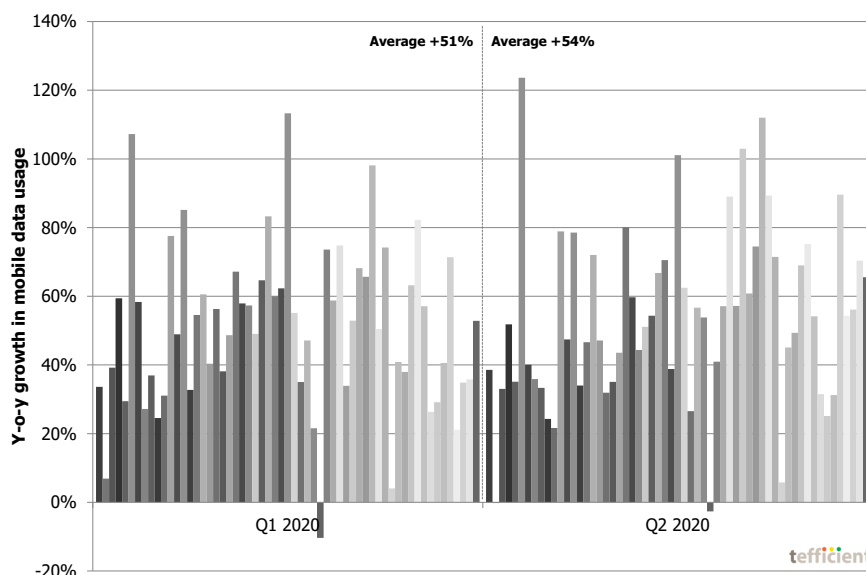


Industry analysis #3 2020

Mobile data – first half 2020

40% more gigabytes in spite of the pandemic

But revenue negatively affected: -0.5%



Tefficient's 28th public analysis on the development and drivers of mobile data ranks 116 operators based on average data usage per SIM, total data traffic and revenue per gigabyte in the first half of 2020.

The data usage per SIM grew for basically every operator. 42% could turn that data usage growth into ARPU growth.

It's a bit lower than in our previous reports and COVID-19 is to blame; many operators did report negative revenue development in Q2 2020 when travelling stopped and many prepaid subscriptions expired.

Mobile data traffic continued to grow, though: +40%. Although operators in certain markets were giving mobile data away to mitigate the negative consequences of lockdowns, most of the global traffic growth is true, underlying, growth. Data usage actually grew faster in Q2 2020 than in Q1 2020 even though lockdowns mainly affected Q2.

Our industry demonstrated resilience, but now needs to fill the data monetisation toolbox with more or sharper tools.

27 operators above 10 GB per SIM per month in 1H 2020

Figure 1 shows the average mobile data usage for 116 reporting or reported¹ mobile operators globally with values for the first half of 2020 or the full year of 2019.

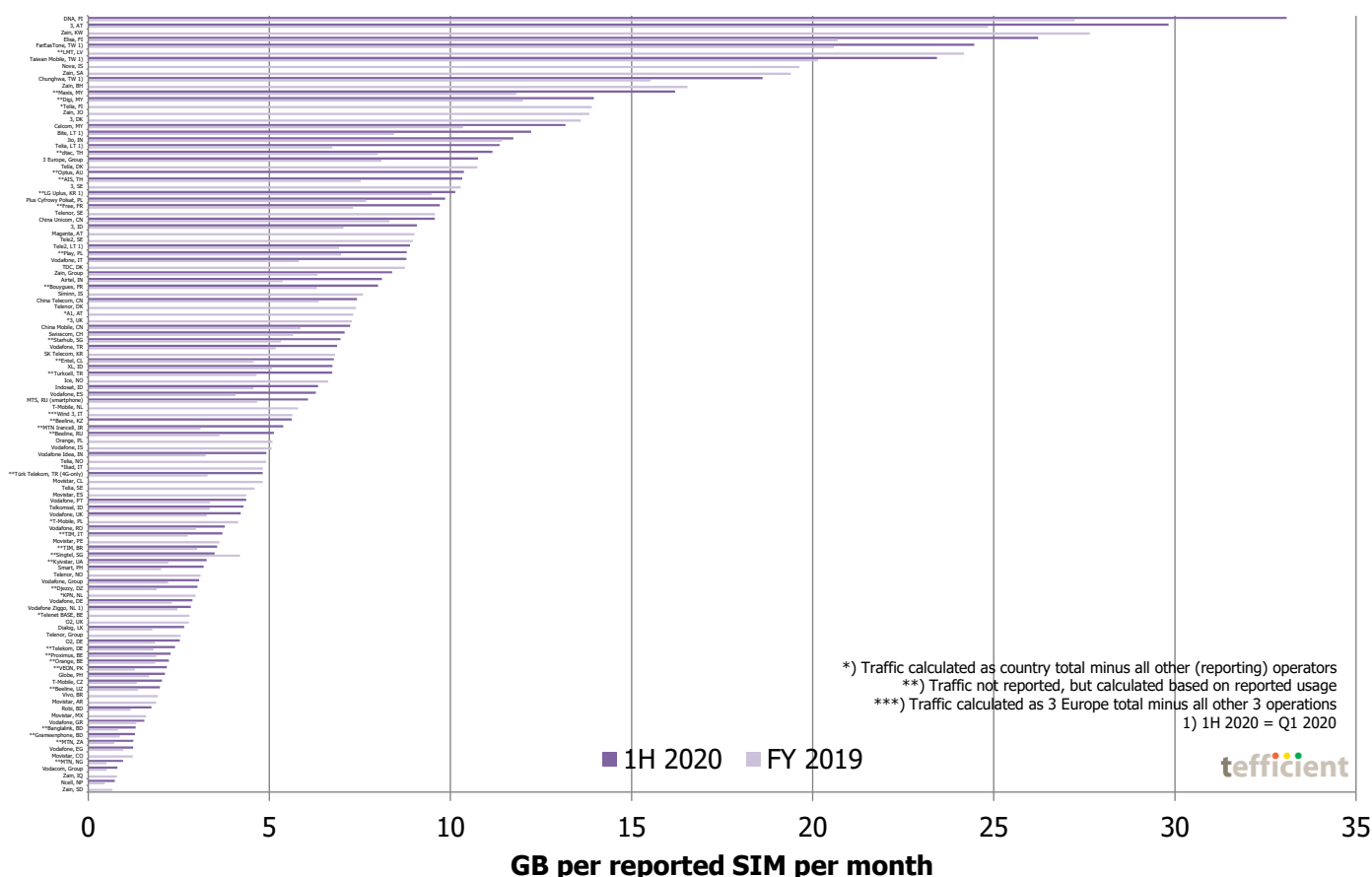


Figure 1. Average data usage per reported SIM per month – all operators

As it's not easy to read Figure 1 we will break it down into three regions of the world, but let's first identify the **global data usage podium** – see Figure 2.

DNA With **33.1 GB²**, **DNA** from Finland reclaims the gold medal. **Unlimited, speed-tiered, plans** – both for smartphones and data-only – form a key component of the Finnish market logic. DNA doesn't report how large share of its base that has unlimited plans, but for Finland as a whole, that share was **74%** of non-M2M SIMs in December 2019. The Finnish operators all launched **5G** in 2019.

¹ By regulators – if reported by 3 September 2020

² Telenor acquired DNA in 2019 and is applying a stricter standard when reporting subscription base than what DNA previous did. This has elevated the average usage per subscription somewhat. We have applied Telenor's reporting also retroactively.



Drei (3) Austria takes the silver medal this time with **29.8 GB**. The company carried **41%** of Austria's total mobile data traffic in Q1 2020³. The Austrian home internet plans were pretty much invented by Drei and come with **unlimited, speed-tiered, data**. Hybrid routers are now offered by all operators (A1, Magenta and Drei) to speed up the slow fixed internet that is characteristic for Austria. Unlimited smartphone plans are though a relatively new thing in Austria – Magenta and A1 (and finally also Drei) introduced these in 2019. All three have launched **5G**; Drei and Magenta in 2019 and A1 early this year.

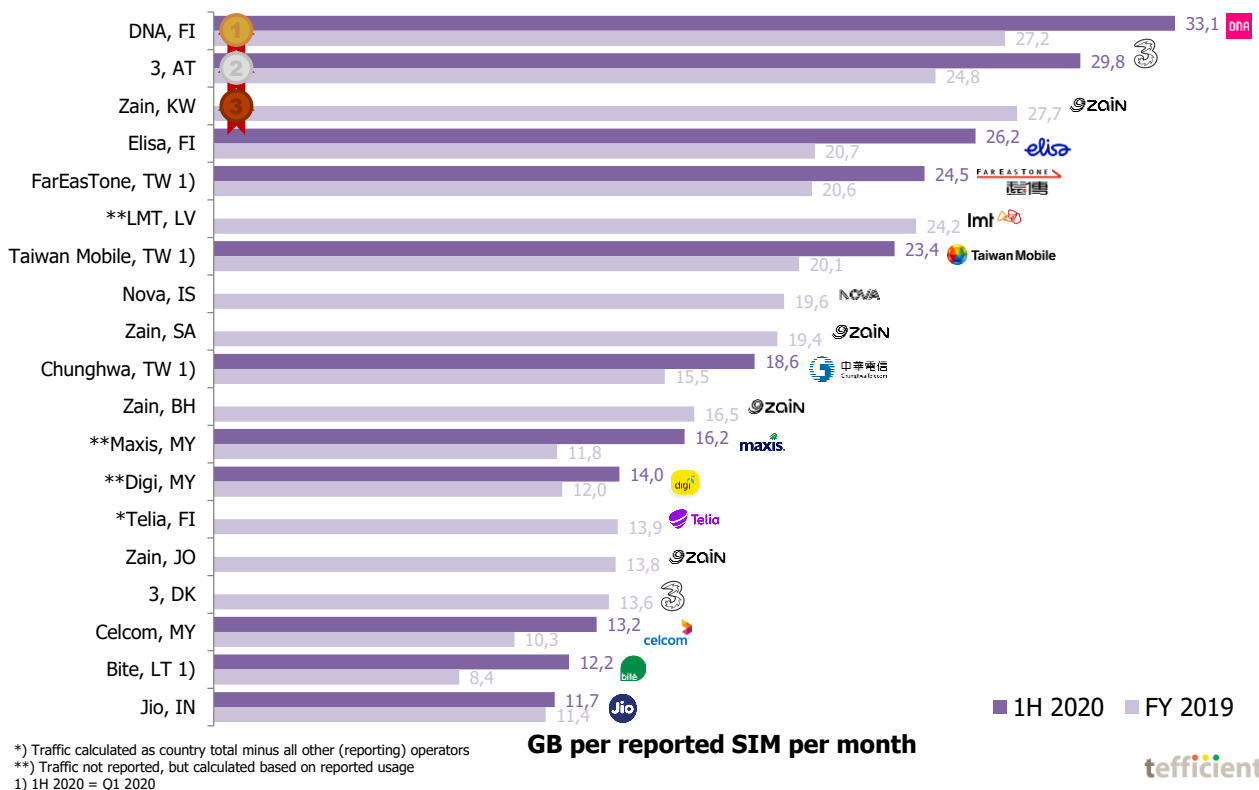


Figure 2. Average data usage per reported SIM per month – top 19 operators



The bronze medallist, **Zain** Kuwait, was our [FY 2019 gold medallist](#), as Zain doesn't report mobile data traffic for its affiliates more than once a year⁴. Zain's **27.7 GB** per SIM per month in 2019 grants it the third place now that DNA and Drei both exceeded that level for the first half of 2020. We suspect that if Zain would have reported 1H 2020 too, its usage could have granted it a higher position. If so, Zain Kuwait might take back the lead when we sum up the full year of 2020. Zain launched **5G** in June 2019 and sells smartphone plans with massive buckets – up to 2 TB per month with 5G. Zain is also offering data-only 5G plans with buckets up to 6 TB – and one truly unlimited 5G data-only plan for 100 KWD per month (that's a whopping 277 EUR).

