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Consumer lock-in for fixed broadband

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1. Executive Summary

Switching barriers for consumer broadband have a two-fold importance. Firstly, they are directly relevant to healthy competition within that market. Secondly, some NRAs¹ are increasingly relying on consumer switching to ‘police’ the behaviour of ISPs, in particular any potential abuse of an ISP’s inbound monopoly. These NRAs expect, for example, that if an ISP degrades its general network quality to force a content provider to buy a premium service, consumers will switch away, making the ISP’s move unprofitable. Similarly, consumers are expected to switch away from ISPs that discriminate favour their own applications.

This idea depends on the broadband market being ‘liquid’ – that is, consumers can readily switch between providers. If instead consumers face substantial switching barriers, then they may remain with their ISP even if they perceive a degradation in quality. In fact, our consumer research suggests that these barriers are the equivalent to a cash cost of €183. Faced with such barriers (set out in Figure 1), consumers will not effectively ‘police’ ISP behaviour.

Figure 1: Select switching barriers in broadband

Barrier	Standalone broadband	Additional for bundled broadband
Search costs	<ul style="list-style-type: none"> Complex product information Diverse information formats Challenging to compare 	<ul style="list-style-type: none"> Issues at left apply even more strongly for more complex bundled products
Uncertainty costs	<ul style="list-style-type: none"> Individual line performance often unknown until after installation Performance metrics (eg packet loss) are obscure to consumers 	<ul style="list-style-type: none"> Features such as quality of PVR/DVR user interface are very difficult to assess without direct experience
Compatibility costs	<ul style="list-style-type: none"> Modem may be rendered obsolete if switching to a new type of provider 	<ul style="list-style-type: none"> Vital TV content (eg premium sports) may only be available from one provider SIM-lock impacts bundles with mobile
Contractual costs	<ul style="list-style-type: none"> 12-24 month contracts and exit fees are very common 	<ul style="list-style-type: none"> Discounts for multi-product purchase make it expensive to switch one product
Shopping cost	n/a	<ul style="list-style-type: none"> Bundles offer purchase simplicity
Transaction costs	<ul style="list-style-type: none"> Ordering process Service interruption Overlapping contracts Being home for an install Disruptive install WiFi reconfiguration Troubleshooting 	<ul style="list-style-type: none"> More complex ordering More complex installation (eg satellite dish) Loss of stored programmes on incumbent PVR/DVR

¹ National regulatory authorities

The economic literature sets out a wide range of switching costs that may exist in a market. In practice, virtually all are present in broadband, particularly for those consumers (more than 80%) who purchase broadband as part of a bundle.

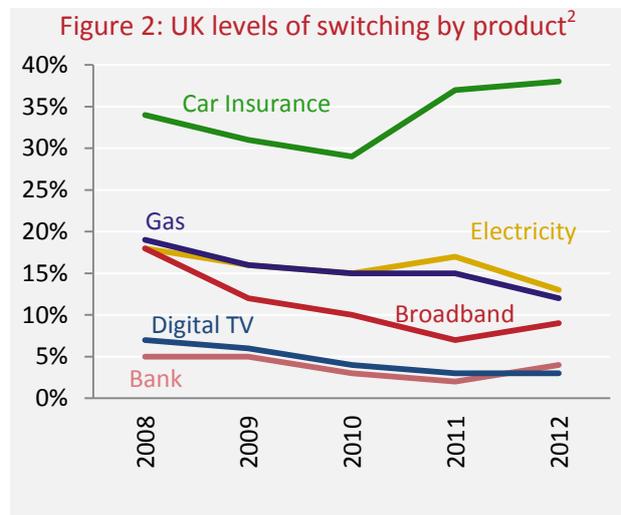
This creates significant lock-in, and as a result 62% of EU27 consumers have *never considered* switching.³ Levels of switching for broadband and digital TV - with which it is increasingly bundled - are appreciably lower than many other consumer services, and have fallen appreciably over the last five years (see Figure 2 for UK trends).

In France, Germany and the UK, the expected tenure of a customer with their ISP is now ten years or more. Moreover, the market is becoming less liquid, and market share is stabilising – the rate of movement of the average EU27 incumbent’s market share in 2011 was less than half that from five years earlier. In their statements to investors, broadband providers are very clear that bundling is providing (from their perspective) a highly beneficial reduction in churn.

Thus there are substantial deterrents to consumer switching, which will greatly reduce any customer loss for an ISP as a result of a potentially temporary degradation of quality of the type consumers are expected to ‘police’.

There are other reasons to be cautious of the idea that consumers will switch providers when faced with such degradation. Consumers already face highly variable quality, very different from that advertised to them. For example, in Germany more than half of consumers with lines advertised at between 2 and 18 Mbps were getting less than 75% of the purported rate.⁴

Consumers also display striking tolerance of technical problems. In France, 17% of broadband customers experience a complete loss of broadband service each year,⁵ but only 9% of customers switch providers.⁶ In the US, though 18% of consumers report that they



² Percentages are those who have switched supplier in the previous 12 months. Fig 116, Ofcom, *The Consumer Experience of 2012*, January 2013

³ European Commission, *E-Communications Household Survey*, June 2012

⁴ Zafaco, *Dienstqualität von Breitbandzugängen*, April 2013

⁵ ARCEP, *Indicateurs de qualité de service fixe*, March 2013

⁶ Communications Chambers consumer research, June 2013

experience outages at least weekly, only 7% had ever switched ISP due to outages. The recent history of Free in France tells a similar story. Despite a notable degradation in performance in late 2012 and early 2013, Free continued to *gain* market share.⁷

One reason for this lack of response to network issues is that consumers may not attribute problems to their ISP. Our consumer research found that a quarter of respondents would simply not know the cause of a problem, and only 12% of respondents said their first guess would be an issue with their ISP.

NRA's have taken a number of valuable steps to reduce broadband switching barriers, including introducing 'gaining party led' processes, limiting contract lengths, standardising product information provided by ISPs and so on.

While these steps are undoubtedly helpful, it is important to note that the decline of churn and the stabilisation of market share that has been evident over recent years have happened *despite these measures being in place*. There may be diminishing returns from further regulatory action to reduce switching barriers, particularly in the face of the transition to ever larger bundles. In this context, it would be valuable for NRA's to undertake their own financial quantification of switching barriers over time, to understand if they are improving or worsening.

However, given that switching barriers are certainly substantial, it seems dangerous to rely on consumer choice as the key mechanism to police abuse of ISPs' inbound monopolies.

⁷ See page 42

2. Introduction

A key policy objective in telecoms has been to ensure competition and choice for consumers. Regulators have worked extensively to facilitate competition by neutralising the historical advantages enjoyed by the former state-owned monopolies.

Competition obviously has direct benefits for consumers. However, regulators are increasingly also seeing retail competition as a defence against discrimination in wholesale markets.

One example is regulators' attitude to potential abuse of the 'terminating monopoly'. If a content or application provider (CAP) wishes to reach a given customer of an ISP, the CAP has no choice but to pass traffic to that ISP for delivery, and as with any monopoly, the terminating monopoly is potentially open to abuse. An ISP could, for instance, degrade their transit links, leaving CAPs no choice but to pay for paid peering to connect to the ISP in question.

However, some regulators have taken the view that there is no cause for concern since consumers will prevent abuse. The hypothesis is that any abuse would lead to degraded performance for the ISP's customers, and they then would switch away from the abusing ISP. The loss of revenue for the ISP would act as a disincentive for any abuse in the first place.

The stance of Ofcom, the UK regulator, is typical of this perspective. In their 2011 Statement on net neutrality, they said:

“Our approach to traffic management will ... continue to rely primarily on there being effective competition amongst Internet Service Providers”.⁸

In essence, this approach presumes consumers will 'police' ISP behaviour, with their sanction being to take their broadband business elsewhere.

However, there are a number of potential problems with this presumption, including:

1. Several ISPs may simultaneously take similar steps, so that consumers have nowhere better to go
2. Consumers may not be able to distinguish the degradation from the more general variability of performance they experience

⁸ Ofcom, *Ofcom's approach to net neutrality*, 24 November 2011

3. Consumers may be aware of degraded performance, but not necessarily attribute it to their ISP
4. Consumers may know there is a problem with their ISP, but not know which ISP would be better
5. Consumers may wish to switch to another ISP, but the associated direct switching barriers may be greater than the benefit, causing them to stick with their existing provider
6. Even if an ISP does lose customers, the cost of this may be less than the incremental revenue from CAPs

Items (2) to (5) above are all forms of switching barriers⁹ - impediments to changing broadband provider in response to a network degradation. If these barriers are high and create appreciable consumer lock-in, then consumers will not be effective in their policing role. They may simply accept the degradation rather than move elsewhere. In this scenario, the ISP has been able to use their terminating access monopoly without paying any cost in lost consumer revenue.

In this paper we set out the evidence that such switching barriers are indeed substantial, particularly in the context of the consumer response to a degradation of an ISP's relative broadband quality. One example of such a degradation would be congested transit links, which may be used by an ISP to force content providers onto paid peering.

Note however that in setting out the switching barriers we are not making a case that the consumer market for broadband services is not competitive. This is a separate question, and the presence of switching barriers is not in of itself evidence of a lack of competition.¹⁰

We focus primarily on Europe, and draw on new consumer research conducted for this paper in France, Germany and Italy.¹¹ However, we also consider some evidence from other international markets. We also focus primarily on fixed, rather than mobile broadband, though many of the same issues will apply in both markets.

We gratefully acknowledge the financial support of CCIA for the preparation of this paper.

⁹ In a broad sense – traditionally, switching barriers refer to issues that impede the consumer once she has started to consider alternatives, a definition which would not include the issue of the consumer not being aware of degraded performance or that it was due to their ISP

¹⁰ See, for instance, Jean-Pierre Dubé et al, *Do Switching Costs Make Markets Less Competitive?*, June 2006

¹¹ For a description of the consumer research methodology, see page 48

3. Types of switching barriers

There are many varieties of switching barriers. There is no standard categorisation, but in this section we provide a list of types, drawing on the literature in this area.¹² The list is in approximate order of when the consumer encounters them on the switching journey. As we will see, many of these types are present in the broadband market.

Search costs

Before switching suppliers, a consumer has to identify the new supplier they hope will be better. This search carries its own costs – the time to identify alternative suppliers, to gather information about them, to compare that information and to reach a decision. Note that search costs have to be borne whether or not the consumer ultimately decides to change supplier.

Uncertainty costs

Uncertainty costs are those associated with the risk of moving to a new supplier without being sure they're better. Even after enduring search costs, it may be impossible to know if the alternative is *actually* better, particularly for 'experience goods' – those that can only be effectively judged by using them yourself. Faced with such risk, consumers may choose to stick with their current supplier even if they believe a better one is available. Enterprise software (an area where there are horror stories of unsuccessful transitions¹³) is a standard example of the impact of uncertainty costs.

Compatibility costs

In some cases an initial purchase decision of one type of product can effectively lock a consumer into the purchase of one particular type of another product. The classic example is razors and blades. Others are games consoles and games, or coffee machines and coffee pods.

Contractual costs

Suppliers may require or incentivise customers to commit to contracts with long terms or early termination charges, creating lock-in. Alternatively they can provide benefits for repeat purchases, such as airline frequent flier programmes.

¹² See for example: Thomas Burnham et al, "[Consumer switching costs: A typology, antecedents, and consequences](#)", *Journal of the Academy of Marketing Science*, Spring 2003; OFT, [Switching Costs – Economic Discussion Paper 5](#), April 2003; Aaron Edlin & Robert Harris, "[The Role of Switching Costs in Antitrust Analysis: A Comparison of Microsoft and Google](#)", *Yale Journal of Law and Technology* [Forthcoming], 7 February 2013

¹³ See for example: Thomas Wailgum, "[10 Famous ERP Disasters, Dustups and Disappointments](#)", CIO, 24 March 2009

Shopping costs

Shopping costs are the incremental costs of purchasing a given good from a provider different from that from which you are buying other goods. For example, if a consumer is using a given supermarket anyway, it is much simpler to buy (say) bread there as well, rather than making an extra trip to a baker.

Relationship loss costs

The consumer may feel an emotional commitment. This could be personal to, say, a regularly consulted doctor. Or it could be to a brand, particularly for a display good that is tied up with a consumer's self-image. Terminating such relationships carries an emotional cost.

Transaction costs

Having decided to make a switch, these are the costs directly associated with making the transition – the time to notify both new and old suppliers, assembling supporting information (for a credit check, say), informing third parties who may need to know (for instance, setting up new payment details with a bank) and so on. For online and electronic media services, there may also be the cost of moving files from one provider to another.

Learning costs

Both supplier and consumer may become more familiar with each other over time, improving the consumer experience and creating a disincentive to change. This can range from the trivial (your local café knows just how you like your eggs cooked) to the profound (an airline's pilots know how to fly Airbuses but not Boeing aircraft).

