# Annex 1: Methodology

We use several datasets to analyse residential pricing trends. Here we set out the sources of these datasets, how they are compiled and the way in which they have been used in this report:

- operator data;
- tariff information from Pure Pricing;
- basket-based pricing using Teligen's price benchmarking model;
- international price benchmarking; and
- customer research – including the Switching Tracker (which includes the Engagement Index) and Technology Tracker.

## Operator data

While the pricing data provides a view of the tariffs that are available to consumers, we used our formal powers to collect information from the leading providers of residential fixed and mobile services in the UK. The data was collected from the following providers of fixed and mobile services:

- fixed telecoms providers: BT, EE, KCOM, Plusnet, Shell Energy, Sky, TalkTalk, Virgin Media O2 and Vodafone; and
- mobile service providers: BT Mobile, EE, iD Mobile, Plusnet, Sky, Three, TalkTalk Mobile, Tesco Mobile, Virgin Media O2 and Vodafone.

We collected information regarding numbers of customers and average spend per customer, including the proportion of spend that was out-of-contract and out-of-bundle, for end-June 2022.

Data was collected for the following services:

**Figure M1: Customer and spend data collected for communications services: June 2022/Q2 2022**

| Standalone services | Bundled services |
|---|---|
| Standalone landline | Dual-play with landline and fixed broadband |
| Standalone fixed broadband | Triple-play with landline, fixed broadband and pay-TV |
| Standalone mobile phone | Triple-play with landline, fixed broadband and mobile |
| Standalone pay-TV | Quad-play with landline, fixed broadband, pay-TV and mobile |

*Source: Ofcom.*
*Note: Spend data is a monthly average for the period 1 April 2022 - 30 June 2022; customer numbers are as of 30 June 2022.*

## Tariff information

### Pure Pricing

We use retail tariff information taken from Pure Pricing's Monthly Broadband Pricing reports to analyse residential line rental and bundled service prices.

We also use retail tariff information from Pure Pricing's Monthly Mobile Pricing reports to analyse mobile SIM-only prices.

The prices are those available to new customers on providers' websites. These new customer prices are sometimes referred to as "front-book" prices as opposed to the "back-book" prices charged to existing customers.

## Basket-based pricing analysis: UK price benchmarking model

To analyse the tariffs available in the UK, we use a bespoke pricing model commissioned from pricing consultancy Teligen, Strategy Analytics. The model is populated with tariff data for landline, mobile voice and data, fixed broadband, pay-TV and 'bundled' services (i.e. incorporating more than one service, such as triple-play tariffs). As above, the prices are those available to new customers on providers' websites. The key objectives of the work are as follows:

- to identify and compare the pricing that is available for consumers buying landline, mobile, fixed broadband and pay-TV services;
- to identify and compare the pricing that is available by purchasing communications services within bundled tariffs (for example, triple-play services, which typically offer a single bill for the delivery of landline, fixed broadband and pay-TV services);
- to compare pricing across a wide range of service usage scenarios, from the requirements of those with basic needs to those of consumers with more sophisticated consumption; and
- to incorporate the cost of hardware such as set-top boxes or broadband modems/routers in order to reflect the real prices that consumers pay, and to compare like-with-like by allowing for equipment subsidies when they are included within propositions from service providers.

### Basic methodology

Further detail is provided below but the basic principles are as follows. We constructed five household types and defined a usage profile of communications services comprising landline, mobile, fixed broadband and pay-TV appropriate for each one. A wide range of components were included within the household usage profiles to ensure as accurate as possible a representation of the real prices consumers pay. For example:

- landline minutes were distributed by whether they were to fixed or mobile lines, by call distance (local, regional and national) and time of day (day, evening, weekend), and non-geographic calls were excluded from the analysis;
- mobile calls (and messaging) were split between on-net and off-net, voicemail was included and the 'affluent two-person household' requires 5G mobile services from 2020 onwards;
- call set-up and per-minute charging were incorporated, and a range of call lengths were used;
- the fixed broadband component was defined both by minimum headline speed and by minimum data allowance requirements; and
- the pay-TV element included a digital receiver and, for some household usage profiles, a digital video recorder (DVR). Two tiers of pay-TV were considered:
  - the most basic service available above the channels available on free-to-air TV; and
  - a basic pay-TV service with premium sports content (top-tier football matches).