³ Q2 2020 stats not yet available from the regulator, RTR

⁴ Zain reports traffic for the whole group more frequently, though: In 1H 2020, traffic rose 46%

Below the podium we find **Elisa** from Finland (26.2 GB per SIM per month in 1H 2020). The Taiwanese operator **FarEasTone** is fifth with 24.5 GB in Q1 2020. Latvia's **LMT** is #6 based on a communicated growth figure for 2019, but as LMT's press department didn't respond to our question on how the release should be interpreted, the position of LMT could be exaggerated. **Taiwan Mobile** (23.4 GB in Q1 2020) is #7 with Iceland's unlimited challenger **Nova** #8 (19.6 GB in 2019). **Zain** in Saudi Arabia follows as #9. The top ten ends with Taiwan's **Chunghwa** that has significantly lower usage (18.6 GB in Q1 2020) compared to FarEasTone and Taiwan Mobile.

Europe: Nordic & Baltic operators and '3' dominate the top

Now to the first of three breakdowns: Europe. The number 1 and 2 of the world, **DNA** Finland and **Drei** (3) Austria, top this chart with **Elisa** being third.

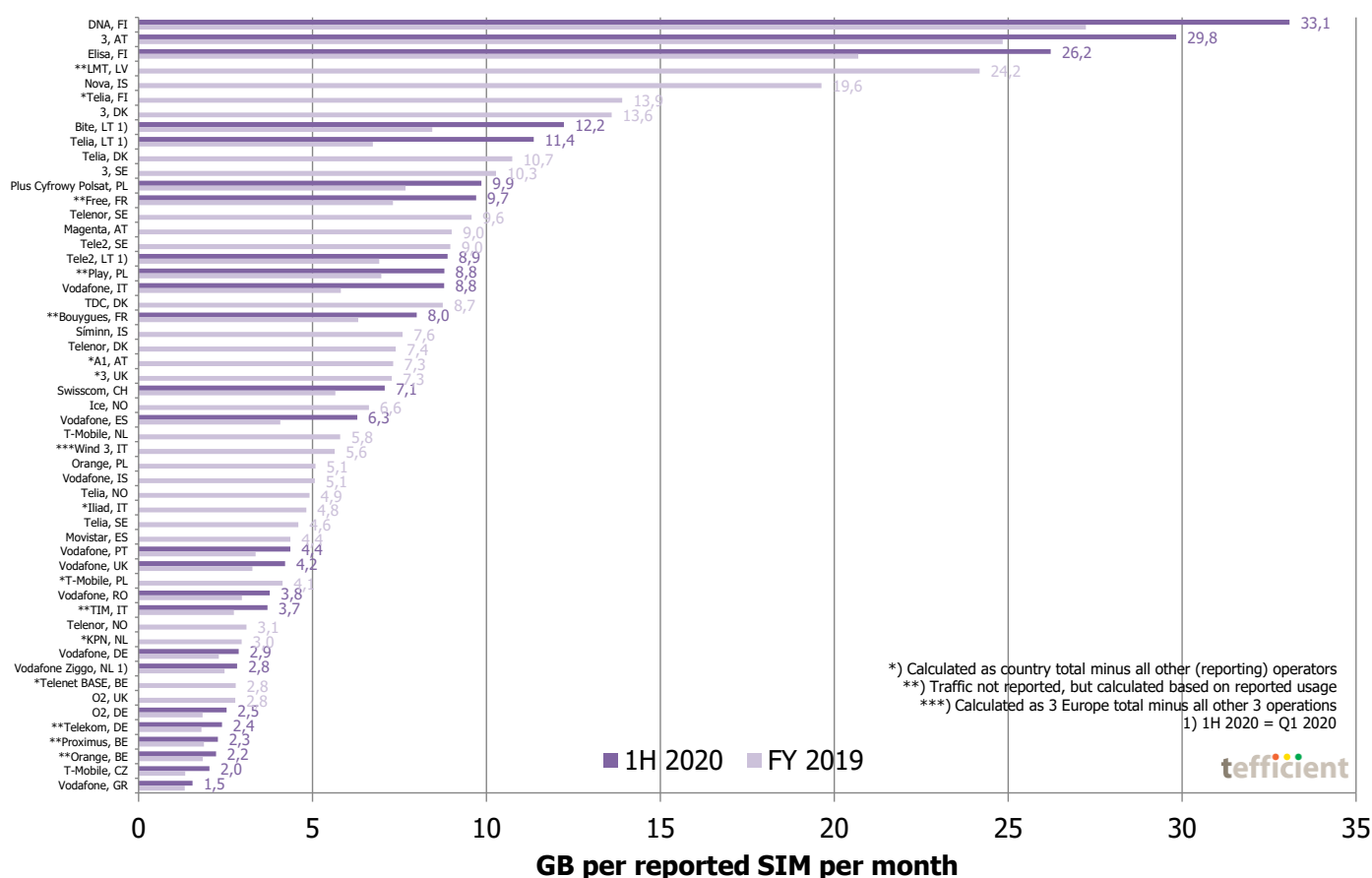


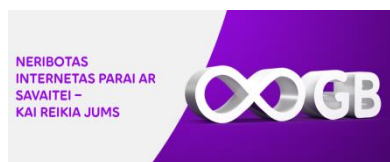
Figure 3. Average data usage per reported SIM per month – European operators

LMT from Latvia is ranked as number 4 (see caveat in previous section). **Nova** from Iceland is number 5 based on the latest available 2019 data. **Telia** from Finland follows. Since Telia doesn't report its mobile data traffic, we have assigned the country residual to Telia (after having deducted Elisa's and DNA's reported traffic). **3** Denmark is number 7. The two Lithuanian operators **Bite** and **Telia** have had strong usage growth in Q1 2020 and come in as number 8 and 9. **Telia** Denmark ends the top ten.

The bottom eleven operators are from the low usage markets⁵ of **Greece** (Vodafone), **Germany** (Telekom, O2, Vodafone), **Belgium** (Orange, Proximus, Telenet), **Czech Republic** (T-Mobile) and the **Netherlands**

⁵ See our latest country data usage report: <https://tefficient.com/arpv-doesnt-follow-usage-upwards-if-we-cant-monetise-gigabytes-then-what/>

(Vodafone Ziggo, KPN). **02** UK whose parent company Telefónica stopped reporting mobile data traffic in 2020 completes the bottom eleven.



Who is having the fastest usage growth in Europe? It's **Telia Lithuania** with **130%**⁶ – from just 4.9 GB per month in 1H 2019 to 11.4 GB per month in Q1 2020. In the last years, Telia launched new propositions that encourage mobile data usage: It offers a premium unlimited plan, but is also selling **time-limited unlimited**: 4 EUR for a day or 9 EUR for a

week – on top of your regular plan. In addition, customers on the FMC plan, Telia One, get their bucket allowance doubled. Although the mobile data usage of Telia's Lithuanian competitors also is growing fast – Bite 68% and Tele2 44% between 1H 2019 and Q1 2020 – Telia's growth was much faster.

Other European operators with fast usage growth are **T-Mobile** Czech Republic with 117%, **Vodafone Spain** with 81%, **Vodafone Italy** with 78% and **Vodafone Portugal** with 67%. Introductions of **unlimited** mobile data are behind all of these. We find it interesting that Vodafone's speed-tiered unlimited model – see current offering from Vodafone Spain below – seems to have spiralled usage in South Europe particularly. In the UK, where it also has been introduced, Vodafone's usage grew 50%.

Vodafone's speed-tiered unlimited drives usage

<p>Datos y minutos ilimitados Velocidad alta ++</p> <p>40% dto. 6 meses Permanencia 6 meses. 36,99€/mes</p> <p>21,99€/mes</p> <p>Más Info</p>	<p>Datos y minutos ilimitados Velocidad máxima 5G +++</p> <p>Pack TV Seriefans GRATIS 1 año Incluye HBO España y 60 canales más</p> <p>50% dto. 6 meses Permanencia 1 año. 47,99€/mes</p> <p>23,99€/mes</p> <p>Más Info</p>	<p>Datos y minutos ilimitados Velocidad media ++</p> <p>Sin permanencia.</p> <p>32,99€/mes</p> <p>Más Info</p>
--	--	---

⁶ In their case from 1H 2019 to Q1 2020 as Telia doesn't report mobile data traffic and the regulator has not yet reported Q2 2020

Asia and China: Taiwan fills the podium – but Malaysia on the move

As in our last report, the three Taiwanese operators **FarEastTone**, **Taiwan Mobile** and **Chunghwa**⁷ hold the top three usage positions in Asia and China. A total of five operators offering very cheap unlimited plans continue to drive Taiwan's traffic. **5G** has just been launched a few months ago, but the operators are rolling out coverage very fast and it's likely that the Taiwanese usage leadership will remain in 2020.

Malaysia's leading operators **Maxis**, **Digi** and **Celcom** follow. Unlimited plans are becoming more common in Malaysia taken to the market by the fourth operator, U Mobile⁸. 5G is however not yet available in Malaysia after a licensing hiccup in 2020.

India's **Jio** is now number 7.