Very many of these switching barriers are present in broadband (see Figure 3 – note that not all of these will apply for every consumer). Such barriers are made even higher when broadband is purchased as part of a bundle, since (for example) impediments to changing pay TV supplier then also act to impede change of broadband provider.

Figure 3: Switching barriers for broadband

Barrier	Standalone broadband	Additional for bundled broadband
Search costs	<p>YES</p> <ul style="list-style-type: none"> Locally available suppliers must be identified Complex product information, with key details sometimes hard to find Diverse information formats Challenging to compare 	<p>YES</p> <ul style="list-style-type: none"> Issues at left apply even more strongly for more complex bundled products
Uncertainty costs	<p>YES</p> <ul style="list-style-type: none"> Individual line performance often unknown until after installation Performance metrics (eg packet loss) are obscure to consumers 	<p>YES</p> <ul style="list-style-type: none"> Features such as quality of PVR/DVR user interface are very difficult to assess without direct experience
Compatibility costs	<p>YES</p> <ul style="list-style-type: none"> Modem may be rendered obsolete if switching to a new type of provider 	<p>YES</p> <ul style="list-style-type: none"> If only one pay TV operator offers vital content (eg coverage of a certain football team), only bundled broadband from the same operator is commercially compatible Bundles including mobiles may be impacted by SIM-lock
Contractual costs	<p>YES</p> <ul style="list-style-type: none"> 12-24 month contracts and exit fees are very common 	<p>YES</p> <ul style="list-style-type: none"> Discounts for multi-product purchase make it financially unattractive to switch any one product
Shopping cost	NO	<p>YES</p> <ul style="list-style-type: none"> Bundles offer purchase simplicity
Relationship loss cost	NO	NO
Transaction costs	<p>YES</p> <ul style="list-style-type: none"> Ordering process Service interruption Overlapping contracts Being home for an install Disruptive install WiFi reconfiguration Troubleshooting Email address change 	<p>YES</p> <ul style="list-style-type: none"> More complex ordering More complex installation (eg satellite dish) Loss of stored programmes on incumbent PVR/DVR
Learning costs	NO	<p>YES</p> <ul style="list-style-type: none"> Requirement to learn new EPG¹⁴, PVR/DVR

¹⁴ Electronic Programme Guide – the on-screen pay TV interface

The above (traditional) switching barriers may be termed ‘explicit’ – they are barriers that are evident to a consumer, and play a conscious role in deterring switching. In section 5 we will discuss their relevance to the broadband market in detail.

However, we believe there are also ‘implicit’ barriers to switching that contribute to lock-in in markets such as broadband. These are factors that support inertia in a market, but which the consumer does not consciously consider. To take one example, it may simply not occur to a consumer to shop around for a better deal. In section 6 of this paper we will consider these implicit barriers, which we believe are particularly relevant in the hypothetical scenario of network degradation.

However, before turning to these switching barriers, we first consider the wider market context for broadband.

4. The market context

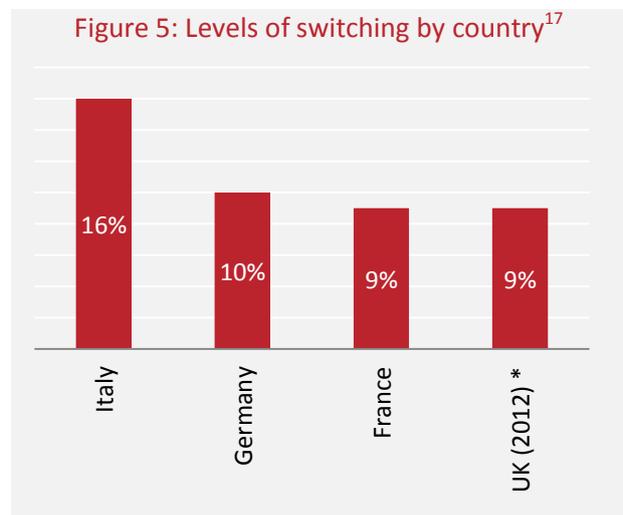
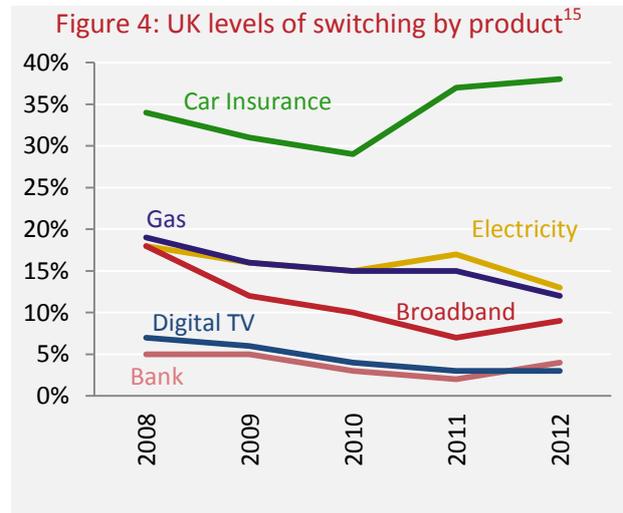
In this section we consider the market context for broadband, looking at churn, the rise of bundling, the changing purchase decision and market share movements.

Levels of switching

Levels of switching for broadband are low relative to other subscription services (Figure 4). For example, in the UK only digital TV and banking have lower rates. Moreover, broadband switching has been on a downward trend (albeit with an uptick in 2012), possibly due to increased bundling and/or improved speeds.

The levels of UK consumer reported churn in Figure 4 are broadly consistent with those reported by European operators. For example Telenet in Belgium reports broadband churn of 7.4% annually.¹⁶ The implication of such a churn rate is that the average broadband customer stays with Telenet for 13½ years.

Communications Chambers' own consumer research found churn rates that implied customers in France and Germany typically stay with their ISP ten years or more (with the figure for Italy being a little over six years).



¹⁵ Percentages are those who have switched supplier in the previous 12 months. Fig 116, Ofcom, *The Consumer Experience of 2012*, January 2013

¹⁶ Telenet, *Telenet Group Holding NV – Earnings Release First Quarter 2013*, 25 April 2013

¹⁷ Communications Chambers consumer research, June 2013 and (*) Ofcom, *The Consumer Experience of 2012*, January 2013

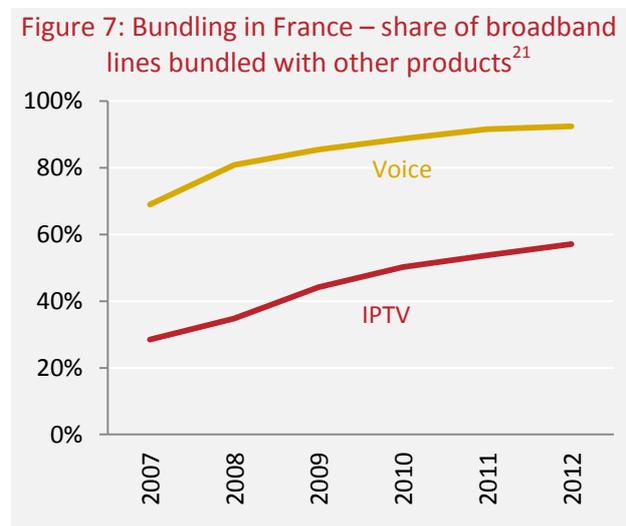
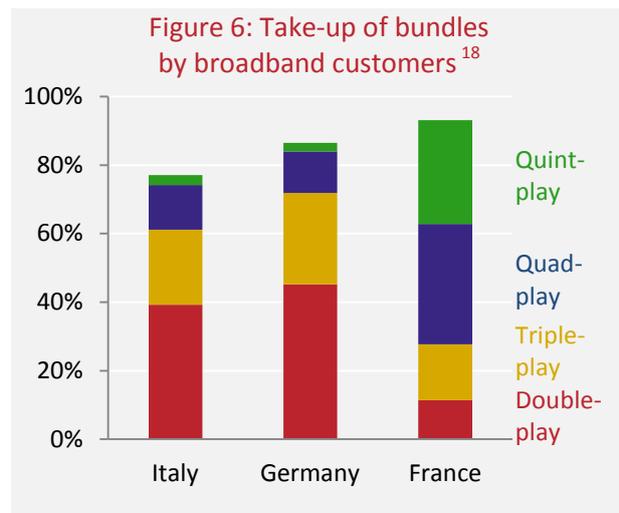
The rise of bundling

Bundling - combining multiple communications services from a single supplier – is attractive both to telcos and to consumers. For telcos it means the cost of the physical connection to the customer can be shared across more services. It increases ARPU (average revenue per user) and, as we will see, reduces churn. For consumers, bundling provides convenience and cost savings.

As a result, it is now widespread. A typical 'triple play' bundle might combine broadband, TV and telephony. Quad-play and quint-play bundles – adding mobile and VoIP – are currently relatively rare (except in France), but becoming more common. Ofcom consumer research conducted in October 2011¹⁹ showed that by that date approximately 80% of broadband customers in several major European markets were buying their broadband bundled with at least one other service. Our research shows that this has increased to 86% in France, Germany and Italy as of June 2013.²⁰

Bundling has been on an upward trend for several years. Cable operators were (in general) first movers, since they were able to add broadband to their existing networks at relatively low marginal cost. Indeed, cable broadband was often technically superior to the DSL broadband of telcos and other ISPs. As a consequence, those players have reacted by adding TV service to their offers in order to regain a more level competitive footing. (Telcos have of course offered fixed telephony for some time).

Taking France as an example (Figure 7), according to ARCEP²², 93% of broadband connections are now bundled with voice, and 57% with TV. Indeed Figure 7 somewhat



¹⁸ Communications Chambers consumer research, June 2013

¹⁹ Ofcom, *International Communications Market Report 2011*, December 2011

²⁰ Average for consumers in France, Germany and Italy

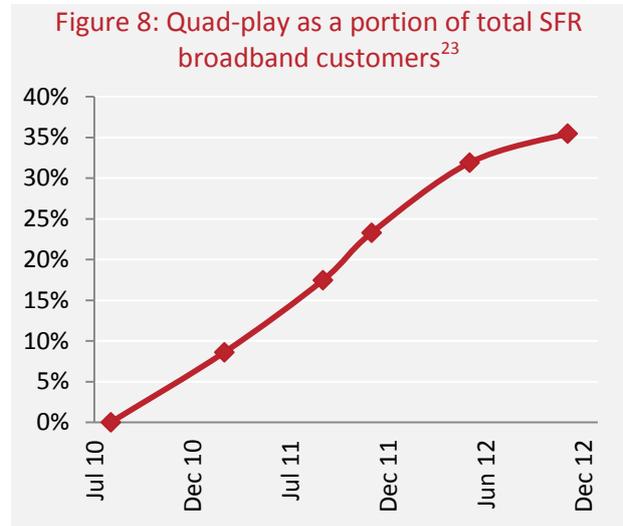
²¹ ARCEP, *Rapport public d'activité de l'ARCEP 2011*, June 2012 and ARCEP, *Observatoire des marchés des communications électroniques en France : 4ème trimestre 2012 - résultats définitifs*, April 2013. Equivalent figures for the Netherlands are available from OPTA, *Public Report Multiplay*, 11 June 2012

²² The French communications regulator

understates the case, since ARCEP's TV numbers are for TV-over-ADSL only and do not include TV bundled with fibre connections.

Some operators in France are now aggressively pushing quad-plays – adding mobile service to fixed telephony, TV and broadband. SFR launched such a product, branded 'Multi-Pack', in August 2010. By the end of 2012, it already represented 35% of SFR's customer base (Figure 8). Other operators pushing quad plays include Iliad (Free) and Orange in France. Our research confirms that these bundles are popular with French consumers – 65% take broadband alongside three or more other services (VoIP, landline telephony, mobile telephony and/or TV).

Similar quad-play offers are available from Virgin Media in the UK; Telefónica in Spain; and Portugal Telecom.



One reason for the rise of bundles is that operators increasingly make it difficult (or even impossible) to buy components on a standalone basis. For example, a consumer visiting the SFR website and selecting 'ADSL & Fibre' is presented with triple play offers. A standalone broadband offer is available, but it is 'below the fold' (at the bottom of the web page, with a scroll-down required to find it in a default browser view). It also occupies roughly one-eighth the screen 'real estate' of the triple play offers. As a consequence, it is extremely easy to miss even if you're looking for it.

Note that the transition by consumers to bundled offers is likely temporarily increasing churn levels. For instance, amongst those who have changed ISPs in the last twelve months in the UK, 38% had changed from a standalone broadband product to a bundle.²⁴ Once the consumer transition is complete, this trigger for churn will fall away.

