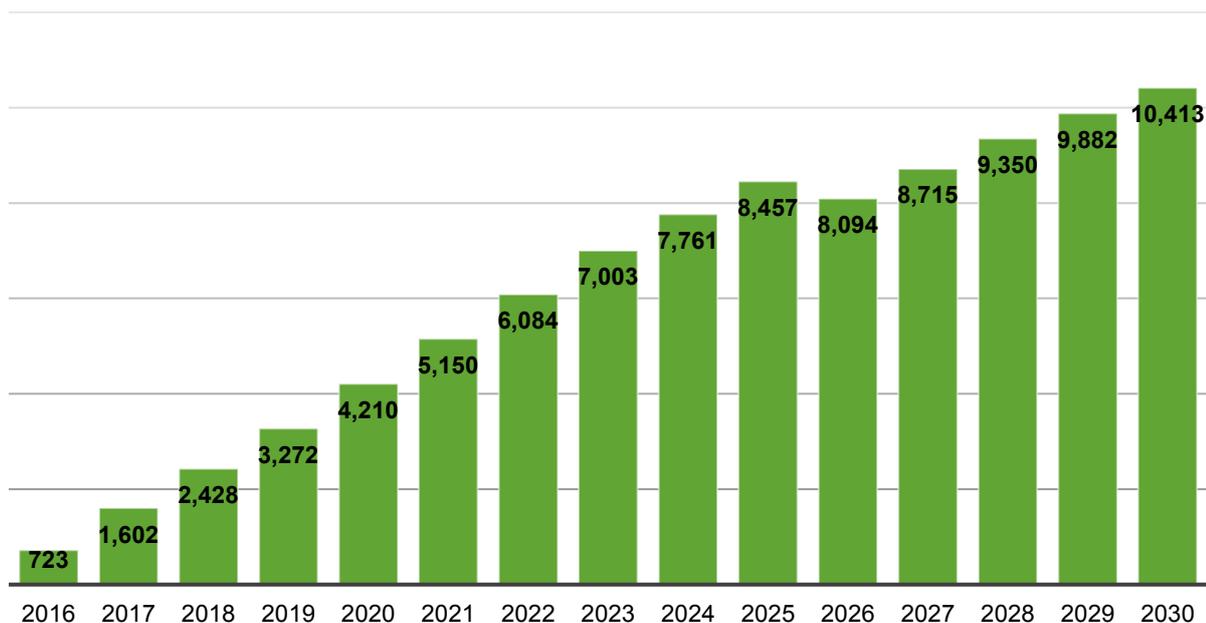
Since costs in each simulation are expressed in different units – either current or constant USD for different years – Oxfam adjusted these costs to make them comparable to the estimated extra tax revenue, which is expressed in 2015 prices. These adjustments should not be taken at face value; rather, they approximate the 'real' cost of each simulation if it were expressed in 2015 USD. Where costs were inflated, the average inflation rate for a given year was used.

It is important to note that in each simulation, the country sample is slightly different – though in every case only low- and lower middle-income countries were considered.

- **Cost of achieving health SDGs**

In the most ambitious scenario to reach SDG health system targets, the *Lancet* estimated that additional investments of \$134bn per year initially, reaching \$371bn for 2026–2030 are required.⁵ Based on WHO's projections, this additional investment could save 100 million lives between 2016 and 2030.

Figure 7: Projected number of lives saved per year in ambitious health financing scenario



Source: Stenberg, K., et al (2017) *Financing transformative health systems towards achievement of the health Sustainable Development Goals*, *Lancet Global Health*, 5: e875-87 (yearly breakdown provided by author in personal communication)

Oxfam adopts the figure for the most cost-intensive period (\$371bn per year) for this exercise. The figure is estimated based on a sample of 67 low- and middle-income countries and is expressed in 2014 prices. Adjusting for inflation, using Calculator.net’s Inflation Calculator, the figure expressed in 2015 dollars is \$377bn per year.

- **Cost of achieving education SDGs**

UNESCO’s report *Pricing the Right to Education. The Cost of Reaching New Targets by 2030* estimates that \$39bn is needed annually to achieve universal, good quality pre-primary, primary and secondary education in low- and middle-income countries.⁶ This figure is expressed in 2012 constant USD and is estimated on a sample of 82 low- and lower middle-income countries. Adjusting the figure by inflation increases the cost of the simulation to \$41bn per year.