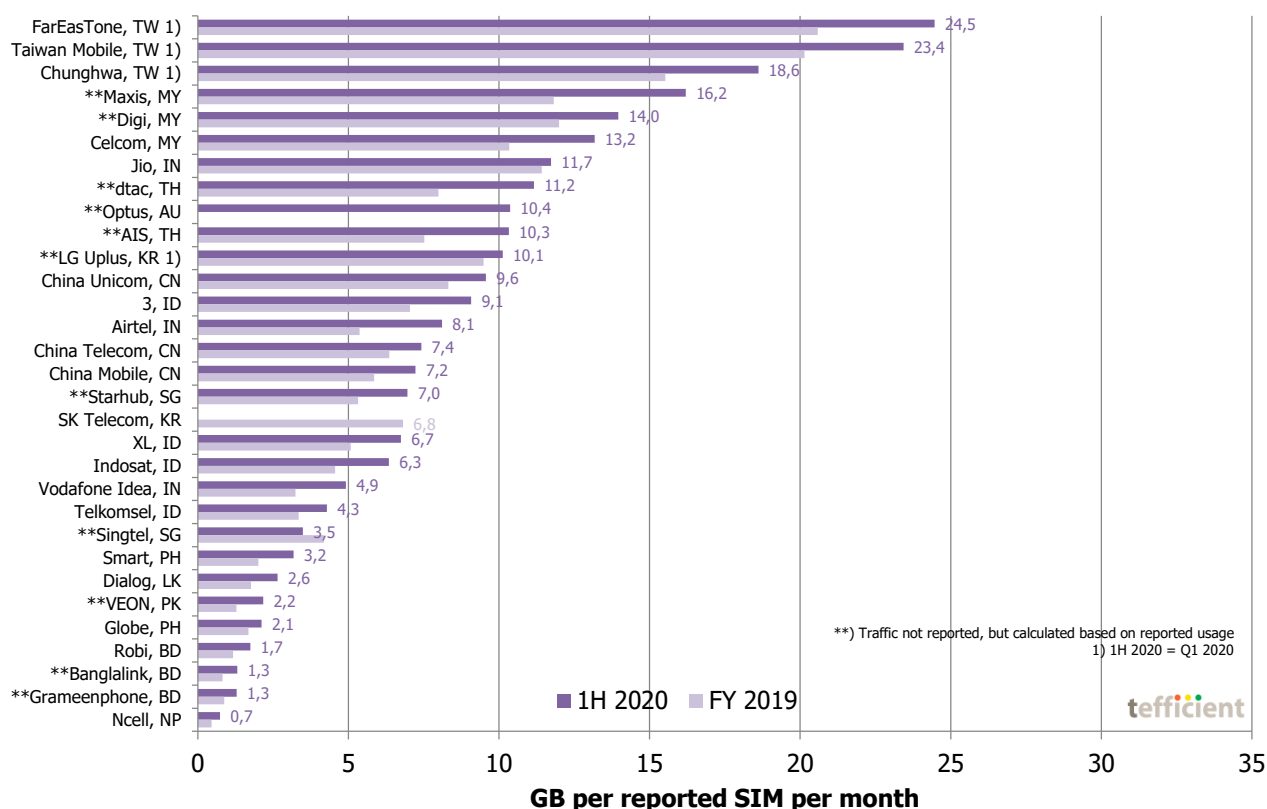


Figure 4. Average data usage per reported SIM per month – Asian and Chinese operators

The Asian/Chinese operators with the fastest growth in mobile data usage in 1H 2020 are:

- VEON Pakistan +105%

⁷ The operators aren't reporting their mobile data traffic themselves; it is being reported by the regulator with a certain delay. There are two other Taiwanese operators, T Star and Gt, but they are just reported together as 'other' and hence not shown here.

⁸ Regretfully not reporting

- Ncell Nepal +83%
- Smart Philippines +82%
- Dialog Sri Lanka +77%
- Airtel India +73%

The slowest growth is with **Jio** – just **5%**. Having said that, Jio is still top-ranked in India with 11.7 GB per month. Airtel had 8.1 GB and Vodafone Idea 4.9 GB. But competition is coming closer: Airtel's growth was 73% and Vodafone Idea's 69%.

Usage generally
grows quickly in
Asia and China –
except for Jio

RoW: Zain dominates the top

The rest of world ranking combines Latin American and Russian/CIS operators with operators from Middle East, Africa and reporting international groups, see Figure 5.

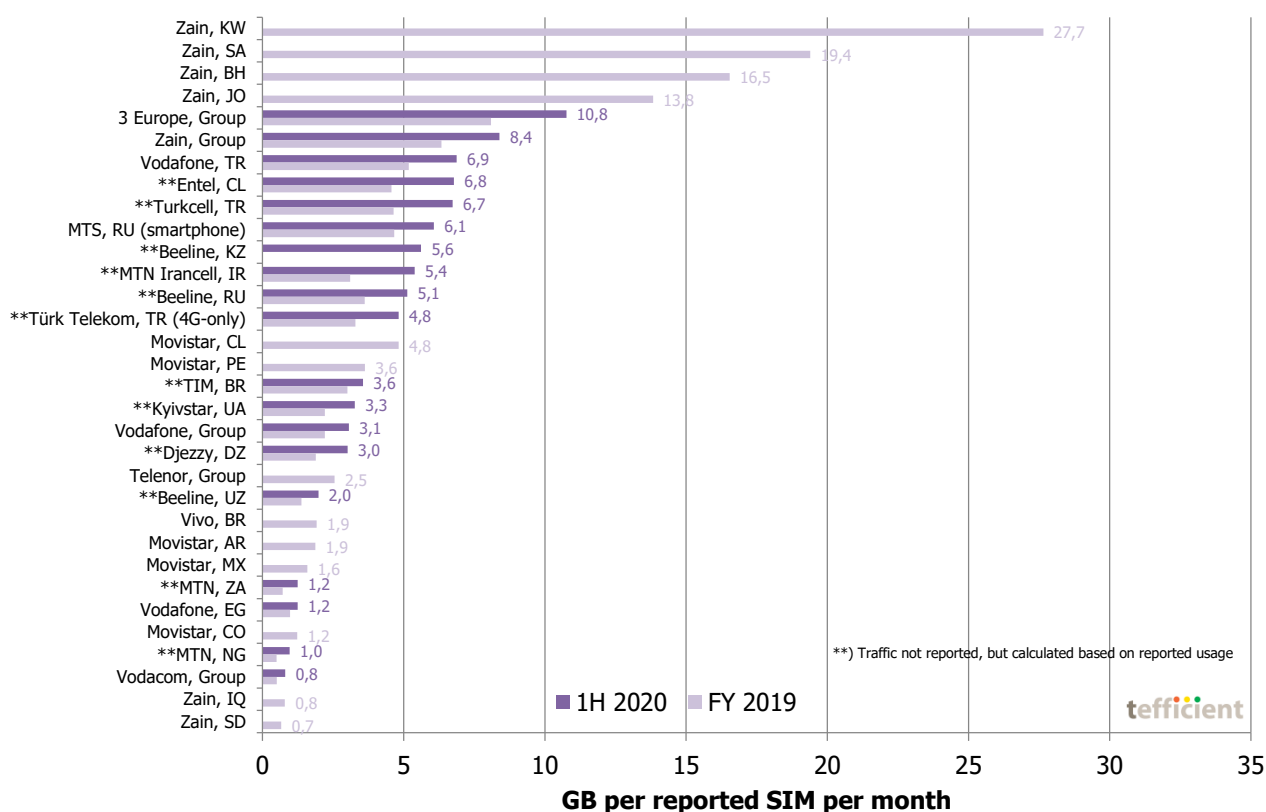


Figure 5. Average data usage per reported SIM per month – RoW operators

The world number 3, **Zain Kuwait**, tops this chart. Actually all of the top four operators are Zain operations. Zain Group is though just ranked as number 6, showing that two Zain operations, Iraq and Sudan, pull that group average down significantly. Two thirds of the subscriptions in Zain Group are in these two countries.

3 Europe Group is ranked as number five and it's easy to see why; in the European comparison (Figure 3), several operations of '3' are top-ranked: Austria, Denmark and Sweden.

Russian and Turkish operators have relatively high usage and the growth is still good. The Latin American operators have – with the exception of **Entel Chile**⁹ – fairly low average usage.

It is a pity that none of the US or Canadian operators report their data traffic or usage. If they did, their usage would have been shown in this chart.

⁹ Thanks to Joaquin Guerrero for hinting that Entel Chile could be added to our analysis

African operators are – together with Zain Iraq and Movistar Colombia – having the lowest monthly data usage per SIM in our sample.

These are the RoW operators with the fastest growth in mobile data usage in 1H 2020:

- | | |
|---------------------|-------|
| • MTN Nigeria | +109% |
| • Djazzy Algeria | +104% |
| • Vodacom Group | +83% |
| • MTN Irancell Iran | +77% |
| • Kyivstar Ukraine | +75% |
| • Turkcell Turkey | +75% |
| • MTN South Africa | +75% |

Usage grows quickly in sub-Saharan Africa, Algeria, Iran and Turkey

Traffic growth continued in the midst of the pandemic

We have seen that the data usage varies much between customers of different operators in different countries. If we instead compare the total data traffic, the large population differences between the countries make the spread even wider, see Figure 6.

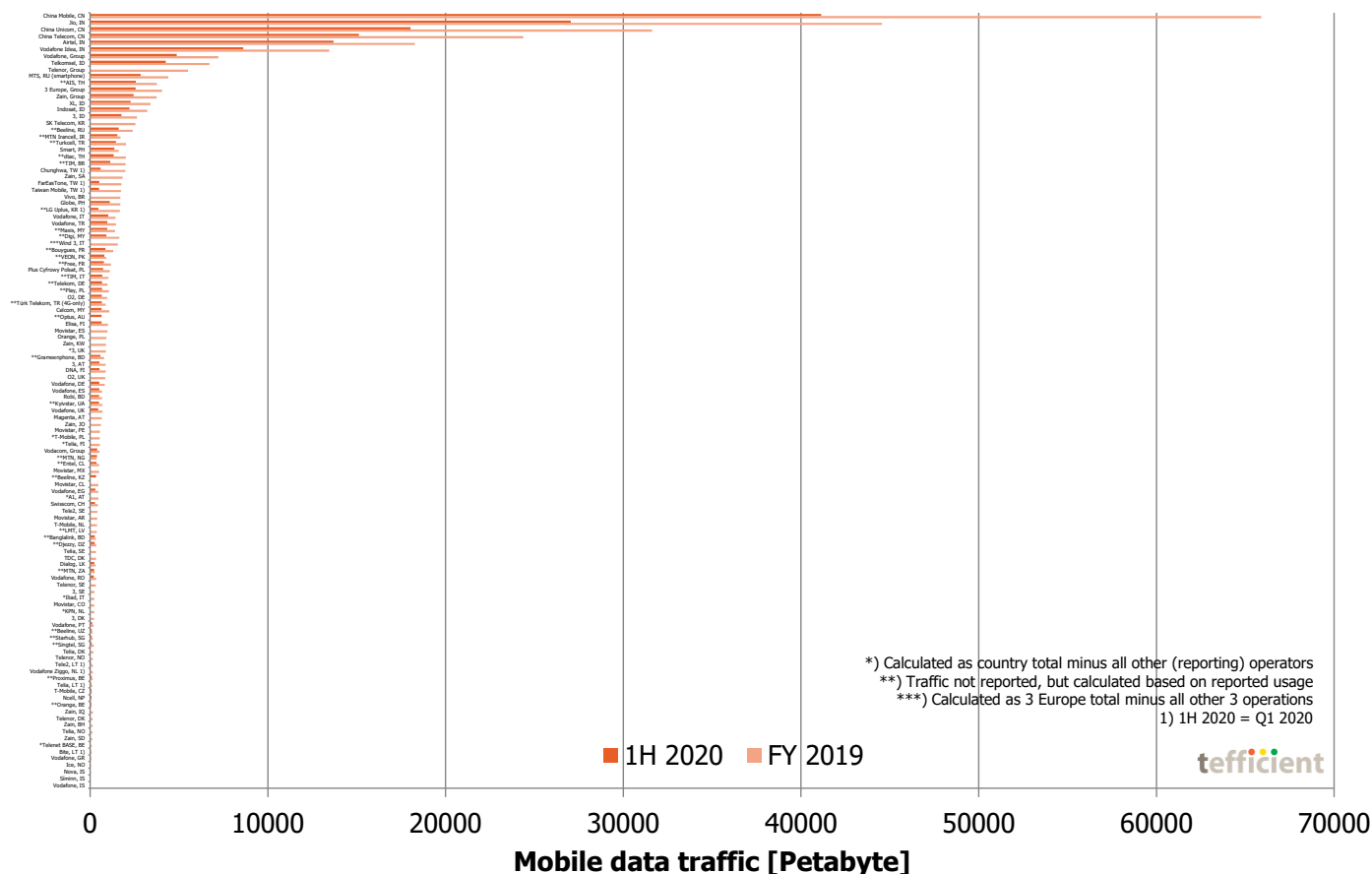


Figure 6. Total data traffic – all operators

As it's difficult to read Figure 6 we will in a bit break it down into the three regions of the world, but let's first identify the **global data traffic leaders** – see Figure 7.

