

6. AFFORDABILITY CASE STUDY

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6.1. Introduction

This case study has been commissioned within a short timeframe by the new Australian peak consumer body ACCAN as a contribution to its *Future Consumer* study of developments worldwide that are relevant to its converged communications brief. The request was to identify major trends in thinking about affordability of communications, and measures to address it – primarily in developed countries. The brief time available does not permit an exhaustive or in-depth treatment. The paper therefore relies on the author’s existing knowledge of the subject, backed up by a limited amount of desk research and personal inquiries. It aims to complement and selectively deepen the recent LIMAC report, with particular reference to Western Europe.

For speedy production, the body of the paper (from section 6.4 on) is organised around information sources rather than around the themes emerging from the sources. Sections 6.2 and 6.3 aim to draw together some of the main trends and themes.

Affordability is, of course, only one factor contributing to ‘digital inclusion’, or social inclusion in the ICT dimension,¹ though it is one whose importance is often under-rated. Affordability is often seen as a social goal because of its implications for equity; however, it is also in the interests of providers, for whom affordable bills mean savings in collection costs and bad debt.

6.2. Overview of trends

- There is now a general in-principle acceptance of the importance of affordability as a factor in the take-up and use of electronic communications services; less often, there are specific policies to enhance it beyond what the market provides (or recognition of any need in this area).
- The current economic downturn makes communications affordability both a more pressing concern and one that is less likely to receive attention, as many others compete for scarce resources.
- Voice telephony is widely recognised as an essential service, with affordability or related payment-linked concerns being the main barriers to take-up, wherever service is available.
- In practice, special tariffs and other ‘official’ affordability provisions (where they exist) have been focused on fixed lines (with increasing emphasis on their targeting to the truly needy, particularly including people with disabilities).

¹ There is a huge literature on digital inclusion – see, for example, Sinclair et al. (2007), whose bibliography alone runs to over 30 pages. Literatures on universal service and on diffusion of mobile and Internet services are also vast and only slightly tapped for this overview.

- Non-elderly people on low incomes are giving up fixed lines in favour of mobiles, which provide more flexibility in both use and payment options, as well as potentially being cheaper. Mobile market innovations to improve affordability are effective where they exist, but are specific to particular countries.
- Recognition of mobiles as the de facto choice of people on low incomes, and the consequent need to assure their affordability, is gradually growing. For example, mobile offerings under the US Lifeline program are spreading to a growing number of states, and a French special post-paid mobile tariff has recently been announced (offered voluntarily by the industry).
- There is a new stress on affordability in relation to broadband, whose availability and rapid take-up many countries now want to promote. But here affordability is just one of a group of intertwined barriers to take-up, also including:
 - lack of interest in or motivations for use;
 - lack of necessary skills and competences to use Internet; and
 - difficulties related to equipment usability, especially for people with disabilities.
- It is hard to separate the strands of perception of lack of need or interest from those of affordability. There is a high correlation between educational level and income, and interest in the Internet is plainly related to the former (and also strongly to age, even in the countries with highest take-up, like Denmark and Korea).²
- Take-up of special tariffs can be low. Barriers can be lack of awareness and unwillingness to prove eligibility, but also special tariffs need to be presented on a par with commercially available ones – budget-constrained people prefer to feel they are part of the same market as everyone else, not a separate underclass.
- There is a small recent academic literature relevant to defining the concept of affordability and measuring it.

6.3. Foundations

The term ‘affordability’ is one that everyone thinks they understand, but it gets used in many different ways and attempts to define it rigorously are rare.³ This case study deals with a user-centred idea of affordability – loosely, whether users both can, and feel they can, pay the amounts needed for communications access and use without detriment to other essential spending.

Our focus here is on low-income users. Some areas of concern linked to affordability that could not be covered in this paper are:

- *Geographic tariff averaging.* This is designed to keep rural and urban tariffs at similar levels for all users.
- *Avoiding bill shock.* Initiatives here aim to ensure that people know what calls will cost them (through transparent tariffs) and do not inadvertently run up high bills. Regulation of premium rate services is relevant here. Problems can affect any user, though of course they could hit low-income users hardest, and be worst for people with multiple difficulties, which might include addictive use.

² OECD (2007a), Annex Figure 12, p 47.

³ The present author made some first steps in this direction in Milne (2006 and 2004).