A changing purchase decision

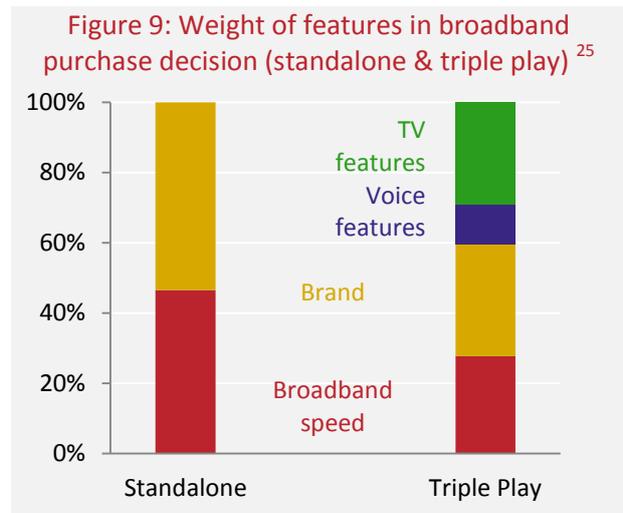
The rise of bundling is changing the nature of the broadband purchase decision. Firstly, broadband is increasingly only one of several services being considered in the same overall purchasing decision. Clearly, if broadband is bought standalone then its attributes provide the entire benefits of the product. However, if it is

²³ Vivendi and SFR financial reports

²⁴ Ofcom, *Ofcom Switching Tracker 2012 - 17th July to 20th August 2012*, 2012

bought as part of a bundle, then it is simply one part of a wider set of attributes, and its importance is diluted.

Conjoint analysis²⁶ allows an assessment of the relative weights of different product features. Figure 9 shows the results of one such study in the UK. The weights of brand and broadband speed are roughly equal, meaning that in a standalone purchase of broadband, they would each contribute equally to the purchase decision. However, in a triple play purchase decision, broadband speed only carries less than 30% weight, since it has been 'diluted' by the addition of the voice and TV aspects of the triple play.



Bundling also drives another important change in the broadband purchase decision. Broadband is relatively commoditised. While there are certainly differences in the details, a 10 Mbps service from provider A is quite similar to a 10 Mbps service from provider B.²⁷ If these two products are similar, then a relatively small move in the quality of one may tip a consumer from preferring A to B. (Actually changing supplier is another matter, not least because of switching barriers).

However, other aspects of a bundle may be much more distinct. For instance A may be able to offer mobile handsets that B cannot, or B may have certain TV channels, such as premium sports, that A does not. This suggests a quad-play consumer may have a stronger preference between A and B than the standalone consumer (since, perhaps, they definitely want the sports channels). If the preference is stronger, then a small move in the quality of one attribute, such as broadband, is not going to tip the consumer's preference one way or the other.

Note that this is not a switching cost – making the transition might be very easy, if the consumer's preference had in fact changed – but it is a force for inertia as the market moves towards bundles. Moreover,

²⁵ Adapted from Ipsos Media CT, *Winning and losing in the Multi-play market using Conjoint and Construct*, August 2008. Attribute weight based on the utility delta between the most and least attractive offers for each attribute.

²⁶ Conjoint analysis is based on market research that asks consumers to trade off between sets of hypothetical products with different product attributes. The analysis allows calculation of the utilities of different levels of the different attributes (for instance, different broadband speeds or number of Pay TV channels)

²⁷ There are certainly important exceptions – an 'up to' 10 Mbps service on ADSL may not actually deliver that speed, whereas a 10 Mbps service on FTTH almost certainly will

consumers do in fact report that switching between bundles is more difficult than switching broadband alone. Our own research found that switching costs for those with bundles were almost twice those for consumers with standalone broadband.²⁸

Stabilising market share

Perhaps as a result of the above trends, the European broadband market is increasingly stable in terms of market share – that is, the rate of movement of customers between broadband providers appears to be slowing. Declining churn is likely one factor behind this.

Figure 10 shows the average across the EU27 of the absolute movement of incumbent market share of the broadband market. ‘Absolute’ is used here to capture the fluidity of the market. Thus if one incumbent had a market share *gain* of 1%, and another one had a *loss* of 1%, the average absolute movement would be 1%, not 0% (the result if a simple average had been used). As can be seen, incumbent market shares have become increasingly stable. In 2006 the average incumbent was seeing a market share movement of just under 5% per year. By 2011 this had dropped to 2% per year.

Figure 10: EU27 average of absolute movements in incumbent broadband market share²⁹



Note that the use of absolute movements here potentially exaggerates the level of switching over time. An incumbent that lost 3% share one year, and won it back the next would pull up the average absolute movement in both years, but over the medium term would have stable share.

While increasingly stable market shares are not in themselves proof of increasing switching barriers, they are suggestive of their impact, and in particular when coupled with evidence that those barriers are substantial and increasing. We now turn to the specific types of barriers relevant to broadband.

²⁸ See page 37 for a more detailed discussion

²⁹ Communications Chambers analysis of European Union *Digital Agenda Scoreboard key indicators*. Note that there are some minor data gaps, with datapoints missing for a small number of countries for a small number of years. Averages have been taken across available data

5. Explicit switching barriers present in fixed broadband

In this chapter we consider each of the switching barriers set out in Section 3, assessing how (if at all) they manifest themselves in the context of broadband. We also look at whether bundles add additional weight to these respective switching barriers.

Search costs

Search costs are the consumer's necessary investment in time and energy in identifying an alternative ISP that they believe may be better than their current supplier. This is a challenging and time-consuming decision for consumers, and one on which they feel they need extensive guidance. Our research found that the average switcher had sought information from 2.9 different sources, with 66% consulting friends and family (which was the single most influential source for 24%).

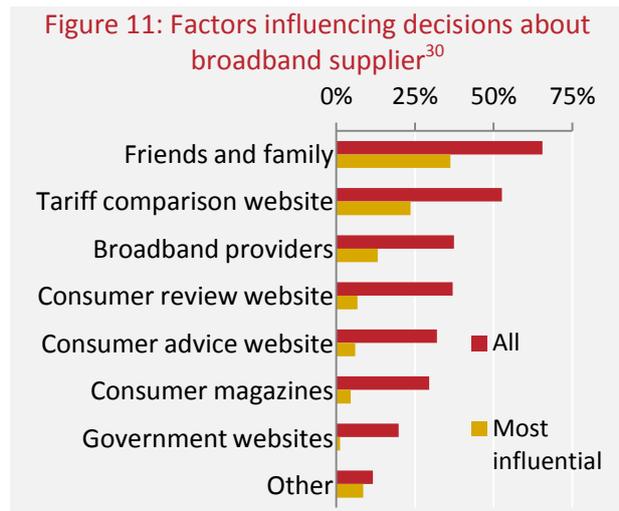
Some of the specific issues that raise search costs for broadband consumers are:

- Some important features of plans may have little meaning for consumers
- It may be hard (or impossible) to gather relevant information about plans
- The consumer may lack input data (such as their current level of usage) necessary to assess the costs and benefits of different plans
- Plans may be so multifaceted that comparing them is difficult

We discuss these issues below.

Lack of technical knowledge

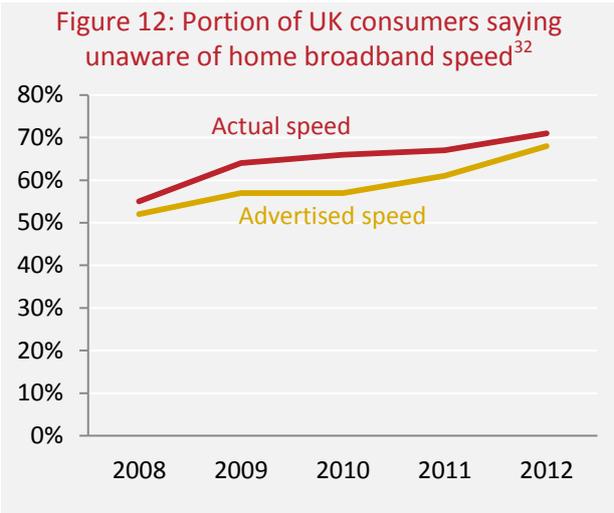
An overarching issue for broadband search costs is that, for many consumers, the choice of ISP is a mysterious, jargon-laden decision. This likely increases the time involved, the frustration, and the uncertainty.



³⁰ Communications Chambers consumer research, June 2013. Average data is shown for three EU markets: France, Germany and Italy. "Which if any of the following did you consult when making your decision? Please select all that apply in the first column, and the one that most influenced your choice in the second."

There is ample evidence that consumers are (generally) not well equipped to understand the technical aspects of choice of broadband provider. Most are not even aware of the most basic metric of their broadband, its advertised speed. Across the EU27, 58% said they did not know and a further 6% gave an implausible answer. In several markets unawareness is significantly higher – in Italy 85% were unaware or wrong.³¹ (Our own more recent research had very similar results, with 54% unaware and 6% giving implausible answers).

Moreover in the UK (and likely elsewhere) the portion unaware is increasing - see Figure 12. This is possibly because late adopters of broadband are less sophisticated than the previous early adopters, because speeds have changed since the consumer first signed up to the broadband service, or perhaps because as broadband speeds have risen over time to be 'good enough' consumers have stopped worrying about them. Any of these explanations would suggest that a moderate erosion in broadband performance would be unlikely to prompt substantial switching.



Of course, even advertised speed is only a proxy for what actually matters, the real-world performance of a consumer’s own connection, which can vary materially (and unpredictably) from the advertised speed. In this context it is worth noting that the measurement of actual speed is an area that causes controversy even amongst experts. For instance, Akamai, M-Lab, Ofcom and Ookla report the UK’s actual average broadband speed as 6.5, 7.0, 12.0 and 18.1 Mbps respectively.³³ While these figures are measured differently and are for different purposes, the sheer range underlines the challenges.

Further evidence of consumer mystification (or disinterest) in the details of broadband products comes from their lack of understanding of technical terms. A survey by Consumer Focus in the UK found that 44% of broadband users had never heard the term 'traffic management' and a further 18% had heard it but didn't know what it meant. Only 11% even claimed to know exactly what it

³¹ European Commission, *E-Communications Household Survey*, June 2012
³² Fig 34, Ofcom, *The Consumer Experience of 2012*, January 2013
³³ Akamai, *State of the Internet – Fourth Quarter 2012* April 2013, (figures for December 2012); M-Lab (figures for December 2012), Ofcom, *UK fixed-line broadband performance, November 2012*, March 2013; Ookla (figures for November 2012)

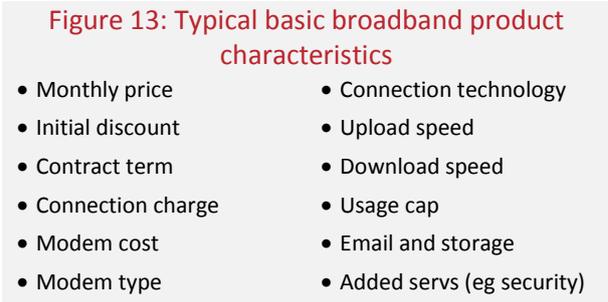
meant.³⁴ The same research found that consumers had little understanding of terms such as ‘data caps’, ‘fair usage policy’, ‘peer-to-peer’ and ‘VoIP’.

This lack of technical knowledge increases switching barriers in several ways:

- It *increases the frustration and emotional cost of exploring options*, since the experience may be laden with technical jargon that may leave them bemused and (potentially) feeling technically ignorant
- It *makes it harder for consumers to assess offers*, decreasing their confidence that an alternative supplier is better (and therefore reducing the probability that they will actually go to the trouble of making a switch)
- It *leads them to put undue weight on the measures they do understand* (such as price – discussed further below), and to give too little attention to issues such as network quality, which realistically can only be articulated via a complex set of technical metrics

Complex choice

Even for consumers with solid technical knowledge, the choice of a broadband provider is a complex one, and the choice of a bundle provider even more so. Even if the presented product characteristics are taken at face value - and some, such as ‘up to’ speeds, should not be - the set of characteristics is so large (Figure 13) that comparing two products is difficult.



In a study for Ofcom, London Economics performed controlled experiments on consumers’ ability to choose the correct broadband package for their needs.³⁵ The purpose was to determine what format of information was most helpful to consumers in making their choice, and for this reason for any given test consumers were presented with information that was formatted identically for all the different hypothetical operators. As London Economics acknowledge, this was artificially helpful for the consumers, who in reality would face information in widely divergent format from different ISPs.

³⁴ Marzena Kisielowska-Lipman, *Lost on the broadband super highway*, Consumer Focus, November 2012

³⁵ London Economics, Steffen Huck & Brian Wallace, *Consumer information on Broadband Speed and Net Neutrality Experiment*, May 2011

Despite this ‘artificial’ assistance, London Economics found that:

“subjects chose the incorrect package for their usage profile in a large proportion of cases, irrespective of the type of and how the information is provided to them”.

Even with the *best* format for the information, subjects only managed to make the optimal choice for them 50.7% of the time.

The London Economics study also found that

“Consumers display a tendency to buy the more expensive package regardless of whether they actually need it or not. ... This type of consumer choice bias may significantly reduce providers’ incentives to compete vigorously.”

London Economics hypothesise that the reason for this is that consumers “take price as an indicator of quality”, and this is consistent with the idea that consumers do not have other effective ways to judge the quality of the options presented to them.