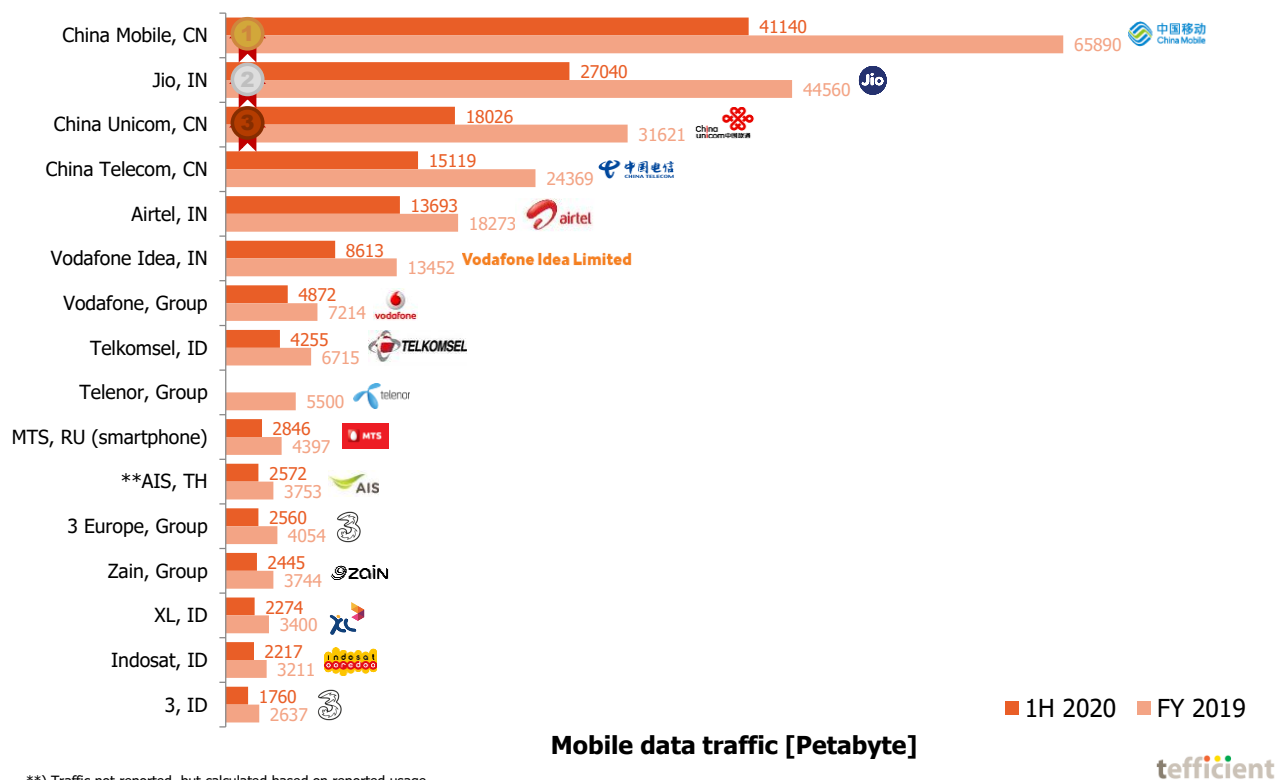


Figure 7. Total data traffic – top 16 operators



China Mobile has 947 million mobile subscribers (of which 70 million on 5G plans) and is, by far, the largest operator in the world in mobile data traffic. Its total handset traffic grew **38%** from 1H 2019 to 1H 2020 – which actually is a slowdown.



The Indian challenger **Jio** is now the operator with the largest subscriber base in India – 398 million. Jio's data traffic growth in 1H 2020 was **32%**. Airtel India had a traffic growth of **73%** whereas the Vodafone Idea had **40%**. As shown in the previous section on usage, Jio's usage *per SIM* didn't grow much in 1H 2020 – just 5%. Jio's traffic growth is instead mainly coming from growth in subscription base.



China Unicom is the Chinese operator with the highest average usage per subscription. Compared to China Mobile, Unicom's subscription base is small, though: Just 310 million. Even China Telecom has a larger base now (346 million). The total handset data traffic of Unicom grew slower than China Mobile's and China Telecom's: **23%** in 1H 2020. A side remark is that China Unicom, unlike its two competitors, hasn't started reporting its 5G subscription base yet.

Note that **Vodafone Group** (excluding India) only comes in as number 7 even though it consists of about 20 countries. It says something about the size of the Chinese and Indian operations.

Europe: Italy, France and Poland take the first six positions

First to the European breakdown: Since the highest ranked European operator is just number 31 in our global rank, we could generally conclude that the European countries are less populated than the global leaders – but also that growth is significantly faster outside of Europe. And it's not the operators that you necessarily would suspect (with the largest SIM base) that are in the top of Figure 8.

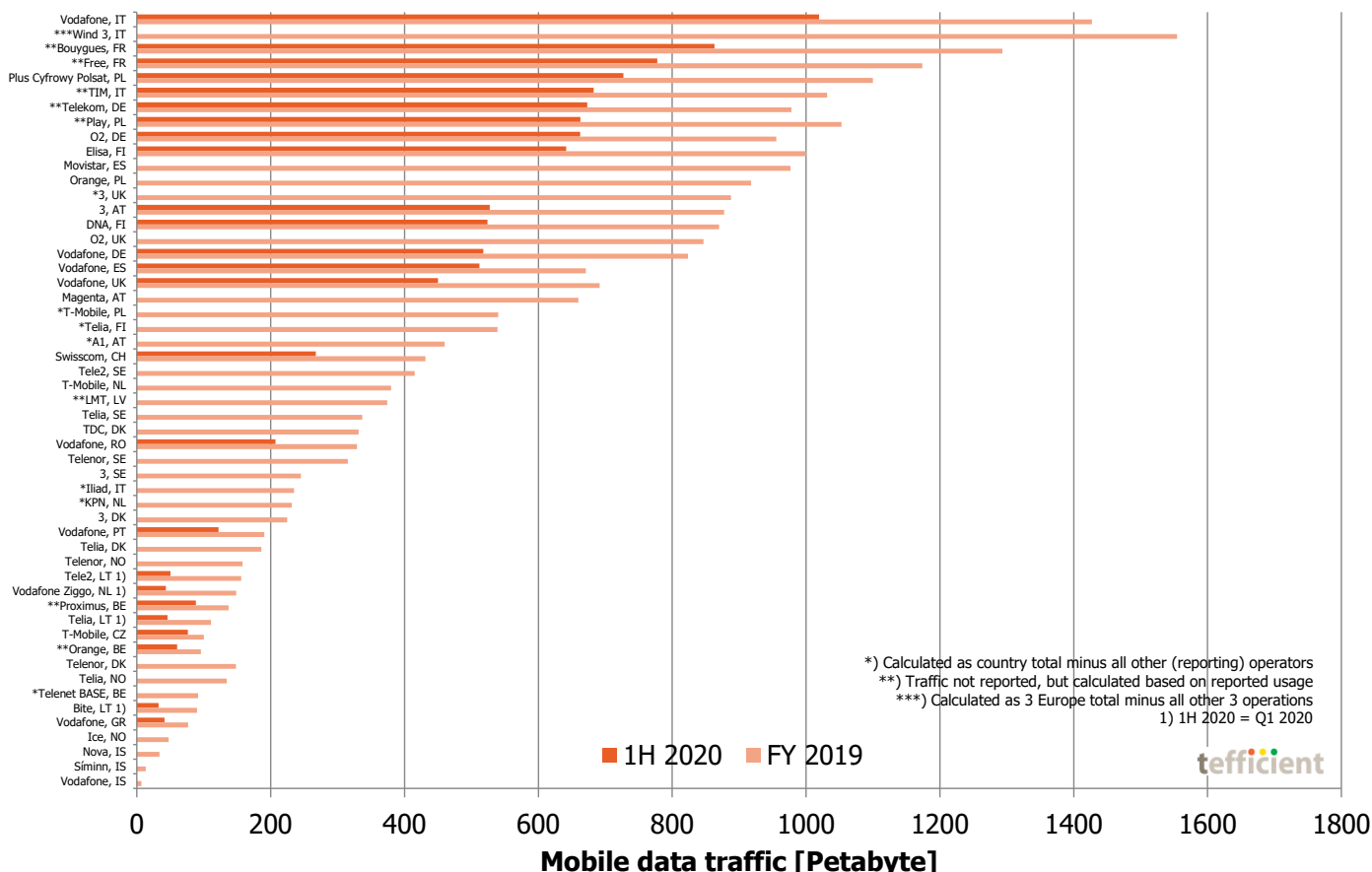


Figure 8. Total data traffic – European operators

Of reporting operators, **Vodafone** Italy is now Europe's largest operator in total data traffic. Its competitor **Wind 3** is no longer reporting but based on our calculation for 2019¹⁰ we think Wind 3 could be the actual leader, but here shown as number 2 to encourage the company to start reporting again. Italy has had an explosion in mobile data usage ever since the new fourth operator, Iliad, launched 30 GB for 5.99 EUR in May 2018 – and all of competition copied.

¹⁰ CK Hutchison has taken over the full ownership of Wind 3 and as it was their previous shareholder VEON that reported data usage, we miss input from Wind 3. In this analysis we have for 2019 assigned the residual traffic of 3 Europe Group after having subtracted the calculated traffic of UK, Denmark, Austria, Sweden and Ireland.

The two French operators **Bouygues** and **Free** follow¹¹. The Polish operator **Plus/Cyfrowy Polsat** is number 5 and Italy's **TIM** number 6. The mobile data usage reporting of **Telekom** Germany is dubious¹², but our calculations suggest that Telekom is narrowly ahead of **Play** from Poland, **O2** Germany and **Elisa** from Finland.

The operators with the fastest traffic growth in Europe are:

- | | |
|---------------------------|-------|
| • T-Mobile Czech Republic | +118% |
| • Vodafone Spain | +79% |
| • Vodafone Portugal | +65% |
| • Vodafone Italy | +64% |
| • O2 Germany | +58% |

Vodafone's speed-tiered unlimited drives fast traffic growth in Spain, Portugal and Italy

¹¹ Orange and SFR could have been high-ranked as well, but aren't reporting data traffic or usage

¹² Telekom reports usage only for its highest usage segment, T-branded B2C subscriptions, but as both competitors Vodafone and O2 do report mobile data traffic, we can check against the German total, as reported by the regulator BNetzA, every year

Asia and China: Quick traffic growth

We find the six global traffic leaders in the top of the Asian/Chinese comparison: **China Mobile, Jio, China Unicom, China Telecom, Airtel** and **Vodafone Idea**. The 1H 2019 to 1H 2020 growth rates have come down a bit for these operators (23%-73%).