Broadband routers, digital set-top boxes and DVRs are included within the household usage profiles and amortised over an appropriate period in order to attribute a monthly cost. This is necessary because this equipment is often inseparable from the service price, as operators frequently include subsidised or ‘free’ equipment (for example a mobile handset or a wi-fi router) within the monthly subscription. For similar reasons, connection and/or installation costs are included.

Data for 2022 was collected in July of this year. Data for 2020 was collected in October of that year. For all other years, data was collected in July. For each year the data covers details of every tariff and every tariff combination (including bundled services) from at least the largest three operators by retail market share (and from more than three operators, if this was required to ensure that a minimum of 80% of the overall market was represented). Bundled tariffs (i.e. those that incorporate more than one service) were also collected. Only those tariffs available on the websites of the operators were included (i.e. the analysis excludes bespoke tariffs that are offered only to certain customers). The number of providers covered in the pricing model has increased over time.

Our model identifies the tariffs that offer the lowest price for meeting the requirements of each household. All sales taxes and surcharges have also been included, to reflect the prices that consumers actually pay.

To provide an illustration of representative prices for the individual services, and to illustrate the best value that consumers can get for their usage profile, we have provided the weighted average standalone pricing, illustrating the price of each individual service, as defined by the average of the lowest price tariff from each of the operators for each service, weighted by the market share of the service provider, in order to ensure fair representation.

## Household types

For this study, we have considered hypothetical households, and have defined their requirements for communications services based on average use in 2018. These were reviewed at the start of the 2022 study and have been updated. These household types are designed to be collectively broadly representative of the overall population.

**Figure M2: Household types**

| Summary | Fixed voice mins | Mobile voice mins | Mobile SMS messages | Mobile handset data | Fixed broadband speed | Fixed broadband data | TV |
|---|---|---|---|---|---|---|---|
| Low-use couple with basic needs | 120 | 50 | None | None | None | None | Free-to-air |
| | | 50 | None | None | | | |
| Late adopter couple | 90 | 50 | 50 | 1 GB | ≥30 Mbit/s | 25GB | Free-to-air |
| | | 50 | 50 | 1GB | | | |
| 'Networked' family household | 60 | 250 | 100 | 5GB | ≥100 Mbit/s | 1,000GB | Basic pay-TV with HD |
| | | 250 | 100 | 5GB | | | |
| | | 100 | None | 15GB | | | |
| | | 100 | None | 15GB | | | |
| Affluent two-person household (requires 5G from 2020 onwards) | 30 | 150 | 75 | 10GB (5G) | ≥300 Mbit/s | 500GB | Premium pay-TV with HD & DVR |
| | | 150 | 75 | 10GB (5G) | | | |

*Source: Ofcom.*

## Landline usage profiles

The landline usage profiles define the use per month for the household and calculate the monthly cost of using the landline service. The elements of the usage profiles are listed below, with values for each of the four households that use this service. The cost of customers' equipment is amortised over a five-year period.

**Figure M3: Landline usage profiles**

| | Affluent two-person household | 'Networked' family household | Late adopter couple | Low-use couple with basic needs |
|---|---|---|---|---|
| Outbound call mins | 30 | 60 | 90 | 120 |
| Type of calls | 90% UK landline and 10% to UK mobiles | | | |
| Time of day | 60% daytime, 25% evening and 15% weekend | | | |

*Source: Ofcom.*

## Mobile voice and data usage profiles

To analyse the prices of standalone mobile services, we used six connection types to represent use across diverse types of consumer. We exclude the cost of a handset from our analysis.