The challenges of comparison are even greater for bundles. In the EU27, only 48% of consumers agreed “You can easily compare the terms of services and tariffs included in bundled offers” (and that included 32% who only ‘tended’ to agree with this statement).³⁶ UK research found that 46% of respondents were put off signing up to a new bundle provider because they couldn’t work out the best supplier.³⁷

Academic research confirms the point. Burnham et al. write:

“Firms seeking to increase their customers’ switching costs should also consider bundling products and services ... our results suggest that bundling may increase customer retainability by increasing the breadth of product use and perceptions of offering complexity [a barrier to switching].”³⁸

Given this, the inexorable rise of bundles will increase switching barriers and reduce churn. (This is certainly operators’ view, as we discuss below).³⁹

³⁶ European Commission, *E-Communications Household Survey*, June 2012

³⁷ Post Office, “[Deal or no deal: TV, Broadband and Home Phone ‘deals’ leave consumers confused](#)” [Press Release], 20 February 2013

³⁸ Thomas A. Burnham, Judy K. Frels & Vijay Mahajan, “[Consumer switching costs: A typology, antecedents, and consequences](#)”, *Journal of the Academy of Marketing Science*, Spring 2003

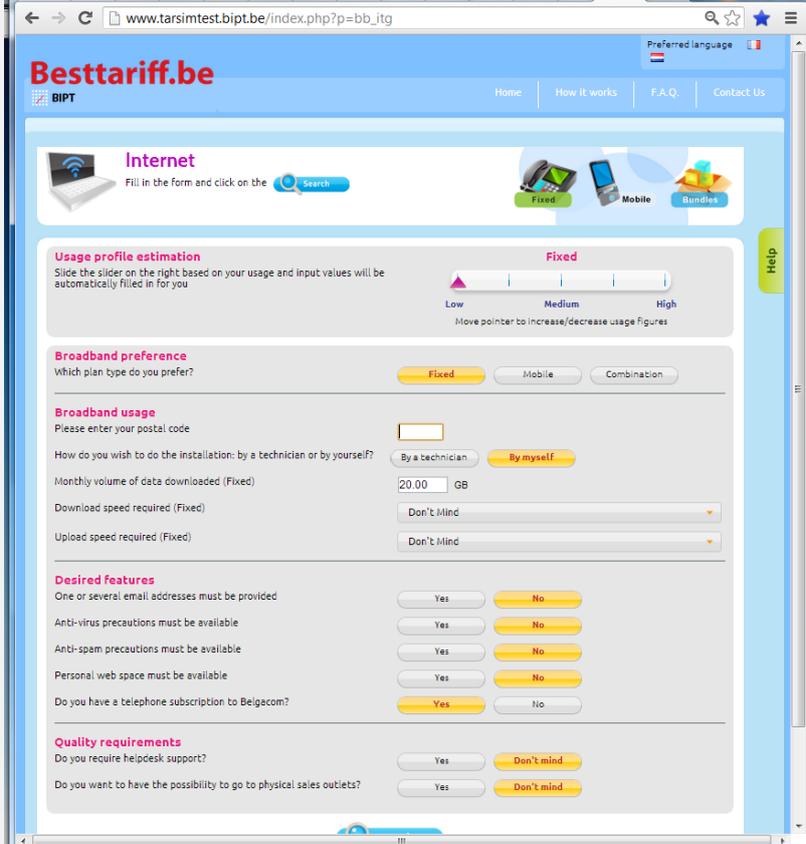
³⁹ See page 34

Broadband comparison sites

Regulatory authorities and consumer groups are well aware of the challenges consumers face in making ISP purchase decisions. One way they have responded is to develop tariff comparison sites.

For example, the Belgian regulator BIPT operates a site besttariff.be that seeks to help consumers choose between ISPs. It is admirably easy to use (see Figure 14), but nonetheless it demonstrates some of the challenges.

Figure 14: Besttariff input screen⁴⁰



The screenshot shows the Besttariff input screen. At the top, there is a navigation bar with the BIPT logo and links for Home, How it works, F.A.Q., and Contact Us. Below this is a search bar and a 'Preferred language' dropdown. The main content area is titled 'Internet' and includes a search button. The 'Usage profile estimation' section features a slider for usage levels (Low, Medium, High) and a 'Fixed' label. The 'Broadband preference' section asks for the preferred plan type (Fixed, Mobile, Combination). The 'Broadband usage' section includes fields for postal code, installation preference (By a technician or By myself), and monthly data volume (20.00 GB). The 'Desired features' section lists several options with 'Yes' and 'No' buttons. The 'Quality requirements' section includes options for helpdesk support and physical sales outlets.

In order to meaningfully compare tariffs, the consumer must provide monthly data volumes, a measure that is likely unknown to many. Indeed, the very idea of a GB is likely obscure to many. (The consumer alternatively can simply guess whether they are a high, medium or low user, but inevitably this makes the results less accurate).

The Bestariff results screen also provides relatively rich data. As well as basics such as price, upload and download speed and technology, other issues such as payment methods and customer service hours are covered.

⁴⁰ Bestariff.com

However, a wealth of technical detail is not included. There is no data on contention ratios, percentage of advertised speed received, typical packet loss and latency, traffic management policies and so on.

This is not to criticise the BIPT – were such information to be included (even if it were available) it would likely be mysterious and overwhelming to the vast majority of visitors to Bestariff.com. However, the absence of such information even on sophisticated and effective sites like Bestariff.com highlight how difficult it will be for consumers to meaningfully ‘police’ such issues.

Conclusions regarding search costs

Markets can only operate efficiently if consumers have good information available to them, if that information is comprehensible, and is not so complex as to be overwhelming.

In many markets, the internet has enabled consumers to be far better informed (and powerful), not least by communicating with each other. Tripadvisor, for instance, provides much richer information on hotels than was ever available offline.

However, the broadband purchase decision remains an exception. As we have seen, the decision is a complex one requiring technical knowledge consumers generally lack. Moreover, because it is so infrequent, there is less consumer learning and fewer active decision makers to sustain consumer-to-consumer sites. Compare a ‘once every ten years’ broadband decision to a ‘once every six months’ (say) hotel purchase decision.

Thus broadband markets may or may not be operating efficiently. Doubts regarding market efficiency are doubly significant if the context is the market’s reaction to a degradation of performance for certain content or applications. As we have seen, consumers (and even advisory sites) are poorly equipped to compare ISPs in such a context.

Uncertainty cost

Uncertainty cost is the switching barrier created by a consumer being unsure that an alternate supplier is better. It is significant for broadband because, firstly, it is not possible for a consumer to easily sample an alternative supplier (unlike, say, a new variety of chocolate) and, secondly, because broadband is an experience good – one where it is hard to ascertain quality *without* sampling the product.

Broadband is an experience good because the actual performance of a given line may vary materially from the advertised rate. This issue is discussed in more detail below, but in Germany for instance one third of lines provide less than half their advertised speed.⁴¹

In theory this issue can be mitigated by providing line-specific estimates of speed. However, these remain only estimates, and in practice they are often not in fact provided. Even in the UK, where the provision of such an estimate is a requirement of the industry code of practice⁴², only 59% of consumers in an Ofcom mystery shopping test were in fact provided with a speed estimate by ISP customer service agents.⁴³

Bundled offers have additional features that are hard to assess without experiencing them. The benefit of a particular DVR interface is a prime example – Tivo is often cited as something that is hard to appreciate until you’ve experienced it.

Compatibility costs

A consumer switching between DSL, Fibre or Cable will make their previous modem obsolete. This compatibility problem is however often offset by the new provider offering a free compatible modem.

More complex compatibility issues arise in the context of bundles. For instance, if a consumer has a strong interest in particular TV content (for instance, certain sports channels), and that content is only available through one pay-TV provider, then effectively the only broadband effectively ‘compatible’ with that TV content is the broadband provided by that TV provider.

Similar issues arise with mobile phones. If the consumer has a SIM-locked phone (or perceives that he has), this may discourage him from switching a bundle that includes both broadband and mobile services, since the new provider’s service would be incompatible with his handset.

⁴¹ See page 29

⁴² Ofcom, *2010 Voluntary Code Of Practice: Broadband Speeds*, 27 July 2010

⁴³ GfK, *Ofcom Broadband Speeds Voluntary Code of Practice Mystery Shopping Results*, 15 May 2012

Contractual costs

Term contracts

A frequent switching barrier for consumers is that they may be locked into a contract with an existing supplier. Some customers may simply put switching out of their mind until the end of a contract. They may also not be aware of when their contract ends, perhaps leading them to think they are locked in when in fact they are not – in the UK, 51% are unsure how long their current contract lasts.⁴⁵

Amongst French, German and Italian consumers that have considered churning from their ISP but are unlikely to do so in the next 12 months, 25% cited 'I'm tied into a contract' as a reason for having not yet made the switch⁴⁶.

Contracts are likely particularly powerful barriers to switching for transient issues. A temporary quality problem (such as that caused by an ISP congesting a transit link) might be long forgotten by the time the customer emerges from a contract and is in a position to consider switching.

It is notable that contract lengths are often long – for example, 40% of German interviewees in our consumer research were 'locked in' to a 24 month contract. (This is the maximum length allowed under the EU Universal Service Directive).⁴⁷



⁴⁴ Operator websites. Note that earlier exit may be possible by paying termination fees

⁴⁵ Post Office, "[Deal or no deal: TV, Broadband and Home Phone 'deals' leave consumers confused](#)" [Press Release], 20 February 2013

⁴⁶ Communications Chambers consumer research, June 2013. "In the time since you joined your current broadband provider have you considered changing your broadband provider?". And then: "How likely or unlikely are you to change your broadband provider in the next 12 months?" And then: "Why do you consider yourself unlikely to change from your current broadband provider?"

⁴⁷ European Commission, "[Universal Service Directive \(as amended\)](#)", 19 December 2009

Operators' concerns about the lock-in created by *other* ISP's contracts are evident in some of the special offers available to potential customers currently under contract. Orange, for instance, offers new subscribers reimbursement of up to €100 for the termination fees or remaining months of an existing contract. (A further €100 is available as a bonus for new fixed customers who are already Orange mobile customers, underlying the perceived importance of bundling). Of course, Orange's ability to make this offer is partially dependent on the consumer taking an active interest in switching - notwithstanding still being under contract - since otherwise he is unlikely to visit the website.

Figure 16: Orange exit cost reimbursement⁴⁸



"Already committed elsewhere? Up to €200 reimbursed for on-line purchase of Livebox Zen or Play services. Offer subject to conditions."

Discounts for multi-product purchase

One of the reasons bundles are popular with consumers is that they bring discounts. Of EU27 consumers taking bundles, 52% say they are cheaper than paying separately for each service,⁴⁹ and generally they are. In the UK for example, taking basic broadband, TV and telephony from Virgin Media together costs £40.99 per month. The sum of the costs of the individual components costs £56.49.⁵⁰ Across the OECD, DotEcon found a 27% saving from taking a triple-play rather than buying the three components separately.⁵¹

This has significant consequences for the price consequences of switching broadband supplier. Take for example Sky in the UK. It offers unlimited broadband to its customers already taking TV and telephony for just £7.50.⁵² (It offers basic broadband for free). Replacing this broadband with broadband from another supplier is much more expensive.

⁴⁸ "choisissez votre offer", [Orange website](#) [accessed 6 May 2013]

⁴⁹ European Commission, *E-Communications Household Survey*, June 2012

⁵⁰ [Build your own bundle](#), Virgin Media website [accessed 6 May 2013]

⁵¹ DotEcon, *Competition and regulation in a converged broadband world*, September 2012

⁵² [Sky Broadband Lite](#), Sky website [accessed 6 May 2013]

In practice it is difficult to buy standalone broadband in the UK – Virgin Media are one of the few providers with such an offer. But their standalone basic broadband costs £22.50 per month, compared to the incremental cost of £7.50 with Sky.⁵³ Thus the consumer would be paying at least an extra £15 per month to receive broadly the same set of services.

Alternatively the consumer could drop both broadband and telephony, saving £22. But replacing these from Virgin would cost £29.49, again representing a substantial additional cost.

In other words, a consumer would need to be *very* discontent with their Sky broadband to consider switching it to Virgin (and similar mathematics applies for consumers buying bundles in other countries). Of course, consumers have the option to switch the entire bundle, but this is inherently a more complex transaction with its own set of additional switching barriers.

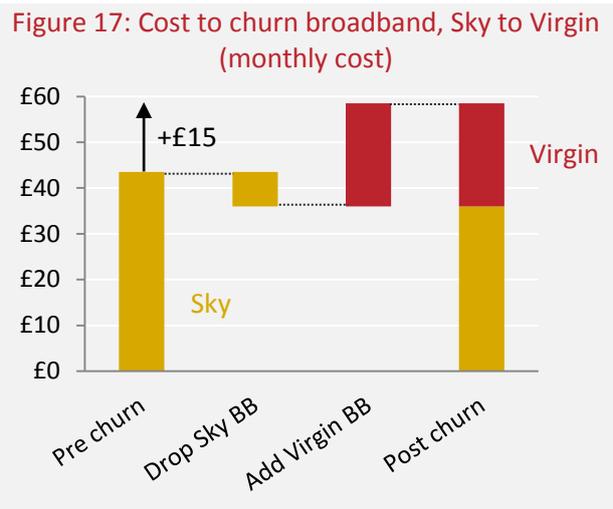
Shopping costs

Shopping costs are the (non-cash) incremental costs of buying a certain product from a different supplier than that from which you are buying other products. These are highly relevant to broadband when it is bought as a component of a bundle. As we have just seen, there is a material cash cost to breaking broadband out of a bundle, but there are also ‘soft’ costs.