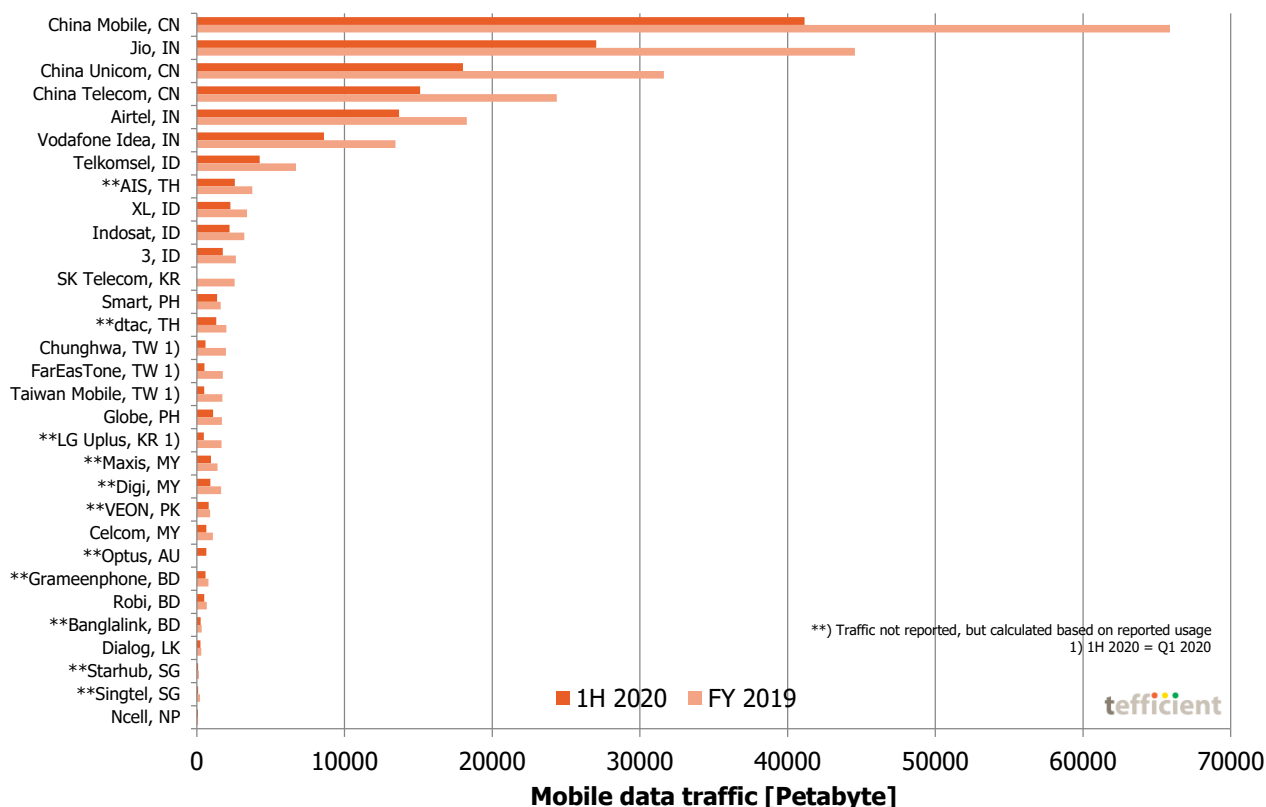


Figure 9. Total data traffic – Asian and Chinese operators

The **Indonesian** operators (Telkomsel, XL, Indosat and 3) and the Thai operator **AIS** follow.

The fastest growth in mobile data traffic in Asia/China is with these operators:

- VEON, Pakistan +119%
- Smart Philippines +104%
- Dialog Sri Lanka +88%
- Ncell Nepal +82%
- Airtel India +73%
- Grameenphone Bangladesh +73%
- Banglalink Bangladesh +72%
- Robi Bangladesh +72%

Fastest traffic growth in Pakistan, Philippines, Sri Lanka, Nepal and Bangladesh – and Airtel India

RoW: MTS larger than 3 Europe Group and Zain Group

Figure 10 collects operators from the rest of the world, but also a few reporting international groups.

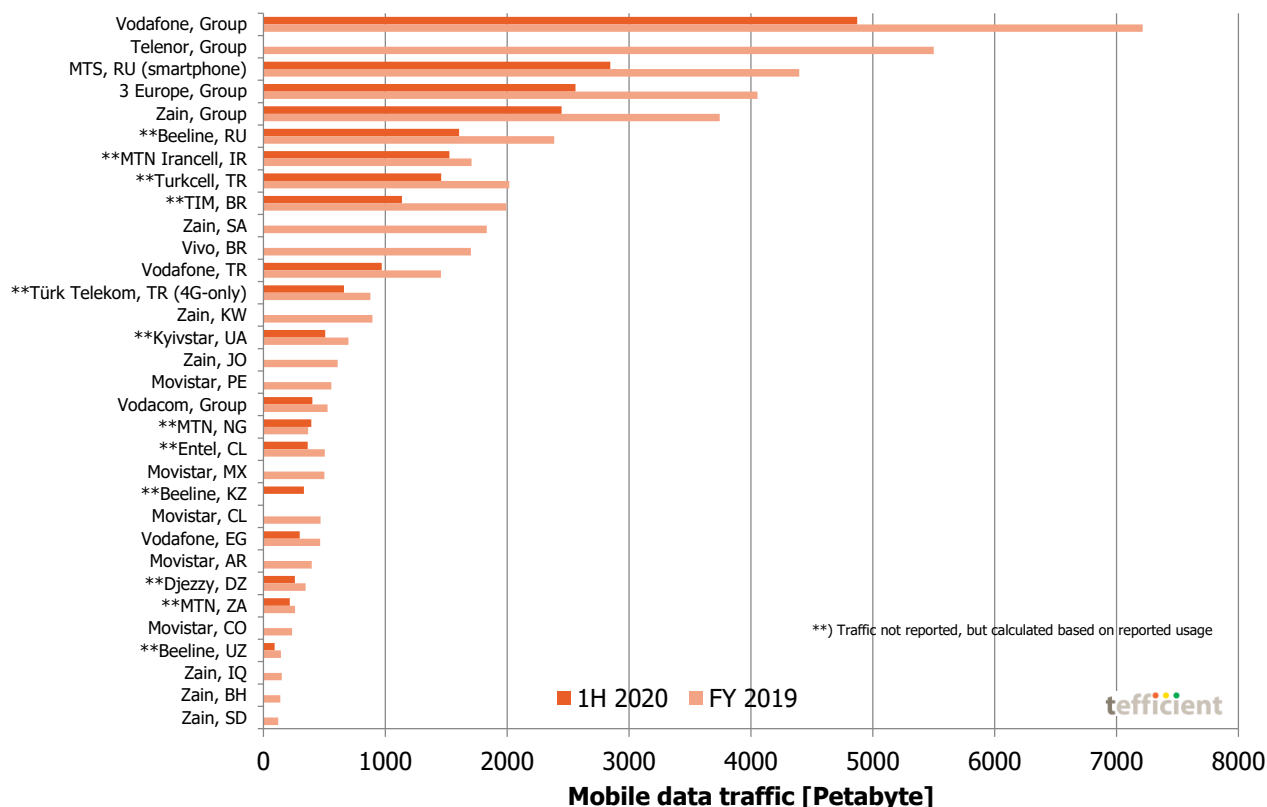


Figure 10. Total data traffic – Rest of world operators

Vodafone Group and **Telenor Group** are number 1 and 2 in this RoW ranking. The other two groups, **3 Europe** and **Zain**, are ranked as number 4 and 5. (Vodacom Group is number 18, but also part of Vodafone Group).

The Russian operator **MTS** is number three whereas **Beeline** (#6) has significantly lower traffic. Turkish, Brazilian and Saudi operators follow – together with **MTN Irancell**.

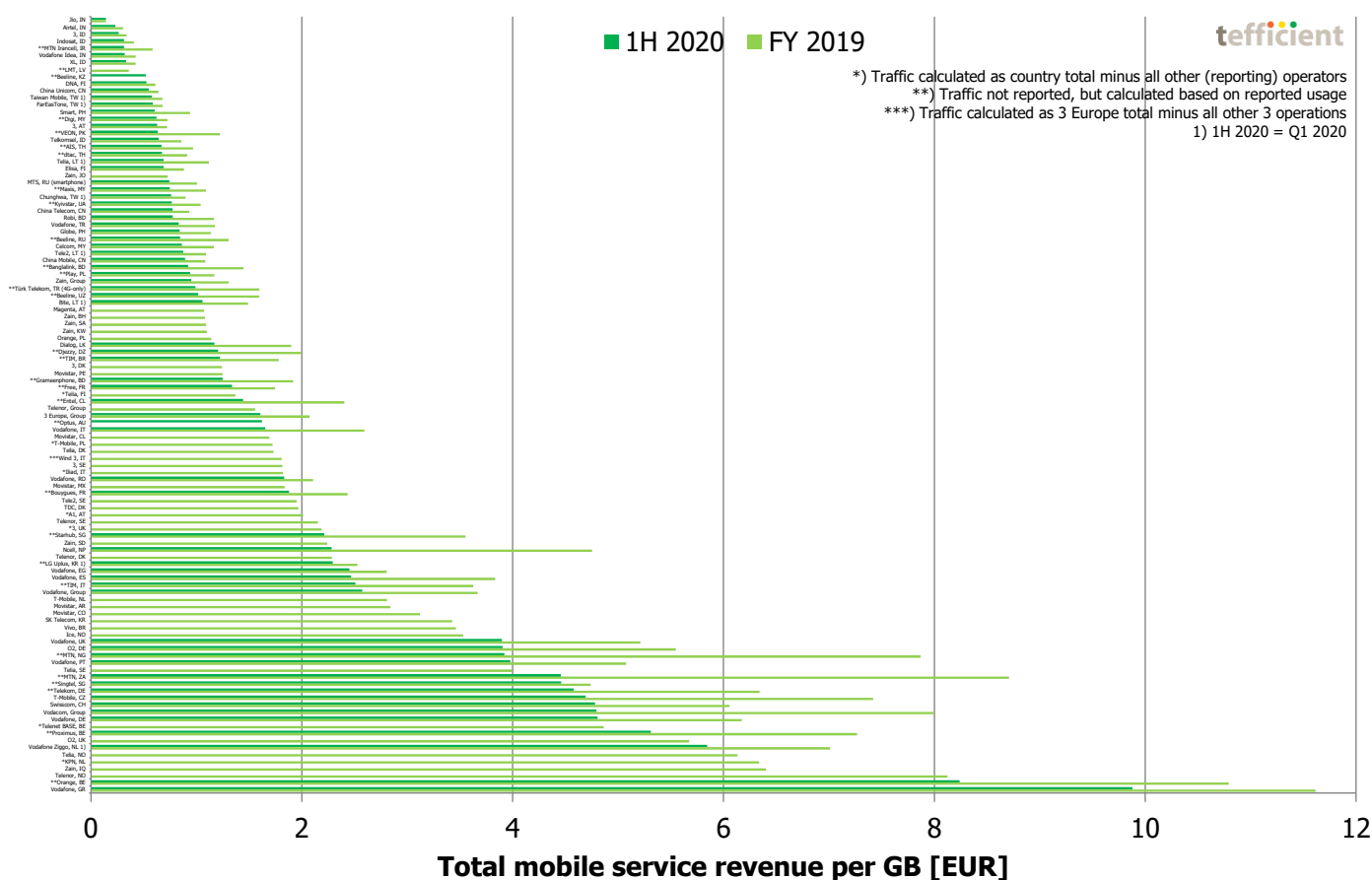
The operators with the fastest growth in mobile data traffic in 1H 2020 are:

- MTN Nigeria +137%
- MTN Irancell Iran +86%
- Djezzy Algeria +85%

How much money can you make on mobile data?