**Figure M4: Mobile usage profiles**

| | Outgoing call mins per month | Outgoing SMS messages per month | Data use per month |
|---|---|---|---|
| Mobile user profile 1 | 50 | None | None |
| Mobile user profile 2 | 50 | 50 | 1 GB |
| Mobile user profile 3 | 250 | 100 | 5 GB |
| Mobile user profile 4 | 100 | 0 | 15 GB |
| Mobile user profile 5 | 150 | 75 | 10 GB |
| Mobile user profile 6 | 500 | 25 | 20 GB |

*Source: Ofcom.*

To calculate the total price paid by consumers of buying a handset outright and using it with a SIM-only plan compared with acquiring a handset with their airtime contract, we assign each type of mobile connection usage profile a low, mid or high-range handset across the time series

**Figure M5: Mobile usage profiles: handsets**

| | 2017 | 2018 | 2019 | 2020 | 2022 |
|---|---|---|---|---|---|
| Mobile user profile 1 | Nokia 105 | Alcatel 1016G | Alcatel 1016G | Alcatel 10.66G | Nokia 105 |
| Mobile user profile 2 | Nokia 105 | Alcatel 1016G | Alcatel 1016G | Alcatel 10.66G | Nokia 105 |
| Mobile user profile 3 | Samsung Galaxy A3 2016 | Samsung Galaxy A6 | Samsung Galaxy A6 | Samsung Galaxy A21s | Samsung Galaxy A22 128 GB |
| Mobile user profile 4 | Samsung Galaxy A3 2016 | Samsung Galaxy A6 | Samsung Galaxy A6 | Samsung Galaxy A21s | Samsung Galaxy A22 128 GB |
| Mobile user profile 5 | Samsung Galaxy A3 2016 | Samsung Galaxy A6 | Samsung Galaxy A6 | Samsung Galaxy A21s | Samsung Galaxy A22 128 GB |
| Mobile user profile 6 | Samsung Galaxy S7 Edge | Samsung Galaxy S9 | Samsung Galaxy S10 | Samsung Galaxy S20 | Samsung Galaxy S22 128 GB |

*Source: Ofcom.*

## Bundled service profiles

To analyse the price of services when purchased as bundles, we use six household profiles with different usage across services. Not all have been featured in this report.

**Figure M6: Household profiles for bundled services**

| 'Typical' household type | Summary | Fixed voice | Mobile voice | Mobile messaging | Mobile handset data | Fixed broadband | TV |
|---|---|---|---|---|---|---|---|
| Low-use couple with basic needs | A low-use couple with basic needs | Medium use | Low use | None | None | None | Free-to-air |
| Late adopter couple | A broadband household with basic needs | Medium use | Low use | Low use | Low/ None (depends on user) | Low use | Free-to-air |
| Mobile 'power user' | A mobile-only household | None | High use | Low use | High use | None | Basic pay-TV with HD & DVR |
| 'Networked' family household | A family household with multiple needs | Medium use | Medium use | Medium/ No-use (depends on user) | Medium-High use user (depends on user) | Medium use superfast | Basic pay-TV with HD & DVR |
| Affluent two-person household (requires 5G from 2020 onwards) | A two-person household with sophisticated needs | Low use | Medium use | Medium use | High use | High use superfast | Premium pay-TV with HD & DVR |

*Source: Ofcom.*

## International price benchmarking

We have used a pricing model provided by Teligen, Strategy Analytics, to benchmark prices internationally. For landline, mobile phone and fixed broadband services, this uses a methodology like that adopted by the Organisation of Economic Co-operation and Development (OECD) in its ongoing price benchmarking work with Teligen. When comparing the prices of bundled communications services, we used data taken from Teligen, Strategy Analytics' Bundle Benchmarking service, which also uses a methodology similar to that recently adopted by the OECD (December 2020).

The tariff data used in the analysis was taken from operator websites in Q3 2022. The bundled tariff data was collected in July and August 2022, and the standalone service tariffs in either August or September 2022 (depending on the service). The purchasing power parity-adjusted (PPP) exchange rates used to convert prices into GBP were for September 2022 and were taken from the OANDA web service (using exchange rates as at 1 September 2022) and the OECD database of comparative price levels (CPL).

The methodology used was the same as that outlined in the 2017 International Communications Market Report.

## Consumer research

The report also draws upon data from established Ofcom tracker surveys.