- *Pay phone use.* As pay phones cater for people who have no home phone, their use must be affordable to those on the lowest incomes. There is a widespread assumption that pay phone use is affordable, since only calls are paid for. A larger question may be the continuing existence of pay phones, as their revenues are undermined by the use of mobile phones.

A further area not covered, but which could affect low-income take-up adversely, is moves to require prepaid users to register their personal details, for security reasons.

Of course, amounts billed are linked to underlying costs of networks and equipment, and reducing those costs (through technology advance and competition) has made, and continues to make, vital improvements in affordability.⁴ Our concern here is not with the underlying costs, but with the prices and packages offered to users given prevailing costs, and their influence on take-up and usage levels. Payment terms and mechanisms are included, as are aids to bill control, as they strongly influence users' perceptions of affordability. Prices and packages are functions of both market and regulatory activity.

Affordability in this sense is plainly linked to the fulfilment of basic needs for communications. It may best be understood as one of the underlying conditions necessary for developing (or, we may say, a 'component of') 'communications capabilities'. (Other components besides affordability are availability and accessibility, plus certain personal competencies and motivations.) Following Sen's capability approach, a minimum level of communications capability could be defined which is necessary to avoid communications poverty. As Garnham (1997) remarks:

We can argue, I think, from the Smithian perspective of what produces social shame, that in developed societies at least, the ability to say ring me or I'll ring you without thinking about it has become the social norm and that those without that potential functioning are disadvantaged.

Communications is not only an important area of functioning in itself but also, together with ICT more generally, is in turn an important component of other capabilities. This theme is increasingly being picked up in international development literature;⁵ it should be equally applicable in developed economies.

One reason for affordability falling down policy priority scales in developed countries has been the very low price elasticities of demand, which for a long time were associated with fixed-line subscriptions.⁶ Particularly before the arrival of mass-market mobile services, and once high fixed-line penetration had been achieved,⁷ subsidised fixed-line rates made little difference to market take-up.

⁴ The links can be very indirect. For example, text messages are widely sold at prices which greatly exceed generous estimates of their production cost (Milne (2006), Annex C) yet they are still perceived as affordable. Conversely, services may be sold below cost yet remain unaffordable.

⁵ For example, Chapter 4 of Spence and Smith (2009) surveys recent literature on ICTs, Capabilities, Freedoms & Human Development.

⁶ Garbacz and Thompson (2007) provide references.

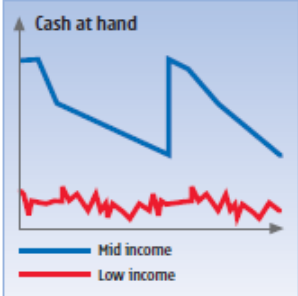
⁷ Behavioural economics (the endowment effect) would point to a resistance to give up a phone line even if prices rise, which could far exceed initial willingness to subscribe at the same price, especially in the absence of close substitutes.

Studies in developing countries⁸ have, however, shown sizeable price elasticity of demand for mobile service. In developed countries, the debate around mobile termination rates has stimulated the study of marginal users' price elasticity of demand, which is plainly significant⁹ – clearly, mobile rates do affect mobile take-up.

Users' income is a basic element in assessing affordability. Kessides et al. (2009) have developed and presented a rigorous approach to measuring utilities affordability, using the residual income approach – that is, looking at whether the income that people are left with after paying for essential utilities is enough to pay for other essentials. This assumes an understanding of the spending levels that are necessary both on utilities and on other essentials, and in the case of communications such understanding is very hard to get – empirical research modelled on that of Colston for energy (discussed under The United States below) might be helpful. Pau (2008) applies the residual income approach to communications, remarking among other things on the malign influence of addiction to mobiles. While the approach of Kessides and colleagues is presented in the context of developing countries, Miniaci et al. (2008) have applied it to electricity and water affordability in Italy.

