

Patterns of fixed traffic growth, 2024

This note² considers the growth of broadband traffic per fixed line in various countries³ around the world. In last year's note we observed that around 10% traffic growth appeared to be the new normal, and this year's figures support that – average growth over the twelve months to June 2024 has been 11%. (Figure 1). In several markets VOD adoption may be approaching maturity, and higher bandwidth applications (such as virtual reality) remain relatively niche.

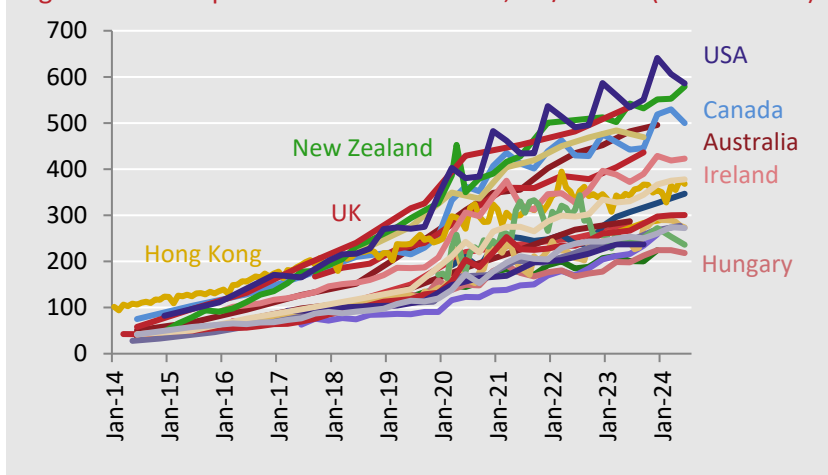
Traffic levels

We first look at absolute levels of traffic. Traffic per line continues to grow around the world:

Figure 1: Year-on-year growth in traffic per fixed broadband line, average across countries¹



Figure 2: Traffic per fixed broadband line, GB/month (23 countries)⁴



Median traffic per line amongst the 23 countries for which we have data was just under 300 GB per month at end 2023, and we estimate six countries had passed 500 GB, equivalent to 12 hours of streamed HD video per day per household. These are average figures, and individual households will be well above this.

One intriguing aspect of Figure 2 is the lack of convergence. While almost all countries are seeing growth, there is not a 'catching up' by

¹ See Footnotes 4 and 8 for sources and caveats

² Previous analyses are available at Communications Chambers, [Patterns of internet traffic growth](#), April 2018; [Patterns of internet traffic growth 2021](#), October 2021; and [Patterns of fixed traffic growth, 2022](#), October 2022

³ Countries are those for which relevant data could be identified, which are primarily more developed countries

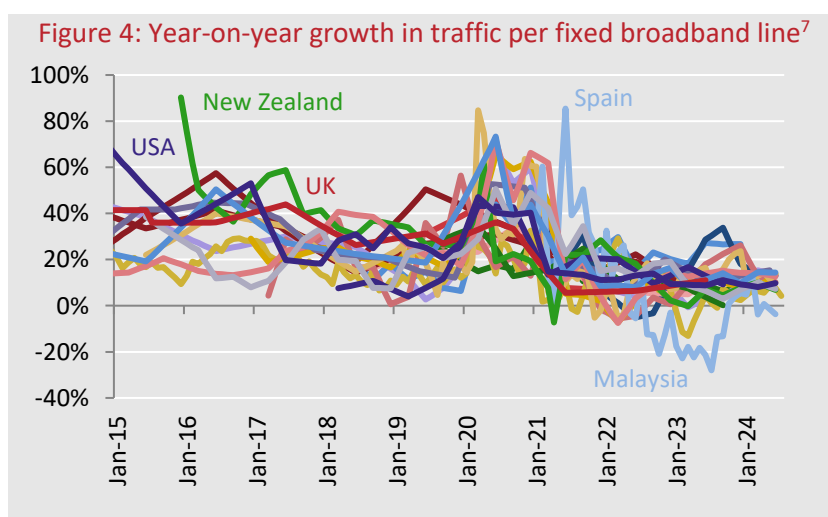
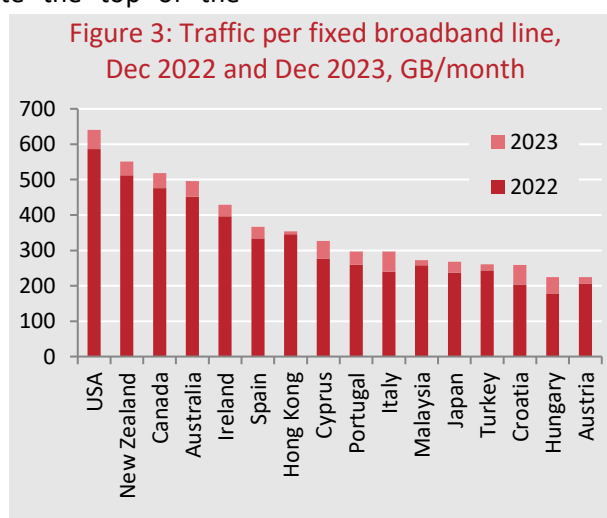
⁴ Sourced from relevant national regulatory authorities or government statistical services, with the exception of New Zealand (sourced from Chorus) and the US (from OpenVault). Figures are average for both business and residential lines, except for the UK which (from 2015) is residential only. Traffic is upload+download, except Australia which is download