For instance, for a consumer moving house, it is far easier to make a single call to one supplier to arrange installation of all the services in a triple play bundle, and to stay home for a single engineer’s visit, rather than making calls to multiple vendors.

There are also ongoing benefits. Of those buying bundles in the EU27, 68% state that “It is more convenient because there is only one invoice”.⁵⁴ (Strikingly, this was higher than the 52% who said that their bundle was cheaper than buying the components separately).

There are also ongoing advantages for fault management. A customer buying all services from a single supplier has ‘one neck to wring’ when there’s a problem. If services are disaggregated, then



⁵³ [Build your own bundle](#), Virgin Media website [accessed 6 May 2013]

⁵⁴ European Commission, [E-Communications Household Survey](#), June 2012

the different suppliers can blame each other for problems. For instance, a poorly functioning IPTV service might be blamed by the supplier on a third party underlying broadband connection.

Transaction costs

Even once a consumer has determined which supplier they wish to move to, and is out-of-contract so they can do so, they face a wide range of transaction costs – investments of time, effort and money – in order to make the switch to the new provider. These include:

Placing the order and beginning the contract with the new supplier

The customer needs to provide all relevant details to the new supplier, return copies of any necessary hard copies of forms, set up new bank payments and so on. Depending on the local procedures, she may also need to provide codes from the previous supplier to support a smooth transition.

Exiting the existing supplier

In many cases the consumer will need to notify their existing supplier. At minimum this will involve a validation process to ensure they are indeed the account holder. It may also involve submission of paper forms (Telecom Italia requires a registered letter).⁵⁵ The customer will also need to ‘survive’ a likely attempt to save the business.⁵⁶ They may also need to secure switching codes⁵⁷ (and perhaps need to be educated on the requirement for them). They may need to pay an exit charge - using Telecom Italia as an example again, they require €34.90 “for the costs incurred in decommissioning”.⁵⁸

According to our research, 28% of consumers believe they would be subject to a termination fee, with an average value (amongst those who know) of €58. However, it is important to note that two thirds of consumers who believe they are subject to a termination fee are unaware of its size – an uncertainty that may discourage switching.

Finally, consumers may well need to return equipment to their existing supplier, such as set top boxes or modems. This will likely require printing of mailing labels, gathering of the relevant components (box, cables, remotes), packaging up and a visit to the post office or a drop-off point.

⁵⁵ Telecom Italia, *Condizioni Generali di Contratto ADSL*, 1 April 2013

⁵⁶ Such attempts to save customers planning to leave are of course perfectly legitimate, but in practice they are a switching barrier

⁵⁷ For example, the *Migration Authorisation Code* in the UK

⁵⁸ Telecom Italia, *ibid*

Managing the switchover

The technical transition from one supplier to another may in some cases be seamless, but in practice the customer may face one of two costs – either a gap in service between the end of one contract and the beginning of the other, or the need to ensure no such gap by paying two suppliers for a period of overlapping service. Neither of these is particularly uncommon. Of those switching broadband suppliers in the UK, 27% had experienced an unwanted gap in service. A further 14% had experienced double-billing, as they paid broadband suppliers for overlapping service.⁵⁹

Dealing with installation

In many cases the customer may need to stay home for a visit by an engineer, particularly if they are switching to cable or FTTH. This may involve time off work, and certainly involves at least some inconvenience. In our research 23% of respondents considered it to be very inconvenient, assigning one of the top two scores on a scale of 1-9 (where 9 is 'Very difficult / inconvenient').⁶⁰ A new cable or fibre install may also require disturbing a front garden, drilling a new point of entry, laying new internal cabling and so on. (For rented accommodation this may require securing a landlord's permission).

Installing ADSL may not require an engineer's visit, but it too requires time on the part of the consumer, since they will have to set up the new modem. (Regardless of connection type, if the consumer is not in when the new modem is delivered, a trip to the post office to collect it may be necessary).

It also the case that the network installation may not be 'right first time'. Errors in installation can lead to outages for the customer, and perhaps a second truck-roll to the customer's premise (requiring them to stay home once again). This is far from rare – according to ARCEP, approximately 14% of ADSL installations in France have a complete failure in the first 30 days after a service installation.⁶¹ (For fibre and coax, the figure is roughly 4%). In the UK 17% of broadband switchers had problems getting the new service up and running.⁶²

Re-establishing the in-home network

Once the broadband connection is in place, the consumer then needs to re-establish their own in-home network. For instance, if that network is dependent on wifi associated with the broadband modem,

⁵⁹ Ofcom, *Strategic Review of Consumer Switching – Consultation*, September 2010

⁶⁰ Communications Chambers consumer research, June 2013

⁶¹ ARCEP, *Indicateurs de qualité de service fixe*, March 2013

⁶² Ofcom, *Ofcom Switching Tracker 2012 - 17th July to 20th August 2012*, 2012

then all the wireless devices in the house (laptops, smartphones, set top boxes, printers and so on) will need to be reconfigured.

Perceived loss of phone number

Switching a broadband bundle including voice need not involve a loss of fixed or mobile phone numbers. Number portability has been mandated since 2009. However, at least some consumers are unaware of this. Our consumer research found that 9% and 7% believed they would lose their fixed and mobile numbers respectively if they changed their broadband supplier. (A further 31% and 18% respectively were unsure). While inaccurate, this perception is obviously a disincentive to switching.

Clearly in combination the factors above add up to substantial transaction costs for those switching suppliers, and create serious lock-in. The problems are substantial enough that they receive regular attention from consumer magazines. See for instance the German magazine *Computer Bild*'s description of one user's experience (Figure 18).

Figure 18: Sample *Computer Bild* story on a user's switching experience⁶³

"A customer with the username Joklaus reports that, at the beginning of his DSL 16.000 service, he was very satisfied. The speed tests confirmed that he had nearly this speed – until the point when his speed dropped to 700Kbps. Several calls to the Hotline and a visit by a technician didn't improve things. 'Everyone else was apparently to blame, except the provider 1&1', writes Joklaus. He then wanted to switch to a cheaper DSL 6.000 Tariff. However, he was informed by the Hotline that this was not possible: he ought to instead to subscribe to an even faster connection. The customer however saw no point in this since there was an existing problem with the line.

A switch to a cheaper tariff at the end of the contract period was also denied. According to 1&1, he had to cancel his contract and then take out a new one. But, in the meantime, his line could be suspended for up to 3 months. Annoyed, Joklaus began the cancellation procedure. According to him, he logged on with his contract data. A cancellation number appeared, which he then needed to telephone in. Only then would a Hotline rep give him the actual form he needed to send in by registered post [to terminate his contract]."

Learning costs

Broadband itself is a relatively 'low touch' product, once it is provisioned. The many services that ride over broadband may require a learning curve, but broadband itself does not – it sits in the background.

⁶³ "Erfahrungsberichte von DSL-Kunden", *Computer Bild*, 25 July 2012 [Communications Chambers translation]

However, the ever increasing range of services associated with broadband offers certainly do require an investment of learning time and effort by the consumer. We can also consider in this category the various ‘tailoring’ costs that there may be for certain services. Learning and tailoring costs include:

- Learning how to use and setting up ISP-associated:
 - Email (and distributing the new email address to contacts)
 - Cloud storage
 - Parental controls
 - Anti-virus and firewall software
- Learning a new TV interface and DVR functionality for TV bundles
- Learning how to use and building play-lists in associated music services

These learning costs represent a final disincentive to switching.

Conclusion

As we have seen, virtually all forms of switching barriers are present in broadband, and even more so when bundles are considered. Moreover, since bundles are becoming both more common and more multifaceted, this almost certainly means that the lock-in faced by the average broadband consumer is rising. This would certainly be consistent with the falling levels of switching and increasing market stability we saw in Section 4.

6. Implicit switching barriers in fixed broadband

'Traditional', explicit switching barriers only come in to play once a consumer begins a purchase-decision making process. However, for broadband there are also powerful implicit switching barriers – that is, reasons why that decision making process never starts.

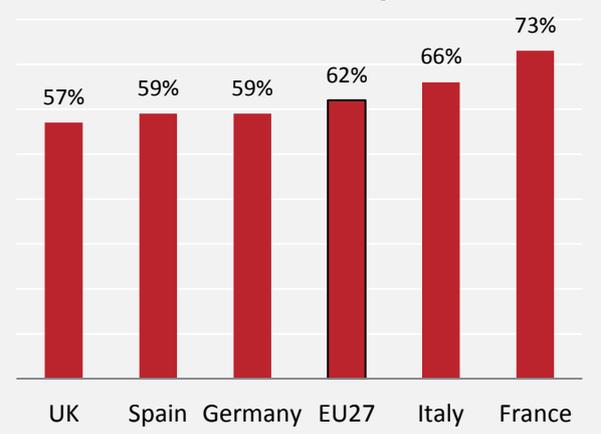
For FMCGs⁶⁴ (such as toiletries or soft drinks), a consumer must repeatedly select brand A over brand B on the supermarket shelf. Even if habit may play a role, the consumer has to take active steps to continue consumption. Even for subscription goods such as insurance, an expiration date arrives, when the consumer needs to take active steps to renew.

By contrast, a broadband subscription will continue in perpetuity, unless a consumer takes pro-active steps to make a change, which in turn depends on the consumer developing an active interest in broadband switching. The evidence is that such active interest a relatively rare event, and this is a powerful implicit barrier to switching.

Across the EU27, 62% of consumers have *never considered* switching ISPs. In France, the figure is 73%. These are perhaps surprising figures, particularly in a market as dynamic as broadband, which has seen material changes in both quality (particularly speed) and price in the years since it was launched.

This substantial group of disinterested consumers speaks powerfully to the inertia in the market – if the previous dynamic changes in the market have not prompted them even to consider a change of ISPs, it seems unlikely that a degradation of performance (likely temporary and limited to certain sites) would lead to sudden churn in this group.

Figure 19: Consumers who have never considered switching ISPs⁶⁵



⁶⁴ Fast moving consumer goods

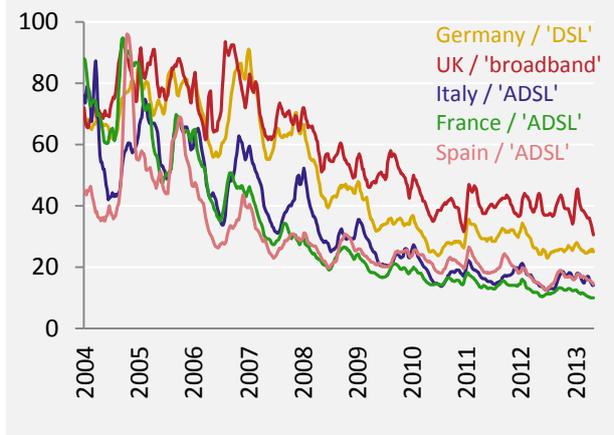
⁶⁵ European Commission, *E-Communications Household Survey*, June 2012

Evidence that consumer interest in the purchase of broadband - as opposed to using it - may be waning comes from Google Trends (search term volume data).

Across major European markets, search volumes for the local leading terms for broadband are falling, and have been so for several years. They are now down 70-90% from their peaks in the middle of the last decade, in each of the EU5. This is at least suggestive that consumer interest in broadband purchase decision making is not that great. (Note that while the most popular local terms are in some cases varieties of DSL, search volumes for fibre related terms are still very low).

The above suggests that sheer inertia is a powerful force creating effective lock-in in the market, quite apart from the explicit switching barriers.

Figure 20: Broadband synonym search volumes (peak = 100 for each)⁶⁶



⁶⁶ [Google Trends](#). Four-week rolling average. Note that 'internet' is a more popular term in some markets, but has been excluded on the basis that it has a wider set of meanings

7. Operator behaviour evidencing switching barriers

As we have seen in the previous two chapters, there is ample direct evidence that switching barriers are significant in broadband. However, there is further ‘indirect’ evidence of switching barriers, drawn from broadband suppliers’ behaviour. This behaviour strongly suggests that these players have a firm belief in those switching barriers. (Clearly, if they believe switching barriers are high, then the theoretical prospect of customer migration in response to a decline in quality is unlikely to be much of a deterrent).

In this section, we discuss three forms behaviour demonstrating operators’ belief in high and increasing switching barriers: bargain then rip-off pricing; price premia for the largest players; and operators’ own statements.