Figure 7 illustrates an important aspect of affordability which does not yet appear to have been properly taken into account in any theory, though it has been amply reflected in market developments in some developing countries.¹⁰ The point is that a typical low-income pattern is not just low but is also highly volatile and unpredictable, with cash in hand often hitting zero. (This diagram does not show the negative balances, or debts, that are also common features of low-income patterns.) Zero standing charges for remaining connected, and low denomination prepayments (down to micropayments covering just a single call or message) are key to affordability for many people in such situations.¹¹

Rather, such quantitative affordability modelling as has been attempted all appears to focus on regular outgoings (or total cost of ownership) in relation to an assumed regular income. Milne (2000) provides just such a model in relation to fixed line telephony. That paper's hypotheses about how different levels of inequality in income distribution are likely to be reflected in communications take-up have



⁸ Well presented, for example, see Milne (2006) also assembles earlier relevant evidence on price elasticities of demand in developing countries. (2007), who also point to implications for developed countries.

⁹ Ofcom's May 2009 mobile calling patterns research at <http://www.ofcom.org.uk/consult/condocs/mobilecallterm/annex10_2.pdf> is the latest in a line of such studies.

¹⁰ The Philippines, and especially the operator Smart, led the move to micropayments. Its achievements are well documented and often cited.

¹¹ Barrantes and Galperin (2008) demonstrate these effects, along with those of per-second billing, and underline their importance in Latin America.

recently been supported by Brazilian data.¹²

Figure 7: Cash available for people at mid- and low-income levels

Source: Nokia (2005).

6.4. International bodies

6.4.1. The ITU

As the lead international body for e-communications development, the ITU's attitudes are of particular interest. For over a decade now, it has explicitly been promoting universal access and universal service, and recognising in principle that affordability is one of three components of these concepts (the others being availability and accessibility). In practice, affordability has tended to receive less attention than the other components. Possible reasons for this include:

- the obvious need for physical access to exist first before services can be made available to the public on any terms. Actual network provision has been the priority in many countries, and coverage is still lacking in remoter parts of many poor countries;
- pressure from industry to regard prevailing price levels as indicative of unavoidable costs, rather than of inefficiency or excess profits. Such pressure exists, to varying extents, in all countries.

The ITU is the authoritative source of statistics on e-communications. These are drawn on by people all over the world who may want to compare country performances, or who wish to study the effects of different policies or regimes. If the ITU does not produce statistics relevant to assessing affordability, this makes it much less likely that affordability will be assessed.

In recent years, several composite indices of 'e-readiness' or the like have been developed. Starting around 2004, affordability has been included as a component of these indices, measured typically as the prices of 20 hours of Internet use per month and of 100 minutes of mobile use per month, measured in US dollars, and as a percentage of per capita income.

In this year's statistical report (ITU 2009b), affordability has been given a much higher profile. The new ICT Development Index, which measures outcomes such as telephony and Internet take-up and use, is accompanied by an ICT Price Basket. The Basket is a straight average of three prices, for modest monthly usage of 1) a fixed line; 2) a mobile; and 3) broadband Internet, divided by the country's per capita GNI. As the report explains:

The main objectives of the ITU ICT Price Basket are to raise awareness of the importance of ICT prices for ICT usage and to allow policy makers to evaluate the cost of ICTs in their country and benchmark them against those of other countries. Policy discussions and analysis often tend to be focused on the

¹² See Bohman (2008).

availability of infrastructure, whereas the ‘power of price’ is often not sufficiently addressed. For this reason, it is hoped that the ICT Price Basket will provide countries with a useful additional tool for benchmarking and analysis. Since prices are shown not only in absolute values (US\$ and Purchasing Power Parities (PPP) adjusted) but also as a percentage of GNI per capita, they point to the relative cost (or affordability) of ICT services within a country. At the same time, policy makers can identify where they stand globally, and in comparison to other countries. This information will put national prices into perspective and, if necessary, provide a starting point for looking into ways of lowering prices – for example, by introducing or strengthening competition, by reviewing operators’ revenues and efficiency, or by reviewing specific tariff policies.

A simple regression, pictured in Figure 8, shows that affordability, as measured by the ICT Price Basket, has a powerful influence on the outcomes index. The part of this chart relating to developed economies is crammed into the top left-hand corner. Actual values of the Basket and the Index for these top-scoring countries¹³ are shown in Table 13.