The way we calculate revenue per gigabyte – *total* mobile service revenue per carried gigabyte – will resonate with mature markets where operators generally aren't attempting to monetise voice and SMS based on usage. Instead they have made voice and messaging allowances unlimited and included them in a flat fee.

In *maturing* markets, usage-based monetisation is still used to a higher degree. This is true also for voice and messaging. With our calculation method, one might think that the operators ending up with the highest effective revenue per gigabyte would thus be operators from maturing markets. You do find Zain Iraq in the lower part of Figure 11 – but otherwise the operators with the highest revenue per GB are from six European countries: **Greece, Belgium, Norway, Germany, the Netherlands** and the **UK**.



We will – for readability reasons – soon break Figure 11 down into Europe, Asia/China and RoW, but let's first look into a disclaimer with regards to operators marked with * or **.

¹³ That also report mobile service revenue

When reporting mobile data traffic, take inspiration from Vodafone – but no longer from Telefónica

Most graphs in this analysis carry this legend:

*) Traffic calculated as country total minus all other (reporting) operators

**) Traffic not reported, but calculated based on reported usage

There are a number of operators globally that, in their regular easy-to-use Excel sheets, report their **total mobile data traffic** quarter by quarter. Of the larger operators groups, **Vodafone** is a good example. We encourage all operators to follow it. Telefónica reported traffic too, but that good practice was regrettably abandoned entirely in 2020.

Some operators are instead reporting – or occasionally indicating – **data usage**. These are the operators marked with **. The problem here is that many operators aren't defining what a user is – sometimes it is all users, sometimes "active data users" (whatever that is), sometimes smartphone users, sometimes branded smartphone users, sometimes postpaid users, sometimes 4G users. Typically these usage numbers are stated to impress, i.e. they are representative only for a smaller, high-usage, segment of the subscriber base. Exceptions to that operators reporting usage aren't reporting the number of associated users are e.g. **VEON Group**, **MTN Group** and **AIS** that report the usage per mobile data customer *and* the number of such mobile data customers (a subset of the total customer base). Well done.

The majority of operators are still not reporting anything, though. Orange Group and Telia Company are such examples. And, of course, all North American carriers. In some cases, country regulators are helpful in reporting a breakdown per operator. But in most cases, the country regulator is just reporting the total. In such occasions – and if also all other operators report data traffic or at least usage – we have calculated the country residual and assumed that this traffic equals that of the non-reporting operator. These are the operators marked with *.

It's not necessarily so that a regulator and the reporting operators use exactly the same definition when reporting data traffic. Traffic via MVNOs or roaming traffic can e.g. disturb the comparability. Where the error risks to be the largest, though, is in countries where the country residual has been assigned to a *-marked operator while, at the same time, one or several of the other operators are **-marked operators, i.e. have not explicitly reported the total data traffic but some type of usage.

So if any operator (*-marked or **-marked) is unhappy with its calculated data traffic, the solution is simple: Start to report your total mobile data traffic. We will cheer when Telefónica starts with it again.

Having explained this, let's now in Figure 11 identify the ten operators that get the *lowest* total mobile service revenue per gigabyte in the world:

	<u>1H 2020</u>	<u>FY 2019</u>
1. Jio , India	0.1 EUR	0.1 EUR ↓
2. Airtel , India	0.2 EUR	0.3 EUR ↓
3. 3 , Indonesia	0.3 EUR	0.3 EUR ↓
4. Indosat , Indonesia	0.3 EUR	0.4 EUR ↓
5. MTN Irancell , Iran**	0.3 EUR	0.6 EUR ↓
6. Vodafone Idea , India	0.3 EUR	0.4 EUR ↓
7. XL , Indonesia	0.3 EUR	0.4 EUR ↓
8. LMT , Latvia**	n/a	0.4 EUR
9. Beeline , Kazakhstan**	0.5 EUR	n/a
10. DNA , Finland	0.5 EUR	0.6 EUR ↓

These operators are either active in mature high data usage markets (Finland, Taiwan) or in highly competitive maturing markets (India, Indonesia). You also find MTN Irancell, LMT Latvia and Beeline from Kazakhstan in the list.

The ten operators that get the *highest* total mobile service revenue per gigabyte in the world are:

	<u>1H 2020</u>	<u>FY 2019</u>	
1. Vodafone , Greece	9.9 EUR	11.6 EUR	↓
2. Orange , Belgium**	8.2 EUR	10.8 EUR	↓
3. Telenor , Norway	n/a	8.1 EUR	
4. Zain , Iraq	n/a	6.4 EUR	
5. KPN , Netherlands*	n/a	6.3 EUR	
6. Telia , Norway	n/a	6.1 EUR	
7. Vodafone Ziggo , Netherlands 1)	5.8 EUR	7.0 EUR	↓ 1) 1H 2020=Q1 2020
8. O2 , UK	n/a	5.7 EUR	
9. Proximus , Belgium**	5.3 EUR	7.3 EUR	↓
10. Telenet BASE , Belgium*	n/a	4.9 EUR	

In our mature market focused [country analysis](#) you can identify Belgium, Germany, Greece, Norway and the Netherlands as some of the country markets (of the covered) with the highest revenue per gigabyte so this list seems plausible.

We conclude that there in 1H 2020 there was **70x difference** between the operator with the highest total service revenue per gigabyte (Vodafone Greece) and the operator with the lowest (Jio India).

Europe: Wide spread in the revenue per GB

Figure 12 shows the European breakdown. Since European operators played both in the bottom and in top of the global chart, the spread is almost as large as in the global view. To ease comparability, the scale is kept intact throughout this section.

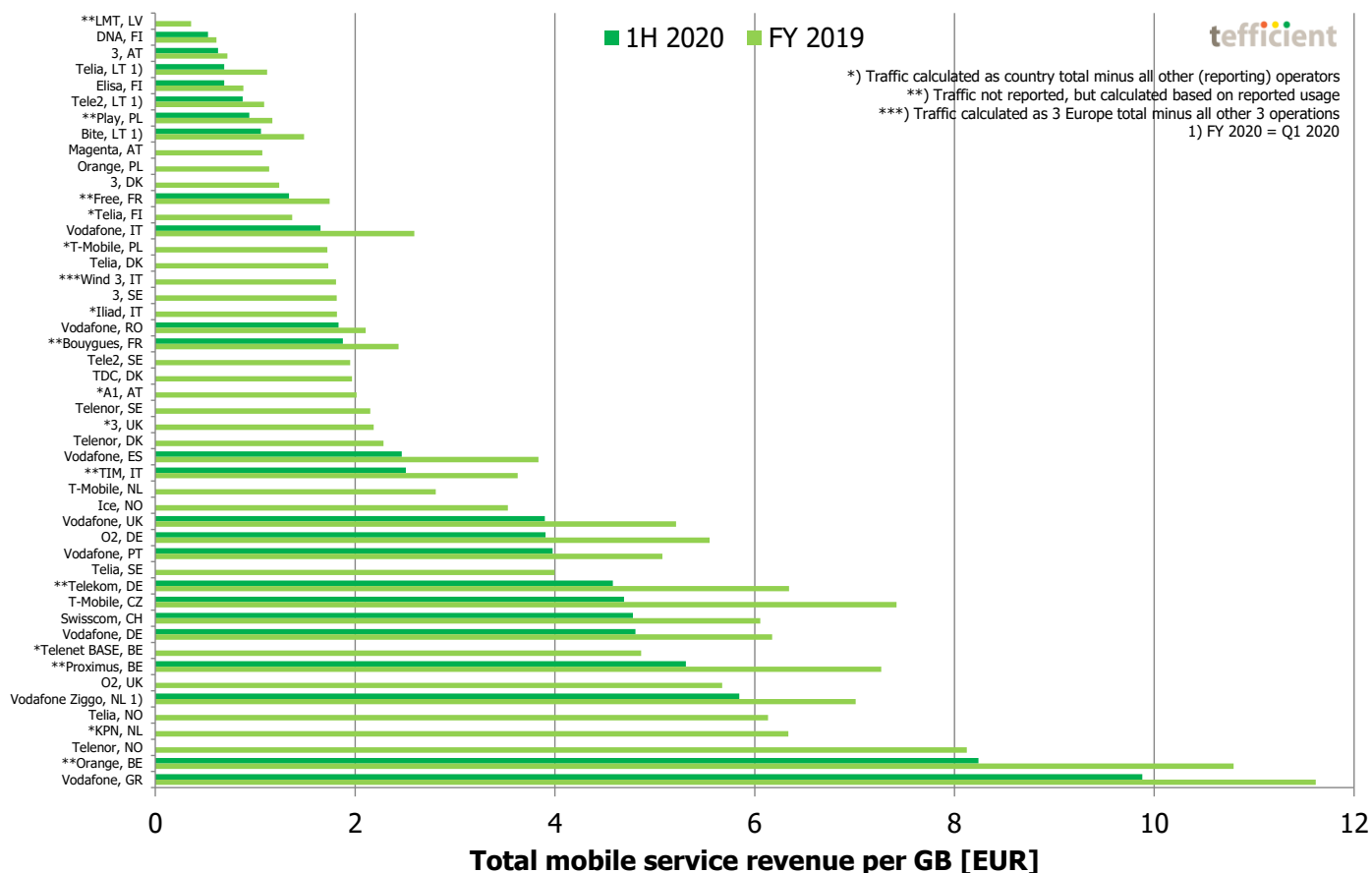


Figure 12. Total mobile service revenue per gigabyte – European operators

As pointed out in the global section, Greek, Belgian, Norwegian, German, Dutch and UK operators play in the bottom of the graph – where the total service revenue per consumed gigabyte is high. In the other end of the scale – where the revenue per gigabyte is low – we find operators from **Latvia, Finland, Austria, Lithuania** and **Poland**.

Asia and China: Revenue per GB decreasing, but not as fast as before

Figure 13 shows the Asian and Chinese operators. Indian and Indonesian operators have the lowest revenue per gigabyte whereas no operator is having very high revenue.