the countries that historically have had lower traffic. If traffic levels were primarily a function of start-date (for widespread broadband or VOD say), we might expect over time that these levels would converge as the benefit of a head-start faded. What we see in fact is that the absolute spread is growing dramatically (albeit with a minor contraction in the relative spread).⁵ Further, the set of leading countries has remained surprisingly consistent. This points to fundamental, national factors being highly important to traffic levels, even if almost all countries are seeing growth.

Figure 3 shows the traffic per line as of December 2023.⁶ Once again, English-speaking markets continue to dominate the top of the rankings. (UK data is not yet available for end-2023, but at end-2022 it ranked third in our data set). As we have noted before, this may be because the US is a key source of internet innovation, and other English-speaking countries may be quickest to adopt or imitate (alongside their own innovations). There is probably also a larger pool of English language content available than for most languages.

Growth rates

Turning to growth rates, Figure 4 shows year-on-year growth in traffic. There is clearly a lot of volatility, with individual countries showing spikes in growth, and wide variation in growth rates between countries:



⁵ Relative spread defined as traffic of highest volume country divided by that of the lowest volume country

⁶ Note that reporting periods vary (eg monthly vs annually). Data for specific months have been interpolated where necessary, to enable comparisons. Malaysia saw slightly negative growth in 2022, not shown on the chart

⁷ Per FN 4. Communications Chambers analysis. Data interpolated where necessary

That said, it is clear there is a long term trend in slowing traffic growth (pandemic aside). Growth rates are now also in a tighter band, with most countries in the range 0-20%. Ten countries (out of our 23) have now reported at least one period where year-on-year traffic growth has been negative.

To better understand the global trends, we consider averaged growth across the set of countries for which we have data (Figure 5). Again, the pattern is clear – declining growth pre-pandemic, the pandemic then caused a significant spike and followed by a rapid decline. Since the beginning of 2022, year-on-year growth has oscillated around 11%.

Causes of slower traffic growth

There are many reasons why traffic growth has slowed, but video is an important factor. Streamed video represents 75% of downstream traffic in the Americas, and 68% in Europe.¹⁰ However, growth in streamed video consumption is now modest, in at least some markets. Figure 6 shows UK video consumption. Overall consumption (including broadcast TV) is not growing, and streamed minutes per capita are still below pandemic peaks, growing just 8% in 2023.

Figure 5: Year-on-year growth in traffic per fixed broadband line, average across countries⁸

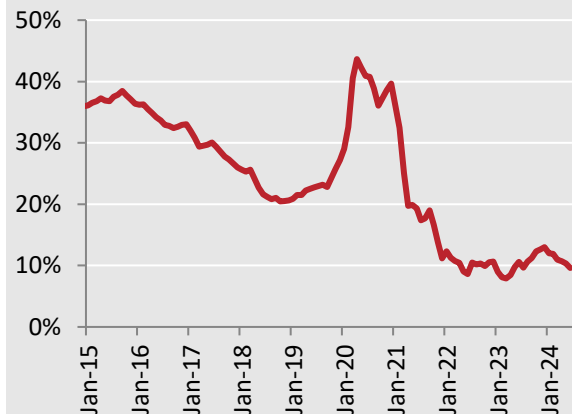
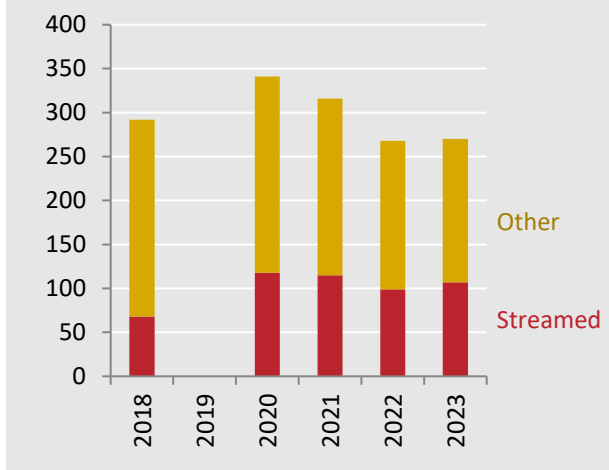