‘Bargain then rip-off pricing’

While not unique to markets with switching barriers, a frequent feature of such markets is ‘bargain then rip-off’ pricing.⁶⁷ In this model, a generous initial offer is used to attract customers who, because of the switching barriers, are unlikely to leave later. At some later date, pricing is increased to a more profitable level. (Note that such ‘inter-temporal’ pricing is not itself evidence of a problem, as long as the average price over the contract is a fair one).

Exactly this form of pricing is extremely common for broadband, present in most markets and for most ISPs. Frequently any upfront costs (such as connection charges or modem costs) are waived, and monthly fees may be reduced or eliminated entirely for several months. Current pricing in Italy is typical (Figure 21) – all the leading ISPs offer substantial discounts (up to 100%), for periods of up to six months. Indeed, only one product doesn’t have an introductory offer.

As noted, such pricing doesn’t prove substantial switching barriers, but it is hard to know why (for instance) Telecom Italia would be offering its Alice 7 Mega product



⁶⁷ For a more detailed discussion of this phenomenon, see (for example): OFT, *Switching Costs – Economic Discussion Paper 5*, April 2003

⁶⁸ Operator websites, May 2013

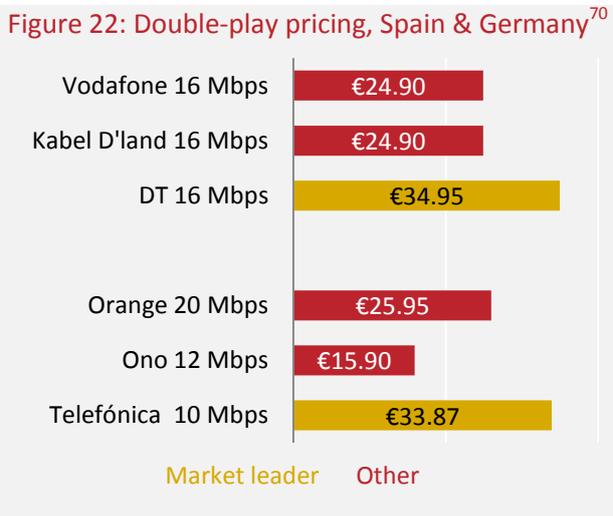
for free for five months and give free activation unless they were confident of retaining the customer’s business for an extended period thereafter. What is particularly striking is that the Alice 7 Mega product does not come with a *contractual* lock-in. The customer may terminate at any time, subject to a €34.90 fee.⁶⁹ Thus Telecom Italia is presumably relying primarily on the ‘soft’ switching barriers to ensure that they make a return on that initial investment of five months free service.

Findings from the consumer research show that this is a widespread tactic. We found that 54% of consumers within the first six months of their contract had discounted monthly bills. The average discounted fee was €26 (compared to an undiscounted average of €36) and was in place for an average of 11 months.

Market leaders charge higher prices

In markets with switching barriers, small players need to offer aggressive pricing to persuade customers currently with large players to overcome those barriers and change to a new supplier. Conversely, a large player has more to gain from ‘harvesting’ existing customers and less to gain from seeking new customers (since for that player the ratio of existing to potential customers is much higher than for the new entrant). A consequence of this is that in markets with switching barriers we would expect to see the largest player charging a price premium over other players.

That is exactly what we observe in broadband. Generally speaking, the largest player in any national market is the incumbent telco. For example, in Spain and Germany, Telefónica and Deutsche Telekom have the largest shares of their national markets (49% and 45% respectively).⁷¹ As Figure 22 shows, these companies are charging appreciable premiums compared to their rivals.



⁶⁹ Telecom Italia, *Condizioni Generali di Contratto ADSL*, 1 April 2013
⁷⁰ Google Broadband Pricing database (based on operator websites). All offers include landlines
⁷¹ Figures are for end-2012. *Líneas de banda ancha por tecnología y por operador (IV 2012)*, CMT website [accessed 13 May 2013] and Bundesnetzagentur, *Jahresbericht 2012*, 6 May 2013

Operator statements

Operators naturally take steps to increase lock-in and reduce churn, and – at least in the context of investor relations presentations – are quite explicit about it. Prime examples are their comments regarding the benefits of bundling:

BT	“Competitively priced bundles drive both the acquisition of new customers and the retention of existing ones”. ⁷²
Deutsche Telekom	Moving from fixed only to double play reduces churn by 27%. ⁷³
KPN	“Triple play packages support broadband base and churn reduction - Triple play churn two times lower than single play” ⁷⁴
Magyar Telekom	“significantly lower fixed voice churn thanks to ... discounts offered in bundled packages” ⁷⁵
Orange UK	“customers with mobile & broadband contracts are less likely to churn” ⁷⁶
Portugal Telecom	Moving from a double play to a triple-play reduces churn by 8 percentage points. ⁷⁷
Talk Talk	“We expect Triple Play take-up to drive further meaningful improvements in churn” ⁷⁸
Telecom Italia	“Bundling & new service[s] reduces churn to a record low” ⁷⁹
Telefónica	“>80% of our [fixed] BB customers have bundles (lower churn)” ⁸⁰

Operators’ belief in the ability of bundling to reduce churn is evident in their pricing strategy. At time of writing, a double play bundle of internet plus fixed voice is available from Orange in France for €34.90. A triple play bundle including TV is available for *exactly the same cost*. Similarly (as we have seen) Sky in the UK is offering basic broadband to its customers taking TV and telephony at no extra

⁷² BT, *BT Group plc’s Annual Report & Form 20-F 2012*, 9 May 2012

⁷³ Deutsche Telekom, *Deutsche Telekom Capital Markets Day 2012* – Germany, 7 December 2012

⁷⁴ KPN, *Annual Results 2012*, 5 February 2013

⁷⁵ Magyar Telekom, *Roadshow presentation*, November 2011

⁷⁶ Orange, *UK: Implementing Convergence* [Investor Presentation], 15 December 2006

⁷⁷ Portugal Telecom, *The innovation imperative*, 29 October 2012

⁷⁸ Talk Talk, *Strategy Update*, 26 July 2012

⁷⁹ Telecom Italia, *Telecom Argentina Full-Year 2011 Preliminary Results and 2012-14 Plan Outline*, 24 February 2012 [Re Telecom Argentina subsidiary]

⁸⁰ Telefónica, *Telefónica España: Benchmark results*, 17 March 2008

cost.⁸¹ Conversely, BT has recently announced that it will offer free Premier League football to its broadband customers.⁸²

The incremental TV service is not costless for Orange. It requires rights payments to programme makers, additional capacity, consumer equipment costs and so on. Similarly, for Sky the broadband service carries traffic costs, customer care costs and so on. Nonetheless, these operators are choosing to give away these incremental services, presumably on the basis that it improves the prospects of retaining the consumer's custom for the broadband and telephony services.

Conclusion

The behaviour of broadband operators is exactly what one would expect in a market where suppliers perceived switching barriers. ISPs' own statements make their perception of switching barriers even more evident.

⁸¹ [Sky Broadband Lite](#), Sky Website [accessed 6 May 2013]

⁸² Mark Sweney, "[BT to offer Premier League free to broadband customers](#)", *The Guardian*, 9 May 2013

8. Quantifying switching barriers

The consumer research conducted for this report gathered extensive information regarding consumers' past switching behaviour and perceived barriers to switching. It also contained questions to elicit a monetary quantification of those perceived switching barriers.

Question structure

The key such question was as follows:

“We are interested to understand what, in real life, would prompt you to leave your broadband provider. What one-off payment (which would be provided for you in cash now) would be necessary for you to agree to switch your broadband provider in the next two weeks?”⁸³

The respondent was deliberately not given any information about the alternative products available: it would be their job to identify for an appropriate substitute, and thus (implicitly) the required cash payment should embed search costs.

Similarly, as in real life, the question offers no assurance that an equivalent product is available elsewhere. If the consumer would be reluctant to leave his current supplier because of (say) particular sports content only available through that provider, this value will also be embedded in the response.

This question also captures direct switching costs, such as termination fees, the time and inconvenience caused, and so on.

Thus when giving a financial value in response to this question, the respondent is directly (but unwittingly) measuring the full cost of switching.

Three responses were available to the respondent: firstly, they could accept the offer and name the incentive required; secondly they could reject the offer and refuse to switch ('No one-off fee would result in me changing broadband provider'); or thirdly, they could state that they would change anyway regardless of the cash incentive ('Nothing – I'd change without a one-off fee').

Note that a minority of respondents – those that had previously indicated they were likely to leave in the next two weeks – were excluded from this question.

⁸³ This has been slightly paraphrased from the question in the survey. For instance, instead of 'your broadband provider', the survey used the actual name of the respondent's provider, gathered earlier in the survey

Results

Headline results

Two in five respondents (39%) rejected the offer, selecting 'No one-off fee would result in me changing broadband provider'. Satisfaction with an existing ISP was the predominant reason given (by 56% of those that rejected the deal). Other reasons were 'It's not worth changing to another broadband provider' (18%) and 'It's just not something I think much about' (17%).

Slightly more respondents chose to accept the deal (44%). The majority (99%) of the cash sums stated by respondents ranged from €0 - €1,000. A small percentage gave higher values which we have recognised as outliers and excluded from the analysis.

A further 16% stated that they would change provider without any incentive.

These three groups of responses were combined to calculate an overall average sum required to induce a switch, as outlined in Figure 25.

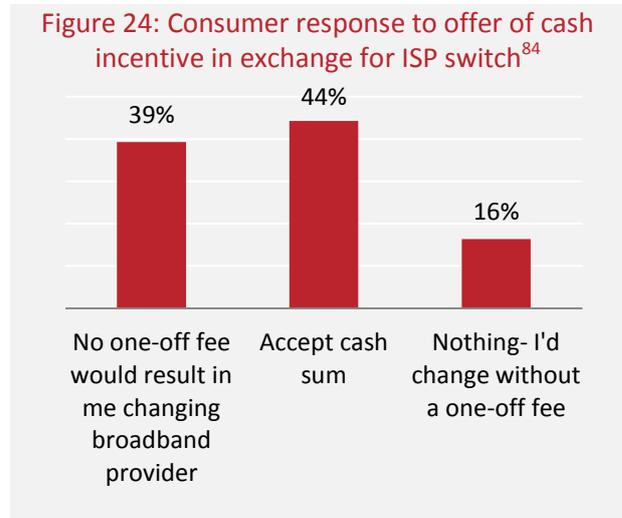


Figure 25: Calculation of average sum required to induce a switch

Response		Calculating the average sum required	Result
No one-off fee would result in me changing broadband provider	39%	<ul style="list-style-type: none"> Assume respondents would eventually switch if a sufficiently large cash sum was offered Consider the distribution of values given by the 44% of respondents that <i>would</i> accept the offer Take the value at the 75th percentile (a conservative approach in our view) 	€250
Accept cash sum	44%	<ul style="list-style-type: none"> The average sum stated by respondents excluding outliers (in this case values greater than €1,000) 	€191
Nothing – I'd change without a one-off fee	16%	<ul style="list-style-type: none"> Respondents require an incentive of €0 	€0
Weight average			€183

Across all respondents, we calculate the financial value of the switching barriers as €183. This is clearly a material sum for most consumers, roughly equivalent to six month's cost of their bundle.

⁸⁴ Communications Chambers consumer research, June 2013. Base sizes: All respondents except those intending to switch imminently: 1,216, All that accept cash sum: 538, All that accept cash sum, Definitely sure: 103

Testing robustness

When presented with hypothetical scenarios such as this, respondents can over-state their intentions (the influence of research bias is well documented in literature⁸⁵). This can be mitigated by considering only the sub-set of respondents that are certain of their actions. Applying this approach gave very similar figures to those above, suggesting the result is robust.

Results by Segment

We also considered the financial value of switching barriers for different segments, using the same approach as above (see Figure 26). One striking variation is that, as might be expected, switching barriers are much higher for those in bundles than for those buying broadband alone. This suggests that as more consumers migrate to larger bundles, the financial value of switching barriers will rise.

Figure 26: Sum required to induce a switch⁸⁶



⁸⁵ For example Mitchell and Carson (1989), Morrison and Brown (2009), Blumenschein et al. (2008) and others

⁸⁶ Communications Chambers consumer research, June 2013

9. Potential reactions to a quality decline

In general, consumers are well able to identify inferior products and switch away. However, broadband access is a very unusual product in a number of ways.

Firstly, it doesn't have 'stand-alone' value – rather, it is just one component of a wider system that delivers value to the consumer. That system includes the end-user device and its operating system (PC, tablet, etc); an in-home network; broadband access; wider internet connectivity; the servers and code of the CAPs and so on. Each of these interlinked components is essential to the end-user experience.