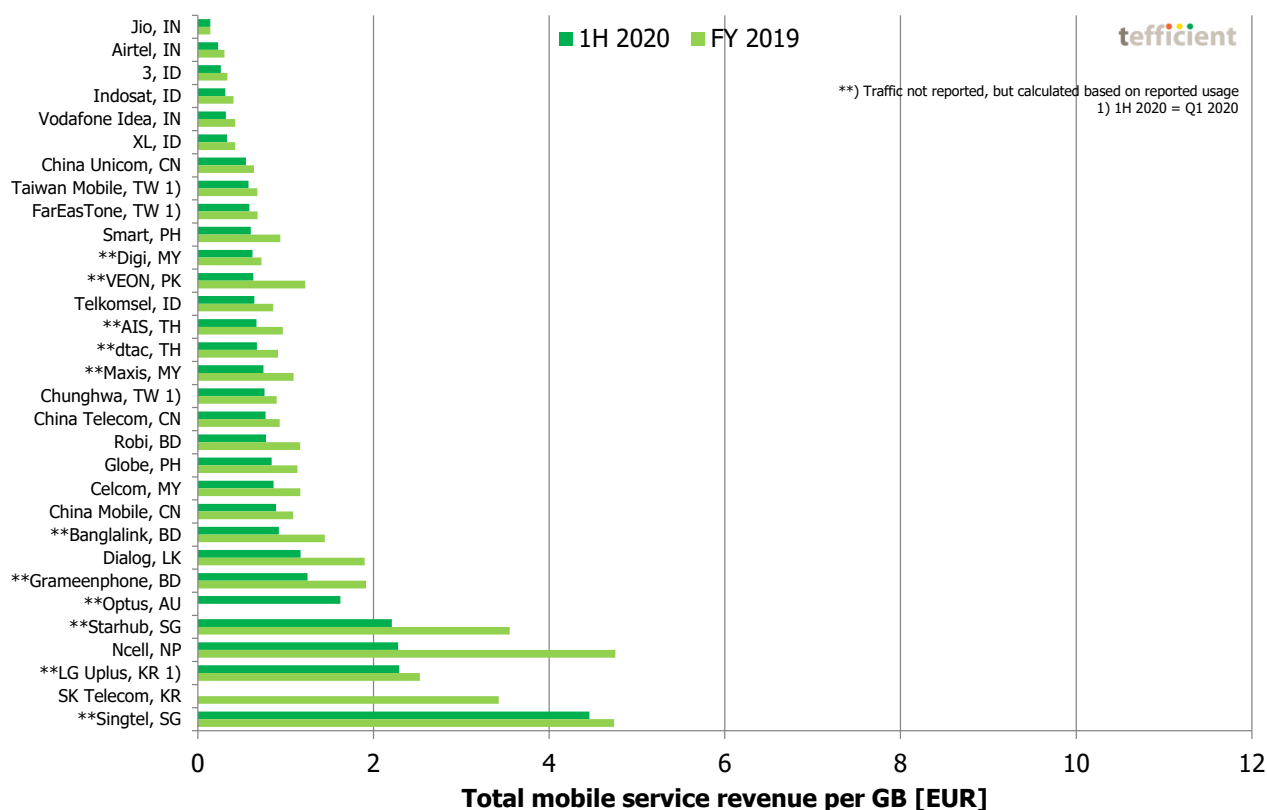


Figure 13. Total mobile service revenue per gigabyte – Asian and Chinese operators

The erosion in revenue per gigabyte in Asia/China is no longer as quick as it has been in our previous reports. In most cases, data usage has reached new highs – of these operators, only Nepal's Ncell was below 1 GB per SIM per month in 1H 2020.

RoW: Big drop in revenue per GB in certain maturing markets

We are ending this section with Figure 14 – showing the operators in the rest of the world alongside a few groups that separate out mobile service revenue in their reporting.

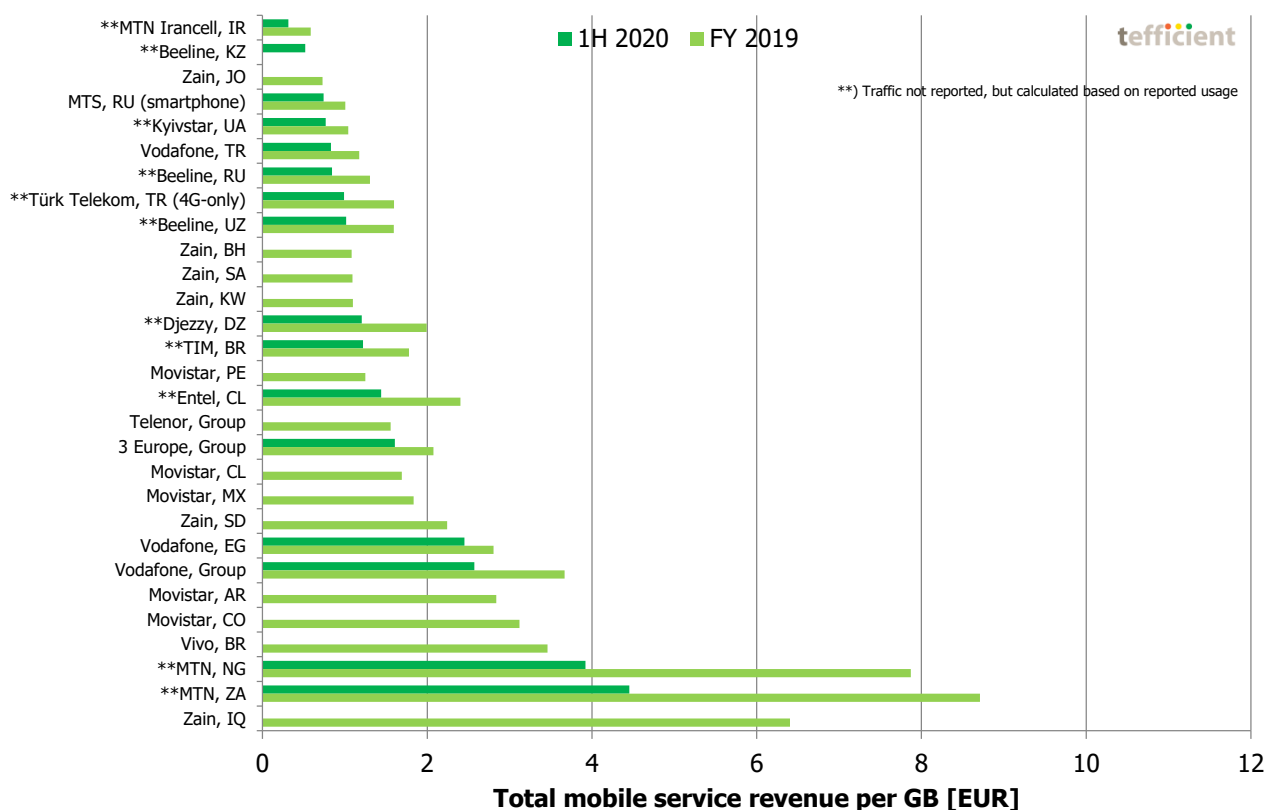


Figure 14. Total mobile service revenue per gigabyte – rest of world operators

MTN Irancell, Beeline Kazakhstan, Russian operators, Kyivstar from Ukraine, Turkish operators and Zain's Middle East operations dominate the top of the chart where revenues are the lowest per gigabyte. Latin American operators clutter below the middle of the chart whereas **sub-Saharan operators** and Zain Iraq populate the bottom of the graph.

MTN Nigeria, Djezzy from Algeria, MTN Irancell and MTN South Africa had very significant drops (around 50%) in the revenue per gigabyte in 1H 2020.

And then there's **Jio**. Its ARPU isn't the lowest, but considering an average data usage of almost 12 GB per month, Jio is still the affordability leader of the world.

The grey regression line suggests that **operators with higher data usage have higher ARPU**.

To moderate this, one has to realise that the adherence to this line (shown by a R^2 value below 1) isn't perfect. And we should also remember that the line visualises an international – not a national – trend: It is quite difficult to find national examples showing that operators with higher data usage enjoy higher ARPU. If anything, it's rather the opposite. It's typically the challenger operator that has the customers with the highest data usage and challenger operators tend to have lower ARPU than incumbents.

International trend:
Operators with
higher data usage
tend to have higher
ARPU

Dressing the Christmas tree

Absolute ARPU aside, how many of the operators have been able to deliver on “**more for more**” i.e. been able to increase ARPU while increasing data usage? And how many are just following the “more for less” stream, giving users more data but not being able to charge anything more?

This isn't the prettiest Christmas tree you've seen, but it is relatively well balanced given the influence of the pandemic: When data usage increased, **42% of operators could grow ARPU** (with branches growing to the right) – 58% could not.

Data usage grew for almost 100% of operators

ARPU grew for 42% of operators

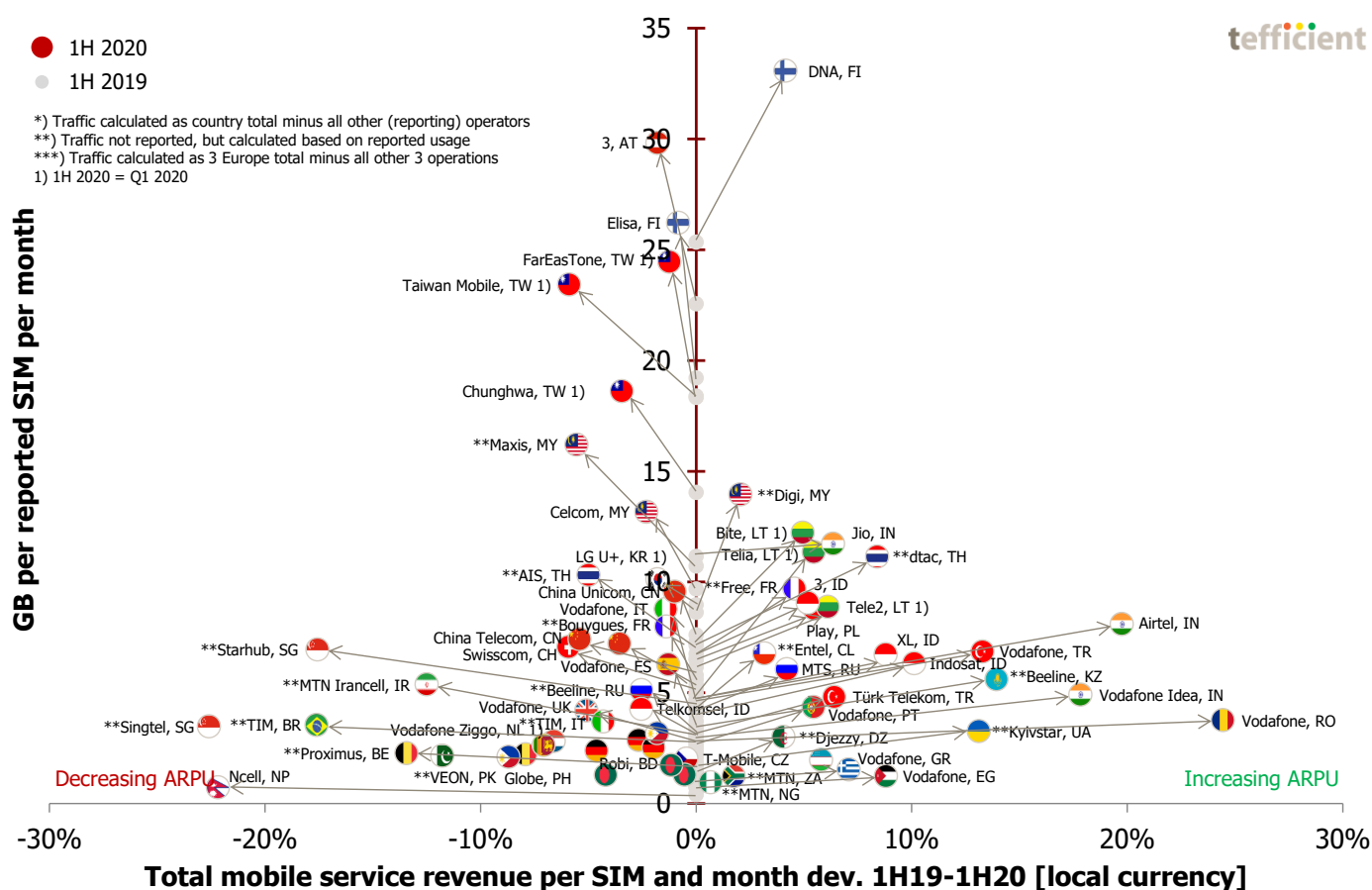


Figure 17. Mobile data usage development vs. ARPU¹⁵ development – 1H 2019 to 1H 2020

¹⁵ ARPU is calculated as the reported total mobile service (non-equipment) revenue incl. interconnect & roaming divided with the average number of reported SIMs. It can differ from the definition of operator reported ARPU.