Figure 6: UK video consum'n, mins / person /day⁹

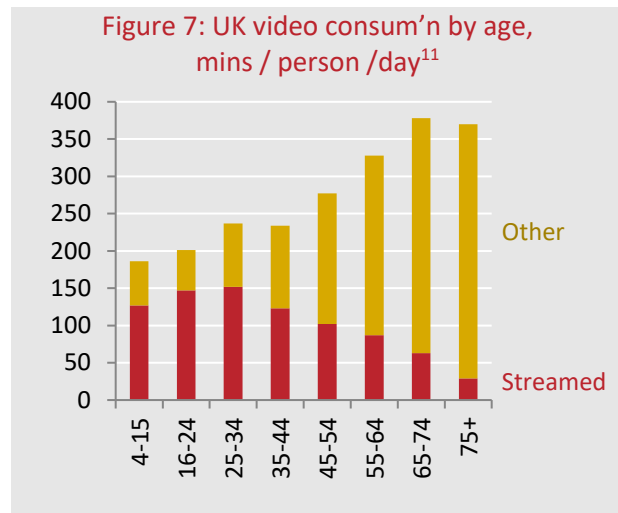


⁸ Per FN 4. Communications Chambers analysis. Data interpolated where necessary. Notes: (i) The countries within the set varies somewhat over time, based on when countries started reporting and when they most recently published data. However, this variation does not appear to have material impacts on the trends shown. (ii) Because new historic data has become available, the figures in this chart do not exactly match those in the equivalent chart from our report a year ago

⁹ Ofcom, [Media Nations](#) reports

¹⁰ Figures for 2023, and are for total traffic, not just fixed. Sandvine, [Global Internet Phenomena Report 2024](#), 10 April 2024

There are also reasons to believe that future growth may be even lower. Figure 7 shows UK video consumption mix by age. Streamed video is already a majority of viewing for those aged under 44. This group have only moderate non-streamed viewing to shift to streaming. On the other hand, approximately 40% of total non-streamed viewing sits with those aged 65+ - a group that has been slower adopters of internet applications, and who are more likely to be offline entirely. Thus the remaining pool of non-streamed viewing may be more challenging for streaming to 'capture'. (Even if streamed video continues to grow, data consumption may see more moderate growth, thanks to improvements in video compression).



However, approaching saturation of streamed video consumption is not a full explanation. It may explain slowing growth in maturer markets such as the US and the UK. But other factors must be driving slowing traffic growth in other markets where streaming uptake is much lower.

Policy implications

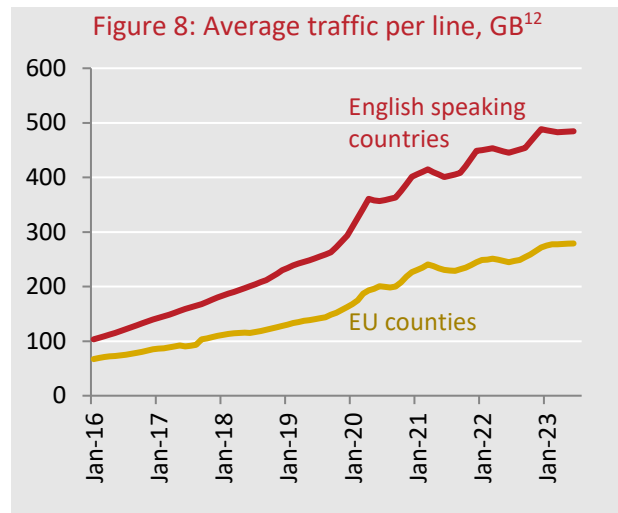
There are many policy implications of the data above. We mention two here.

First, the arguments for traffic charges – fees to be paid by large content providers to ISPs for traffic sent over their networks – often rest on an implicit assumption of overwhelming growth in demand, that requires an unmanageable level of capex for the ISPs to meet. However, if growth is in fact modest, it is likely to be sustainable within current capex budgets, particularly given ongoing improvements in the price-performance of networking equipment.

¹¹ Ofcom, [Media Nations](#) reports

Second, the dramatic variation in levels of usage across countries suggest there is substantial latent capability in many countries' existing networks. For example, Figure 8 shows the average traffic for English speaking and EU countries in our sample. This suggests the EU is several years behind Anglosphere in its intensity of (fixed) internet usage.

The good news is that this is not a function of poor infrastructure in Europe – indeed, the penetration of FTTP¹³ in the relevant European countries is *higher* than that in the Anglosphere. Rather, it is that the infrastructure the EU already has is being under-utilised. Thus the EU will be able to get much greater value from the fixed internet without necessarily needing to wait on funding and deployment for improved fixed networks.



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¹² Per FN 4. EU countries in our sample are Austria, Belgium, Croatia, Cyprus, Denmark, Finland, Germany, Hungary, Ireland, Italy, Portugal, Romania, Spain. English speaking countries are Australia, Canada, Ireland, New Zealand, UK and USA. Note that Ireland appears in both groups

¹³ Fibre to the premise

Annex – Traffic by country (GB per fixed line per month)