In addition, UNESCO Institute for Statistics (UIS) estimates that there are about 262 million children, adolescent and youth (between the ages of 6 and 17) out of school.⁷

Therefore, the amount needed per year to achieve health system targets and universal pre-primary, primary and secondary education until 2030 is \$418bn (in 2015 prices).

Proportion of the wealth of the richest 1% equal to this SDG-funding figure: Estimated by Oxfam by dividing this \$418bn figure by \$84,601bn (the net wealth of the richest 1%), which gives 0.5%

The estimations are presented for all countries grouped by income in **Table 7**.

Table 7: Summary of estimations for an additional 0.5% tax on the wealth of the world's richest 1%

Income group	Total wealth (USD bn, 2015)	Wealth tax revenues (USD bn, 2015)	Wealth tax rate	Wealth of 1% richest (USD bn, 2015)	Potential revenue of 0.5% additional taxes on wealth of richest 1% (USD bn, 2015)
<i>Low-income countries</i>	341	0.6	0.18%	86	0.4
<i>Lower middle-income countries</i>	9,923	25	0.25%	4,450	22
<i>Upper middle-income countries</i>	58,952	265	0.45%	19,687	97
<i>High-income countries</i>	206,291	1,228	0.60%	60,378	298
<i>World</i>	275,507	1,519	0.55%	84,601	418

Highlight: Taxing an additional 0.5% of the wealth of the richest 1% would raise considerably more money per year than the annual cost to educate all 262 million children out of school, and provide healthcare that could prevent 3.3 million deaths in 2019.

Like existing wealth tax revenue, the additional potential revenue could be raised through a variety of wealth taxes, including property, inheritance, net wealth and transaction taxes.

Assuming that the richest 1% face the same effective wealth tax rate as the overall population (0.55% for the world average), an additional burden of 0.5% means almost doubling existing wealth tax collection on the richest 1%. Some countries already achieve effective wealth tax rates of that magnitude or even higher for their whole population.

Table 8: Top three countries by effective wealth tax rate by income group

	Effective wealth tax rate
<i>Top three high-income countries¹</i>	
Luxembourg	1.29%
Uruguay	1.27%
Israel	1.21%
<i>Top three upper middle-income countries²</i>	
Kazakhstan	1.83%
Colombia	1.42%
Russia	1.05%
<i>Top three lower middle-income countries³</i>	
Morocco	1.09%
Uzbekistan	0.83%
Swaziland	0.79%
<i>Top three low income-countries⁴</i>	
Senegal	0.48%
Afghanistan	0.24%
Democratic Republic of Congo	0.10%

Notes:

1. Out of 38 countries with available wealth tax revenue data and satisfactory wealth data.
2. Out of 11 countries with available wealth tax revenue data and satisfactory wealth data.
3. Out of 25 countries with available wealth tax revenue data and wealth data of any quality. These numbers should be used with caution.
4. Out of 7 countries with available wealth tax revenue data and wealth data of any quality. These numbers should be used with caution.

However, the richest 1% may not face the same effective wealth tax rate as the whole population. We cannot estimate the effective wealth tax rate borne by the richest 1%, because there is no data about the distribution of wealth tax revenues. While there are reasons to believe that the richest 1% faces an effective wealth tax rate higher than the average of 0.55% (as there could be some wealth taxes that apply above a certain threshold of wealth),⁸ other factors point to the opposite: that the richest 1% have more opportunities to avoid taxes, and they hold more of their wealth as financial wealth relative to real estate wealth, the latter being usually taxed more.⁹

Low- and lower middle-income countries would raise only 5% of the total needed, such that aid would need to increase to transfer the additional revenue from high- to low-income countries. The main paper addresses the role of increased aid in helping make this happen.