Let's highlight a few best practices of successful "more for more" operators:

- The Finnish operators **DNA** has been able to grow ARPU thanks to more customers upgrading to faster (and more expensive) speed tiers on their unlimited plans. DNA launched 5G for modems late 2019 and for smartphones this year.
- **Digi** in Malaysia could increase ARPU in 1H 2020 in spite of a fall in subscriber base. The two competitors Maxis and Celcom both lost subscribers *and* ARPU.
- **Free** in France isn't growing its total mobile base much any longer – but are gradually increasing the share of customers who subscribe to their premium unlimited 4G¹⁶ plans, thereby lifting ARPU. Local competitor Bouygues is also growing its data usage, but with a falling ARPU.
- All three **Lithuanian** operators Tele2, Telia and Bite could once again turn usage growth into ARPU growth.
- All three **Indian** operators Jio, Airtel and Vodafone Idea could turn usage growth into ARPU growth (albeit from a low level).
- The three **Indonesian** operators XL, 3 and Indosat could turn usage growth into ARPU growth, something the market leader Telkomsel couldn't.

58% of the operators are on the branches facing left. They had data usage growth, but anyhow a **decline in ARPU**. There are a few operators standing out quite negatively here:

- **Taiwan** where the three incumbent mobile operators Taiwan Mobile, Chunghwa and, to some extent, FarEasTone all continued to experience decreasing ARPU in spite of growing data usage.
- **Singtel** and **Starhub** Singapore¹⁷ whose ARPU collapsed as a result of the entry of the fourth MNO, TPG, who launched in March 2020 but since December 2018 offered free unlimited data during a trial phase.
- **TIM** Brazil where the pandemic on top of the recession handling caused large fluctuations in the currency rates.
- **Proximus** Belgium where the loss of incoming roaming due to the pandemic significantly worsened the ARPU.
- All the three Chinese operators – **China Mobile**, **China Unicom** and **China Telecom** – have experienced significant growth in data usage while ARPU has been falling 8% to 10%.
- Finally **MTN Irancell** where data usage grew but ARPU collapsed when sanctions worsened the country's financial crisis.

The fact that just 42% of the operators managed to turn data usage growth into ARPU growth is a **deterioration** compared to our 2019 report – but given the pandemic, actually a bit better than expected. It's especially for Q2 2020 that the pandemic is visible in the reported figures of our operators. Revenues shrunk when travel habits changed overnight and prepaid top-ups didn't happen as usual. Subscriber bases decreased when many prepaid subscriptions expired when not being topped up. The **data usage was**

¹⁶ Unlimited in conjunction with a Freebox (triple-play) subscription – otherwise limited to 50 or 100 GB

¹⁷ Most likely also M1, but the company is no longer reporting. You can read more about the Singapore situation in our latest country report: <https://tefficient.com/arpu-doesnt-follow-usage-upwards-if-we-cant-monetise-gigabytes-then-what/>

surprisingly resilient though; the narrative that no mobile data would be used when people stay at home (and on Wi-Fi) during lockdowns hasn't proven right. Figure 18 shows that for the operators where we have a breakdown of the 1H data for both Q1 and Q2 for 2019 and 2020, there was generally **as good growth in data usage in Q2 as in Q1**.

If comparing the averages for these 59 operators, the growth was even slightly higher in Q2 than in Q1 – 54% vs. 51%. Most of the lockdowns started by the end of Q1 and continued into Q2.

The narrative that no mobile data would be used when people stay at home hasn't proven right

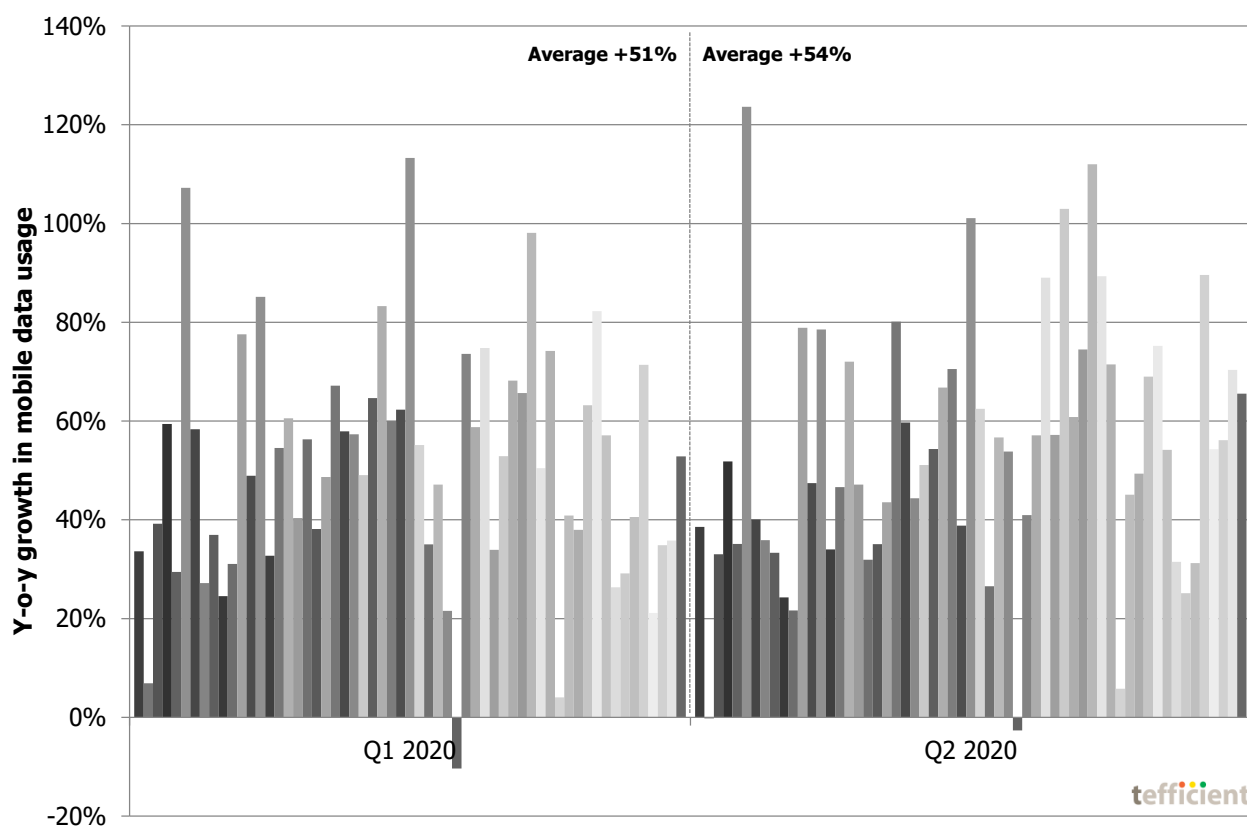


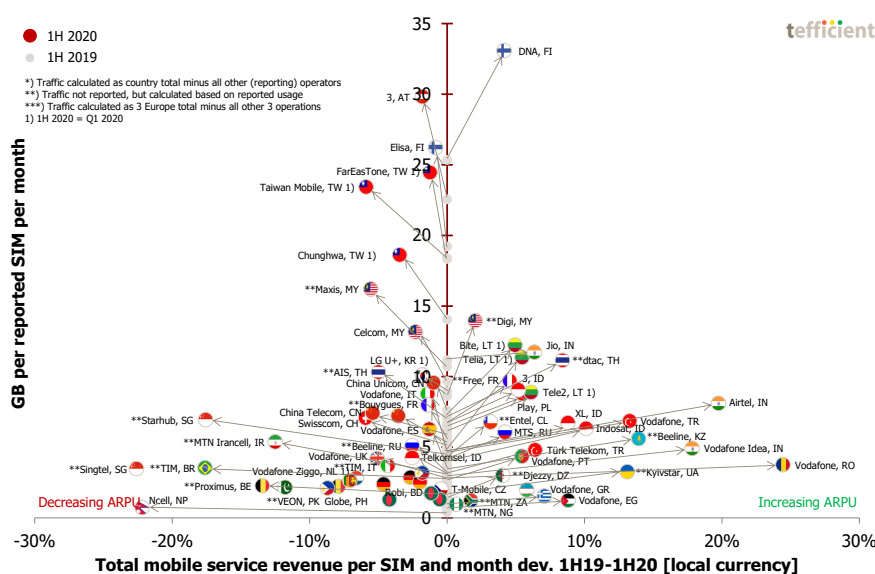
Figure 18. Mobile data usage development (each bar represents one operator) y-o-y, Q1 vs. Q2 2020

To some extent, mobile operators have supported this by, mainly during Q2, **giving data away** in an attempt to mitigate the negative consequences of lockdowns. The effect of these giveaways should not be exaggerated on a global scale, though. It is instead our view that most of the global usage growth is **true, underlying, growth**.

Conclusion

In this analysis, we have presented fourteen updated ranking charts and three updated correlation plots and we hope these are useful for you in understanding how **mobile data usage, traffic** and **service revenues** develop globally. Generally speaking, data usage and traffic grew – while service revenue was flat. If summing up all our studied operators, they carried **40% more gigabytes** in 1H 2020 compared to 1H 2019 – when **revenue fell 0.5%**.

If this would have been a normal half year, we would now criticise our industry for not being able to turn usage growth into revenue growth. But given the pandemic and the associated lockdowns, we instead say that our industry has **demonstrated resilience**. The narrative that no mobile data would be used when people stay at home (and on Wi-Fi) didn't prove right.



Our darling graph, the Christmas tree, shows that data usage grew for basically all operators – but that less than half of these operators were able to turn that into ARPU growth; **42%** delivered on a “more for more” promise. This is a lower share than in our two previous operator reports. We believe that operators’ generosity with mobile data during the pandemic has affected this somewhat –

but that the main reason is the negative effects lockdowns had on roaming revenue, on prepaid top-up revenue and prepaid subscriber base.

Pandemic or not, **effective monetisation of data usage** is a key parameter for the business sustainability of mobile operators. The demand is there – even during a pandemic – but the monetisation toolbox might need to be filled with more or sharper tools. As specialists in mobile data monetisation, we can help you to understand what works.