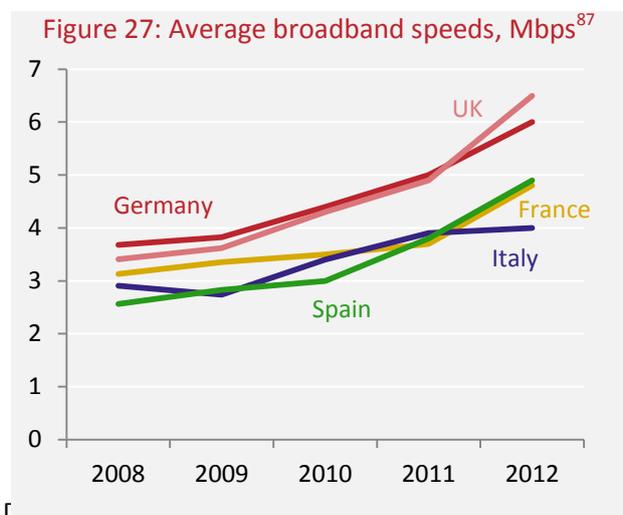
Secondly, this complex system is highly technical, and consequently opaque to most users. In combination, these unusual features make it considerably harder for consumers to assess broadband access quality.

In this section we look specifically at the potential consumer reactions to a degradation in quality resulting from (for example) an ISP choking its transit links. As we have seen in previous sections, consumers are relatively locked-in to their ISPs, but there are reasons to think that switching in reaction to a quality degradation is *particularly* unlikely.

Degradation may be unnoticed against background of improving performance

If an ISP were to constrain connectivity with one or more CAPs, this could degrade quality. However, an important question is 'relative to what?' Any such degradation need not result in a step downwards in overall quality (across all websites) – rather, it might result in a slowing in the *increase* of quality. This is because the wider background is a steady improvement in broadband quality over time.

Over the last four years, EU5 broadband speeds have increased by 66%,⁸⁸ and this trend is likely to continue. If congestion of transit links merely slows this growth, then it is less



⁸⁷ Akamai, *State of the Internet* reports (figures are for L

⁸⁸ Weighted by number of unique IP addresses

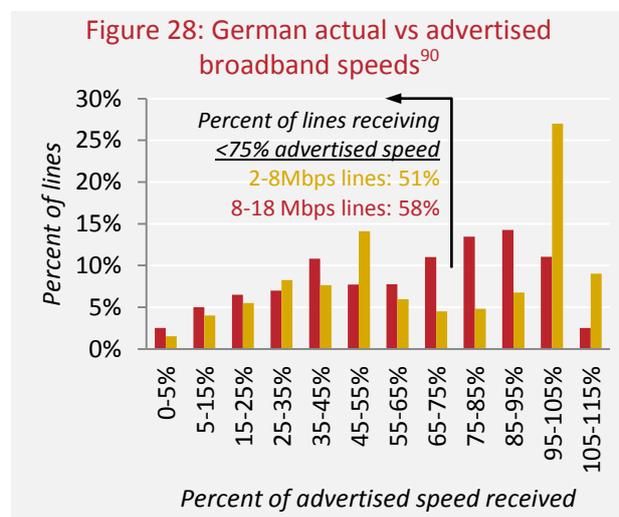
likely to be noticed by consumers. Clearly if consumers have not noticed a ‘crime’ they are going to be unable to police it.

Degradation may be unnoticed against background of highly uneven current quality

In order to react to the ‘signal’ of a quality degradation, consumers need to be able to distinguish that signal from the ‘white noise’ of the variations in quality that exist anyway. However, quality is anyway highly inconsistent – the white noise is loud. As Telefónica has said:

“attempting to describe what specific ‘experience’ a customer will receive is always problematic as it can vary due to a number of factors”⁸⁹

Take for example broadband speeds in Germany. BNetzA, the national regulator, recently published a paper that reported how actual broadband speeds for individual lines compared to the contracted speeds for those lines. As Figure 28 shows, there was enormous variation in the percent of the advertised speeds that individual lines delivered.⁹¹ If consumers were getting exactly what was advertised, we would see a single bar against the ‘95-105% of advertised speed’ category. Instead, we see a wide spread across a whole range of actual performances. For lines with advertised speeds in the bands 2-8 Mbps and 8-18 Mbps, 51% and 58% of lines respectively were delivering less than 75% of the advertised speed (and roughly a third were delivering less than half the advertised speed).



This substantial shortfall in actual versus advertised speeds is all the more striking, given that 71% of Germans agree or tend to agree that their access speed matches their contracted speed.⁹² This suggests that most consumers are simply not in a position to judge the speeds they are receiving.

⁸⁹ Telefónica, *Public Consultation on specific aspects of transparency, traffic management and switching in an Open Internet*, 15 October 2012

⁹⁰ Adapted from Figure 6.5, Zafaco, *Dienstqualität von Breitbandzugängen*, April 2013. Data from other markets tell a similar story. See for instance Figure 3.9 in Ofcom *UK fixed-line broadband performance*, May 2011, and *AGCOM* statistics for Italy

⁹¹ The graph shows data for the two most popular speed bands, 2-8 Mbps and 8-18 Mbps. In combination these represent 68% of the sample in the Zafaco paper.

⁹² Amongst the 56% who knew their contracted speed. European Commission, *E-Communications Household Survey – Germany fact sheet*, June 2012

It is also important to note that variation in broadband performance happens over time, not just over lines – that is, it is not simply the case that a particular line turns out to deliver 60% of its advertised rate when it is provisioned, and that figure is fixed. Rather, an individual line’s performance can vary over time. Electrical interference, weather and cross-talk (from other lines in the same bundle of copper cables) can all cause temporary variations in performance. In addition perceived performance – though not line speed – will be degraded during network busy hours, when other components in the network may be congested.

All of this presents the consumer with a background of huge variation in network quality, even before any issues caused by deliberate congestion of transit links by an ISP. Thus it is highly likely that a typical consumer may simply not be able to detect the degradation in performance caused by that congestion.

This is all the more likely to be the case since any analysis of performance probably requires skills consumers do not have. As ETNO have noted, it is challenging to provide useful information on metrics such as latency, jitter, and packet loss, since the “value of such information for non-professional users would be very limited”.⁹³

Consumer response to recognised degradation

Consumers tolerate unreliable service

Even if a consumer notices degradation, it is far from certain that she will do anything about it.

Perceived problems with broadband are already widespread. According to consumer research conducted for this paper, 34% of consumers have suffered problems such as videos pausing or stuttering and 16% were currently experiencing such problems. A survey of internet users by French consumer magazine *60 millions de consommateurs* found that “More than half of respondents complained of unreliable speeds ... And only 20% of respondents had never had a service interruption”.⁹⁴ According to ARCEP, approximately 1.5% of French broadband customers experience a complete loss of service each month, equivalent to a 17% annual rate.⁹⁵

⁹³ ETNO, *ETNO response to the Commission Public Consultation on specific aspects of transparency, traffic management and switching in an open Internet*, October 2012

⁹⁴ “Internet - Restez dans la course”, *60 millions de consommateurs*, October 2012

⁹⁵ ARCEP, *Indicateurs de qualité de service fixe*, March 2013

Given churn rates of 10% or less, this suggests that a very substantial number of customers have not changed suppliers even in the face of a complete outage – this puts in perspective their likely reaction to a degradation of quality for a certain set of websites.

US research also suggests that consumers are surprisingly tolerant, even of full outages. Though 18% of consumers report that they currently experienced outages at least weekly and 43% at least monthly, only 7% had ever switched ISPs due to outages. (See Figure 29).

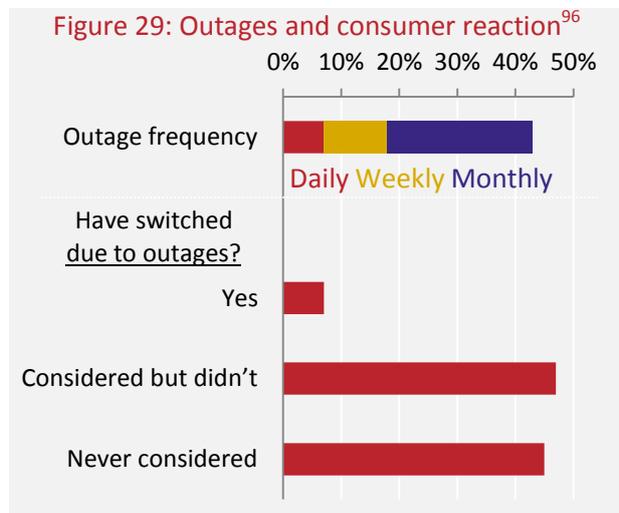
Consumers that took part in our own research were similarly tolerant. Just 7% of consumers currently suffering technical problems consider themselves likely to change supplier within the next three months. This interval is important. Firstly, it means a peering dispute with a given website (that is causing degradation) may be resolved before most consumers respond. Secondly it may be that consumers ‘learn to live with’ the degraded service before they get around to switching.

The past behaviour of our respondents also suggests tolerance of technical problems. Of the 34% of respondents that had previously encountered problems such as sites taking longer to load or videos pausing or stuttering, 62% stated that they had “Just lived with it / waited for things to improve”.

The reasons for consumers’ tolerance are not clear – it could be because they do not blame the ISP for their problems (discussed below); because they have simply become acclimatised; because of the switching barriers; or because of doubt that any other operator would be better. (On this last issue, some consumer sites explicitly advise users that changing ADSL providers will not lead to improved speed).⁹⁷ However, the practical consequence is that a marginal further degradation of quality may not lead to material customer loss.

Consumer views on the cause of service degradation

Even if an ISP has caused service degradation, if that ISP’s customers do not know to blame that ISP, they will not switch away. To explore this issue further, our survey asked consumers about perceived causes of technical problems. The responses suggested significant

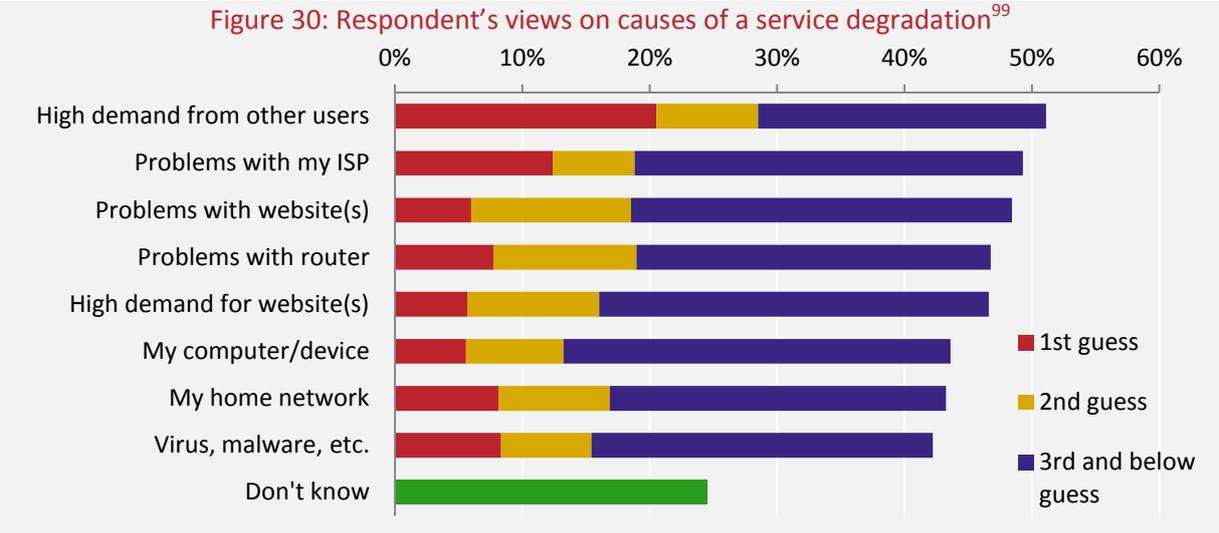


⁹⁶ Cisco, *Bandwidth Consumption and Broadband Reliability*, July 2012

⁹⁷ See for instance Broadbandspeedtest.ie

uncertainty on the part of respondents, and there was little evidence that consumers' first thought would be to blame their ISP.

Asked about a degradation of quality,⁹⁸ a quarter of the sample acknowledged that they simply would not know what the cause was. Amongst those with an opinion, the leading answer by some margin was 'Other internet users over-using the network'. 'Problems with my broadband provider' was the second most popular first guess, but this was only 12% of respondents. Indeed, less than half of respondents considered a problem with their ISP as even a *possible* cause (amongst all their guesses of potential causes). As Figure 30 shows, there was a wide spread of opinion on likely causes of a service degradation, with a user's ISP being just one of many factors that might be blamed. On average, respondents selected 3.7 potential causes.