ANNEXES

ANNEX 1: CONSUMER PRICE INDEX (CPI)

- Source: US Bureau of Labor Statistics
- Series title: All items in US city average, all urban consumers, not seasonally adjusted
- Seasonality: Not seasonally adjusted
- Survey name: CPI-All Urban Consumers (Current Series)
- Measure data type: US city average
- 1982–84=100
- All items, by month

Table 9: US CPI, Jan 2008– Jun 18

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	211.1	211.7	213.5	214.8	216.6	218.8	220.0	219.1	218.8	216.6	212.4	210.2
2009	211.1	212.2	212.7	213.2	213.9	215.7	215.4	215.8	216.0	216.2	216.3	215.9
2010	216.7	216.7	217.6	218.0	218.2	218.0	218.0	218.3	218.4	218.7	218.8	219.2
2011	220.2	221.3	223.5	224.9	226.0	225.7	225.9	226.5	226.9	226.4	226.2	225.7
2012	226.7	227.7	229.4	230.1	229.8	229.5	229.1	230.4	231.4	231.3	230.2	229.6
2013	230.3	232.2	232.8	232.5	232.9	233.5	233.6	233.9	234.1	233.5	233.1	233.0
2014	233.9	234.8	236.3	237.1	237.9	238.3	238.3	237.9	238.0	237.4	236.2	234.8
2015	233.7	234.7	236.1	236.6	237.8	238.6	238.7	238.3	237.9	237.8	237.3	236.5
2016	236.9	237.1	238.1	239.3	240.2	241.0	240.6	240.8	241.4	241.7	241.4	241.4
2017	242.8	243.6	243.8	244.5	244.7	245.0	244.8	245.5	246.8	246.7	246.7	246.5
2018	247.9	249.0	250.0	250.5	251.6	252.0						



US Bureau of Labor Statistics: Consumer Price Index.

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-201811.pdf>

ANNEX 2: LIST OF COUNTRIES WITH EDUCATION SPENDING IN BOTH 2011 AND EITHER 2014 AND 2015

1	Afghanistan	30	Hungary	59	Romania
2	Argentina	31	Iceland	60	Rwanda
3	Australia	32	Iran	61	Saint Lucia
4	Austria	33	Ireland	62	Senegal
5	Bhutan	34	Israel	63	Serbia
6	Bolivia	35	Italy	64	Seychelles
7	Brazil	36	Jamaica	65	Slovak Republic
8	Burkina Faso	37	Japan	66	Slovenia
9	Cabo Verde	38	Korea	67	South Africa
10	Cambodia	39	Lao PDR	68	Spain
11	Chile	40	Latvia	69	Sri Lanka
12	Colombia	41	Lithuania	70	Swaziland
13	Comoros	42	Luxembourg	71	Sweden
14	Costa Rica	43	Malawi	72	Switzerland
15	Côte d'Ivoire	44	Malaysia	73	Timor-Leste
16	Cyprus	45	Maldives	74	Togo
17	Czech Republic	46	Mali	75	Uganda
18	Denmark	47	Malta	76	Ukraine
19	Dominican Republic	48	Mauritania	77	United Kingdom
20	Ecuador	49	Mauritius	78	United States
21	Estonia	50	Mexico		
22	Ethiopia	51	Moldova		
23	Finland	52	Mongolia		
24	France	53	Nepal		
25	Germany	54	Niger		
26	Ghana	55	Norway		
27	Guatemala	56	Peru		
28	Guinea	57	Poland		
29	Hong Kong	58	Portugal		

ANNEX 3: COUNTRIES WITH DEMOGRAPHIC AND HEALTH SURVEYS (DHS) IN THE LAST 10 YEARS

Table 10: Countries with DHS in the last 10 years, grouped by degree of skilled birth attendance for women in the lowest wealth quintile