### The Technology Tracker

The Technology Tracker is a survey run once a year (face-to-face in-home) with c.4,000 adults aged 16+ in the UK. It provides us with an understanding of consumer attitudes and behaviours in the UK communications market, helping us to monitor change. The data collected is weighted to the profile of UK adults. The main Technology Tracker survey provides data on:

- access and take-up of telephony services;
- activities conducted on mobile phones and the internet;
- take-up of TV services, including paid-for and free TV, plus video-on-demand services;
- take-up and listenership of radio and audio services, including digital radio;
- take-up of smart technology; and
- bundling of services.

### The Switching Tracker

The Switching Tracker is an annual survey conducted in July/August among household decision-makers for communications services, which monitors levels of participation in terms of switching and engagement activities. It looks at landlines, mobile, internet/broadband markets and pay-TV, as well as dual- and triple-play bundles. It used a combination of post-to-web, post-to-phone and online methodologies.

In 2022, we interviewed 3,334 adults aged 16+ in the UK across the different survey methods. Interviews were carried out between July and August 2022. A letter was sent to a sample of UK households inviting one member of the household who has responsibility for at least some communications services to complete the survey online or by telephone, depending on their preference. Those interviewed online following a postal invitation were asked for referrals to friends or family members without access to the internet. Once the post-to-online and post-to-phone interviewing was complete, some additional interviews were conducted using online panels in order to balance the overall sample and ensure that the sample was nationally representative of the UK population.

Prior to 2020, the Switching Tracker survey was conducted face-to-face. In 2020, due to the Covid-19 pandemic, the methodology moved to that described above.

#### The Engagement Index

Ofcom’s Engagement Index is derived from the Switching Tracker. It takes a selection of behavioural and attitudinal factors into account and classifies consumers as being either active, browsers, dormant, unmotivated, apprehensive or resigned.

The first three groups (actives, browsers and dormant) are, to a greater or lesser extent, engaged in the market and are aware of alternative deals and/or suppliers. The resigned group are dissatisfied with the overall service provided by their supplier but have not made any effort to look into other deals or negotiate a better deal. There could be a number of reasons for their non-engagement, including being in a location where choice of supplier (e.g. in a remote rural area where coverage from some mobile operators is poor) or choice of service (e.g. in an area where fibre broadband is not available) is limited.

The unmotivated group have not had any recent engagement with the market but are confident in their ability to compare costs, speak to their current provider and understand the language and terminology used by providers. Some of this group, although they do not lack confidence in their ability to engage with the market, claim that they would like to save money on their service, but lack the time to do so. In short, these people claim to have the skills they need to engage, but for one reason or another have chosen not to.

The final group, which we have termed ‘apprehensive’, have not had any recent engagement with the market, are not confident in their ability to compare costs, speak to their current provider or understand the language and terminology used by providers and this lack of confidence may be discouraging them from engaging.

**Figure M7: Segment definitions in the Engagement Index**

| | |
|---|---|
| **Active** | A. Switched supplier in the last year, unless when moving home, OR at least two of the following:<br>B. Are currently/planning to look for a new deal.<br>C. Have initiated some supplier contact.<br>D. Have conducted some competitor evaluation. |
| **Browsers** | Not active. One of the following:<br>B. Are currently/planning to look for a new deal.<br>C. Have initiated some supplier contact.<br>D. Have conducted some competitor evaluation. |
| **Dormant** | Not browsers, but are/may still be in contract. One or more of the following:<br>E. Switched supplier in the last 13-24 months (but not necessarily without moving home at the same time).<br>F. Have never switched supplier but have been with their supplier for up to 24 months.<br>G. Have upgraded or downgraded services in the last year, but this was provider-led and not initiated by the customer. |
| **Unmotivated** | None of A-G above AND confident comparing costs and speaking with current provider about new deals and understanding the language and terminology used by providers. |
| **Apprehensive** | None of A-G above AND not confident comparing costs and speaking with current provider about new deals and understanding the language and terminology used by providers. |
| **Resigned** | None of A-G above AND not satisfied with overall service provided. |

*Source: Ofcom Switching Tracker carried out by Critical Research in July-August 2022.*
*Notes: Those who switched when moving are defined in the Engagement Index based on any other activity that would qualify them. Those who undertook activities shown under B-D above would be defined as Active or Browsers, while those who did not undertake these activities and simply took over the existing service in their new home would not be defined as Active or Browsers.*