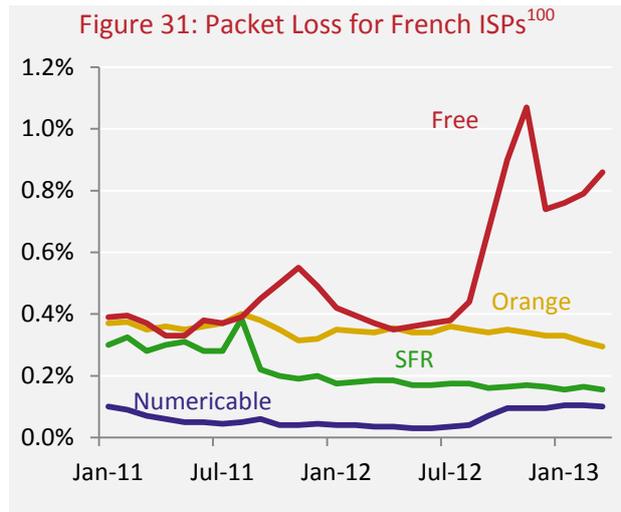


⁹⁸ Either the most recent one the respondent had experienced, or a hypothetical if the respondent had had no such problem

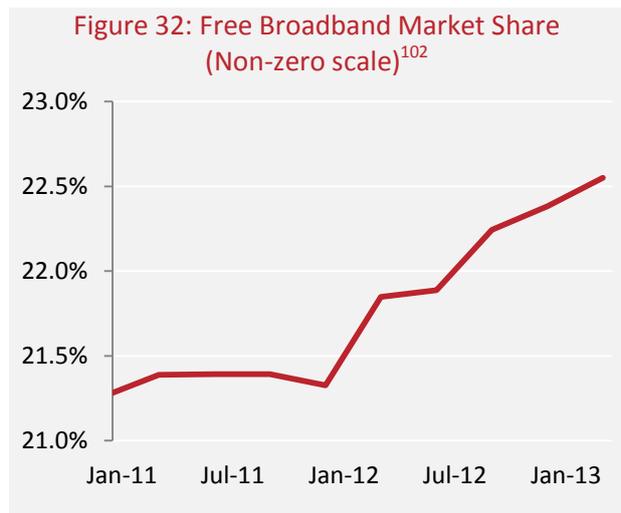
⁹⁹ Communications Chambers consumer research, June 2013. Base sizes: All respondents: 1,229. Note that options have been précised

Limited apparent reaction to Free network problems

Supporting the findings from the consumer research – specifically the lack of reaction to quality problems – is empirical evidence from France. In the second half of last year, customers of the ISP Free began to experience substantial problems accessing various websites including YouTube. These attracted significant media attention, and ultimately led to an ARCEP investigation.¹⁰¹ The problems were also evident in technical measurements by M-Lab shown in Figure 31 – as can be seen, from September 2012 through to March 2013 (the latest available data), Free’s packet loss has been far higher than other leading players.



Clearly by any measure this was a significant degradation of quality. If consumers are ‘policing’ such degradation, then we might expect to see a material loss of customers for Free in this period, as they reacted to the problem. In fact, Free has *gained* 200,000 customers in the six months from September 2012 to March 2013. Nor is this simply Free benefiting from wider growth in the market – Free gained 0.3 percentage points of market share in this period.



It is conceivable that in the longer run there will be negative consequences for Free, but thus far the evidence is that most consumers are not attributing problems to Free, or they are willing to tolerate those problems in exchange for the other benefits of Free’s bundles, such as pricing, set-top box quality and so on.

Quality not an important element of ISP marketing

There is also evidence that ISPs do not believe that network quality is an important element of consumer choice. If ISPs believed quality was something that had significant influence, one might expect to see it highlighted in marketing materials. Speed certainly does get attention (and some ISPs emphasise that you are more likely to

¹⁰⁰ M-Lab

¹⁰¹ ARCEP, *Décision n° 2012-1545*, 22 November 2012

¹⁰² M-Lab

receive advertised speeds from them – Virgin Media in the UK makes great play of this, for example). However reliability and network quality are usually unmentioned.

Possibility of increased ISP revenue from quality decline

In a scenario where quality degrades, one possibility is that consumers would not in fact switch away, but would instead spend more with their current supplier. Our research shows that 11% of consumers would consider doing just this in response to a service degradation

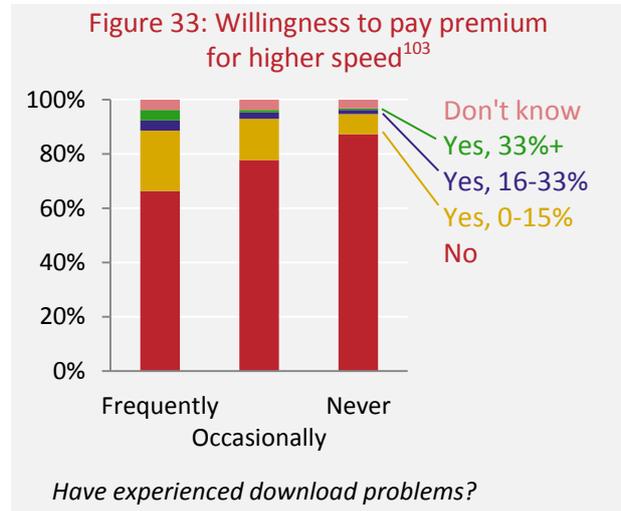
Eurobarometer research also shows that those who have experienced download problems are more willing to pay extra to secure higher speeds (see Figure 33).

Thus while some customers faced with a quality degradation for their ISP might identify the problem as being the ISP’s traffic management (and potentially switch away as a result), others might feel the problem was with their speed tier, and upgrade to a more expensive product. As we saw in the *Computer Bild* anecdote of Joklaus above, some ISPs may in fact be opportunistically using technical problems as an up-sell opportunity.¹⁰⁴

If it is indeed the case that some consumers upgrade in response to performance problems, not only would these consumers not be ‘policing’ ISP performance, they might in fact reward the ‘criminals’.

Conclusion

In the economic abstraction of perfect markets, consumers react promptly to variations in network quality. However, the empirical reality is rather different: consumers experience highly variable broadband performance all the time; they lack the technical skills to analyse such performance; and they show surprising willingness to put up with unreliable connections over long periods.



¹⁰³ Full questions were: “Have you experienced difficulties accessing online content and applications due to insufficient speed or downloading capacity?” and “Would you be prepared to pay more for an Internet connection with a higher speed or downloading data capacity than your current one?” European Commission, *E-Communications Household Survey*, June 2012

¹⁰⁴ See page 21

10. Existing steps to reduce switching barriers

European regulators have been focused on switching barriers for a number of years, both for broadband and other telecommunications services. NRAs have taken a range of valuable steps to facilitate switching,¹⁰⁵ including (but not limited to):

- Implementing ‘gaining party lead’ processes, under which the consumer need only contact their new supplier, not their current one
- Limiting maximum times for switching processes
- Implementing fixed and mobile number portability
- Limiting contract lengths to 24 months
- Limiting SIM-lock by mobile operators
- Facilitating the establishment of standard information to be provided to consumers

Some of these steps have been mandated at a European level (for instance, contract lengths), others have been more nationally driven. For those in the latter category, there is of course significant variation –not all countries have implemented them, and those that have done so have differed in the detail.

While the above steps are undoubtedly helpful, it is important to note that the decline of churn and the stabilisation of market share that has been evident over recent years have happened *despite these measures being in place*. For instance, number portability and the 24 month limit on contract length were established Europe-wide by a 2009 Commission directive¹⁰⁶ (and in practice had been established in many individual states for some years before that)¹⁰⁷.

Some of the barriers to switching, such as the impact of bundling and the challenge of information provision may simply not be tractable (beyond the steps already taken). Taking information provision as an example, the Commission has stated that:

“Given the complexity and technical nature of the multiplicity of internet offerings from the consumer perspective, according to many respondents, a balance needs to be struck between

¹⁰⁵ For greater detail, see BEREC, *BEREC report on best practices to facilitate consumer switching*, October 2010

¹⁰⁶ European Commission, *Universal Service Directive (as amended)*, 19 December 2009

¹⁰⁷ It has been available in all of the EU5 since 2003, and appreciably earlier in most cases

simplicity and the provision of meaningful and appropriately detailed information.”¹⁰⁸

This is surely right – there are diminishing returns from providing the consumer ever more information. Indeed, there is strong evidence that additional information can be *negative*, leading to confusion not enlightenment. According to Patrick Xavier in a report for the Australian Communications and Media Authority:

“In neo-classical terms, more choice is better. Behavioural economics warns that it may not be. There are limits to the amount of information we can take in, which means that we may often filter out important details. Thus, additional information may distract consumers from more important factors, and it may overwhelm consumers and cause them to make decisions with less reflection rather than more.”¹⁰⁹

There are important consequences of this – if we must (unavoidably) focus consumers on the most important dimensions of a broadband decision, then some other issues will need to be left out. Clearly, dimensions such as price, initial discount, connection charges, upload speed, download speed, contract length, bundled modems, bundled fixed voice, bundled TV and so on are all significant.

It seems entirely possible that after informing consumers of all these aspects of a broadband product, we may have already hit the point of diminishing returns, where additional information on network quality (no matter how accurate or clearly expressed) simply contributes to information overload, degrading not improving consumer decision making.

If this is true, such data may have very little ability to meaningfully influence a consumer’s propensity to switch or select a technically superior provider (on dimensions other than speed).

None of the above in any way argues against the measures that have already been taken, or indeed argues against expanding them to other markets or taking other incremental steps to improve them. However, it does suggest realism in how far switching barriers can be reduced, and in particular for realism in assessing the extent to which consumer switching can police a temporary degradation in quality.

¹⁰⁸ EC, *The open internet and net neutrality in Europe*, 19 April 2011

¹⁰⁹ Patrick Xavier, *Behavioural Economics and Customer Complaints in Communication Markets*, ACMA, May 2011

11. Conclusions

In its report *The open internet and net neutrality in Europe*, the European Commission said:

“For competition to work, consumers must be able to choose between a variety of competing offerings on the basis of clear and meaningful information. Consumers must also be effectively able to switch to a new provider where a better quality of service and/or a lower price is offered, or where they are not satisfied with the service they are receiving, e.g. where their current provider imposes restrictions on particular services or applications”.¹¹⁰

Some ISPs see no issue here - Telefónica has claimed:

“in the vast majority of EU fixed and mobile markets there are no barriers to switching”¹¹¹

In light of the evidence in this report, Telefónica’s claim seems optimistic. Our consumer research shows that these barriers are in fact equivalent to a cash cost of €183. (We believe it would be very valuable for NRAs to undertake their own analysis of this cost, given the centrality of switching barriers to several important debates).

Barriers to switching do not necessarily mean that a market is not competitive.¹¹² However, they certainly do *not* suggest a market that is so frictionless that it will react meaningfully to a change such as a degradation in quality for some of the traffic of a given operator, particularly given the ‘white noise’ of quality variation that broadband customers experience anyway.

BEREC, in discussing a potential degradation of internet access service, has said:

“If market mechanisms do not allow for easy switching to adequate alternatives, fostering competition and promoting ease of switching may be a sufficient response. If offers with adequate quality are still not easily available, it may be appropriate to consider imposing minimum QoS requirements.”¹¹³

¹¹⁰ EC, *The open internet and net neutrality in Europe*, 19 April 2011

¹¹¹ Telefónica, *Public Consultation on specific aspects of transparency, traffic management and switching in an Open Internet*, 15 October 2012

¹¹² For discussion of this topic, see for example OFT, *Switching Costs – Economic Discussion Paper 5*, April 2003 and Ofcom, *Consumer Switching: A consultation on proposals to change the processes for switching fixed voice and broadband providers on the Openreach copper network*, 9 February 2012

¹¹³ BEREC, *Guidelines for quality of service in the scope of net neutrality*, 26 November 2012

In reality, there remain substantial barriers to switching, notwithstanding significant efforts *already* made by NRAs to ameliorate them. Further efforts in this area may be valuable, but are likely to have diminishing returns, and are unlikely to be a 'sufficient response'.

It therefore seems dangerous to rely on consumer choice as the key mechanism to police abuse of ISPs' inbound monopolies. NRAs will likely need to pay direct attention to this issue, both by monitoring (as BEREC also suggests) and potentially through intervention such as minimum QoS requirements.

12. Appendix 1: Consumer Research

Bespoke consumer research was undertaken in three European markets: France, Germany and Italy. Interviews were conducted in June 2013 amongst a total of 1,229 respondents and over 400 from each market (see Figure 34)

This sample size is sufficient to allow statistically significant results at the 95% confidence level with confidence intervals of $\pm 0.56\%$ to $\pm 2.8\%$ in aggregate and $\pm 0.98\%$ to $\pm 4.9\%$ per market.

The sample was limited to those that are 'broadband influencers': that is consumers that are solely or jointly responsible for selecting and/or paying for their household's broadband. Quotas were applied to ensure that the sample accurately represented this sub-group of the population.

In line with best practice, an initial short pilot survey with a larger sample size was used to identify these representative quotas, and to test language and consumer understanding of key questions.

An online methodology was chosen for several reasons: firstly, it was an appropriate means of reaching the target consumer, secondly it was time and cost effective, and thirdly it enabled the survey to be customised for each respondent via 'dynamic text'. This increases the relevance and accuracy of questions and therefore improves the quality of the data.

Interviews covered a range of topics relating to broadband provision and the process of switching suppliers. An overview of the interview structure is provided in Figure 35.

Figure 34: Sample sizes

Germany	404
France	415
Italy	410
	<hr/>
	1,229

Figure 35: Interview structure