Group	Country	DHS year	% of live births assisted by a skilled health provider (lowest quintile)
<i>Group 1: <20%</i>	Nigeria	2013	5.7
	Eritrea	2002	5.8
	Bangladesh	2014	9.4
	Guinea	2012	9.7
	Burkina Faso	2010	10.3
	Togo	2013–14	10.6
	Ethiopia	2016	11.0
	Niger	2012	11.8
	Chad	2014–15	14.1
	Haiti	2016–17	14.2
	Angola	2015–16	17.2
	Cameroon	2011	19.1
	Yemen	2013	19.1
<i>Group 2: 20–39%</i>	Madagascar	2008–09	21.9
	Afghanistan	2015	24.0
	Timor-Leste	2016	26.2
	Pakistan	2012–13	29.8
	Kenya	2014	31.1
	Mozambique	2011	31.5
	Nepal	2016	33.9
	Côte d'Ivoire	2011–12	34.0
	Mali	2012–13	34.6
	Myanmar	2015–16	36.3
	Senegal	2017	36.8
	Guatemala	2014–15	37.4
	Bolivia	2008	38.0
<i>Group 3: 40–59%</i>	Tanzania	2015–16	42.1
	Zambia	2013–14	45.2
	Ghana	2014	46.9
	Gambia	2013	50.5
	Sierra Leone	2013	50.9
	Congo	2011–12	56.4
	Indonesia	2012	57.5
	Honduras	2011–12	57.7

Group	Country	DHS year	% of live births assisted by a skilled health provider (lowest quintile)
<i>Group 4: 60–100%</i>	Lesotho	2014	60.1
	Peru	2012	60.5
	Zimbabwe	2015	61.7
	India	2015–16	64.1
	Uganda	2016	64.3
	Benin	2011–12	64.4
	Philippines	2017	64.5
	Comoros	2012	66.3
	Democratic Republic of Congo	2013–14	66.3
	Gabon	2012	70.5
	Namibia	2013	72.7
	Guyana	2009	72.9
	Tajikistan	2012	73.1
	São Tomé and Príncipe	2008–09	73.6
	Cambodia	2014	75.2
	Burundi	2016–17	77.4
	Egypt	2014	82.4
	Rwanda	2014–15	84.2
	Colombia	2015	86.9
	Malawi	2015–16	87.0
	Maldives	2009	88.6
	Dominican Republic	2013	96.8
	Kazakhstan	1999	98.3
	Albania	2008–09	98.4
Jordan	2012	98.9	
Kyrgyzstan	2012	99.2	
Armenia	2015–16	99.7	

ANNEX 4: COUNTRIES INCLUDED IN TAX SHIFT EXERCISE

Table 11: List of OECD and non-OECD covered by the OECD Global Revenue Statistics Database (OECD.Stat)

OECD countries	Non-OECD countries	Non-OECD countries
1 Australia	1 Argentina	36 South Africa
2 Austria	2 Bahamas	37 Swaziland
3 Belgium	3 Barbados	38 Togo
4 Canada	4 Belize	39 Trinidad and Tobago
5 Chile	5 Bolivia	40 Tunisia
6 Czech Republic	6 Brazil	41 Uganda
7 Denmark	7 Cameroon	42 Uruguay
8 Estonia	8 Cabo Verde	43 Venezuela
9 Finland	9 Colombia	
10 France	10 Costa Rica	
11 Germany	11 Côte d'Ivoire	
12 Greece	12 Cuba	
13 Hungary	13 Democratic Republic of Congo	
14 Iceland	14 Dominican Republic	
15 Ireland	15 Ecuador	
16 Israel	16 El Salvador	
17 Italy	17 Ghana	
18 Japan	18 Guatemala	
19 Korea	19 Honduras	
20 Latvia	20 Indonesia	
21 Luxembourg	21 Jamaica	
22 Mexico	22 Kazakhstan	
23 Netherlands	23 Kenya	
24 New Zealand	24 Malaysia	
25 Norway	25 Mauritius	
26 Poland	26 Morocco	
27 Portugal	27 Nicaragua	
28 Slovakia	28 Niger	
29 Slovenia	29 Panama	
30 Spain	30 Paraguay	
31 Sweden	31 Peru	
32 Switzerland	32 Philippines	
33 Turkey	33 Rwanda	
34 United Kingdom	34 Senegal	
35 United States	35 Singapore	

ANNEX 5: SOURCES OF WEALTH TAX REVENUE BY COUNTRY

Table 12: List of countries and source of wealth tax revenue used in analysis

	Country	Source		Country	Source
1	Afghanistan	IMF	36	Finland	OECD
2	Albania	IMF	37	France	OECD
3	Argentina	OECD	38	Georgia	IMF
4	Armenia	IMF	39	Germany	OECD
5	Australia	OECD	40	Ghana	OECD
6	Austria	OECD	41	Greece	OECD
7	Azerbaijan	IMF	42	Guatemala	OECD
8	Bahamas	OECD	43	Honduras	OECD
9	Barbados	OECD	44	Hong Kong	IMF
10	Belarus	IMF	45	Hungary	OECD
11	Belgium	OECD	46	Iceland	OECD
12	Belize	OECD	47	India	IMF
13	Bhutan	IMF	48	Indonesia	OECD
14	Bolivia	OECD	49	Ireland	OECD
15	Bosnia and Herzegovina	IMF	50	Israel	OECD
16	Brazil	OECD	51	Italy	OECD
17	Bulgaria	IMF	52	Jamaica	OECD
18	Cameroon	OECD	53	Japan	OECD
19	Canada	OECD	54	Kazakhstan	OECD
20	Cape Verde	OECD	55	Kenya	OECD
21	Chile	OECD	56	Kiribati	IMF
22	China	IMF	57	Korea	OECD
23	Colombia	OECD	58	Kosovo	IMF
24	Costa Rica	OECD	59	Latvia	OECD
25	Côte d'Ivoire	OECD	60	Lithuania	IMF
26	Cuba	OECD	61	Luxembourg	OECD
27	Cyprus	IMF	62	Macao	IMF
28	Czech Republic	OECD	63	Macedonia	IMF
29	Dem. Republic of Congo	OECD	64	Malaysia	OECD
30	Denmark	OECD	65	Malta	IMF
31	Dominican Republic	OECD	66	Mauritius	OECD
32	Ecuador	OECD	67	Mexico	OECD
33	Egypt	IMF	68	Moldova	IMF
34	El Salvador	OECD	69	Mongolia	IMF
35	Estonia	OECD	70	Morocco	OECD

Country	Source	Country	Source
71 Myanmar	IMF	106 United Arab Emirates	IMF
72 Netherlands	OECD	107 United Kingdom	OECD
73 New Zealand	OECD	108 United States	OECD
74 Nicaragua	OECD	109 Uruguay	OECD
75 Niger	OECD	110 Uzbekistan	IMF
76 Norway	OECD	111 Venezuela	OECD
77 Panama	OECD		
78 Paraguay	OECD		
79 Peru	OECD		
80 Philippines	OECD		
81 Poland	OECD		
82 Portugal	OECD		
83 Romania	IMF		
84 Russian Federation	IMF		
85 Rwanda	OECD		
86 San Marino	IMF		
87 Senegal	OECD		
88 Seychelles	IMF		
89 Singapore	OECD		
90 Slovak Republic	OECD		
91 Slovenia	OECD		
92 South Africa	OECD		
93 Spain	OECD		
94 Swaziland	OECD		
95 Sweden	OECD		
96 Switzerland	OECD		
97 Thailand	IMF		
98 Timor-Leste	IMF		
99 Togo	OECD		
100 Tonga	IMF		
101 Trinidad and Tobago	OECD		
102 Tunisia	OECD		
103 <i>Turkey</i>	OECD		
104 Uganda	OECD		
105 Ukraine	IMF		

NOTES

- 1 <https://www.calculator.net/inflation-calculator.html>
- 2 The methodology used to construct the database is available here: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2480636
- 3 For more information, see USAID's Guide to DHS Statistics DHS-7, available at: <https://dhsprogram.com/Data/Guide-to-DHS-Statistics/index.cfm>
- 4 The OECD also has information for the year 2016 but this year includes only half of the countries.
- 5 <https://www.thelancet.com/action/showPdf?pii=S2214-109X%2817%2930263-2>
- 6 <https://unesdoc.unesco.org/ark:/48223/pf0000232197>
- 7 <http://uis.unesco.org/en/news/new-education-data-sdg-4-and-more>
- 8 See Development Finance International (2018) "Wealth Taxes: A Huge Opportunity to Reduce Inequality" (unpublished document)
- 9 See Balestra, Carlotta and Richard Tonkin (2018) "Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database", OECD: Working Paper 88. [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=SDD/DOC\(2018\)1&docLanguage=En;](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=SDD/DOC(2018)1&docLanguage=En;) Development Finance International (2018) "Wealth Taxes: A Huge Opportunity to Reduce Inequality" (unpublished document)

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