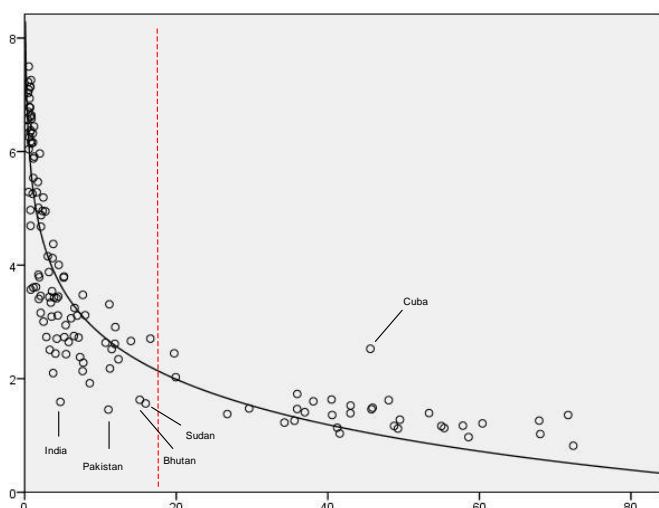


Figure 8: ICT Development Index (y axis) against ICT Price Basket (x axis) for 150 countries

Source: ITU (2009) Chart 6.2.

The correlation between achievement, as represented by the ICT Development Index, and affordability, as represented by the ICT Price Basket, is much less clear when looking only at the top-scoring countries. Many other factors besides affordability also contribute to achievement. Australia ranks 26th on affordability (with a price basket more than double the lowest available) and 14th on achievement. Table 14 provides more detail on the ICT Price Basket components for the top-scoring countries.

¹³ Cut off at a point chosen to just include both New Zealand and all of the EU15 countries. Four countries are within this range for affordability but outside it on achievement and therefore do not appear in the table: Kuwait, Trinidad and Tobago, Saudi Arabia and Serbia.

These country-level findings suggest that it is likely to be fruitful to include affordability as a factor when investigating and analysing ICT take-up and use by different socio-economic groups within any country. For some years now, it has been recognised that household surveys can contribute greatly to understanding these issues. The ITU's manual for measuring ICT access and use by households and individuals (ITU, 2009a), however, does not yet suggest asking about expenditure on ICT, and leaves questions on household income and barriers to use to countries' discretion. It provides examples of 'barrier' questions, including cost or inability to pay, from surveys used in Singapore and Nicaragua. It is notable that Singapore has found it worthwhile to ask about ICT affordability, even if it has the world's best score.¹⁴

Table 13: ICT affordability and achievement indices for top-scoring countries

Country	ICT Price Basket rank	ICT Price Basket value	IDI rank	IDI value
Singapore	1	0.4	15	6.57
United States	2	0.4	16	6.44
Luxembourg	3	0.5	7	7.03
Denmark	4	0.5	3	7.22
Hong Kong, China	5	0.5	11	6.70
United Arab Emirates	6	0.5	30	5.29
Taiwan, China	7	0.5	25	6.04
Sweden	8	0.5	1	7.50
Norway	9	0.5	6	7.09
Finland	10	0.6	9	6.79
Macao, China	11	0.6	21	6.25
Switzerland	12	0.6	8	6.94
Iceland	13	0.7	4	7.14
United Kingdom	14	0.7	10	6.78
Canada	15	0.7	19	6.34
Netherlands	16	0.8	5	7.14
Cyprus	17	0.8	33	4.97
Bahrain	18	0.8	34	4.69
Germany	19	0.8	13	6.61
Ireland	21	0.8	18	6.37
Italy	22	0.8	22	6.18
Korea (Rep.)	23	0.8	2	7.26

¹⁴ The OECD's model ICT use questionnaire Annex 1d: OECD Model Survey of ICT Access and Use by Households and Individuals (annex to Guide to Measuring the Information Society, OECD 2005) at <http://www.oecd.org/dataoecd/49/42/35930682.pdf> includes 'barriers' questions, but the EU's recent relevant Eurobarometer surveys have included these only selectively.

Japan	24	0.9	12	6.64
Belgium	25	0.9	24	6.14
Australia	26	0.9	14	6.58
Greece	27	1.0	32	5.25
Austria	28	1.1	20	6.32
France	29	1.1	23	6.16
Malta	30	1.1	28	5.54
Slovenia	32	1.2	27	5.88
New Zealand	33	1.2	17	6.44
Spain	34	1.3	26	5.91
Lithuania	37	1.6	31	5.29
Portugal	38	1.7	29	5.47

Source: Data from ITU (2009b), rearranged by present author.

Table 14: ICT Price Basket components for top-scoring countries

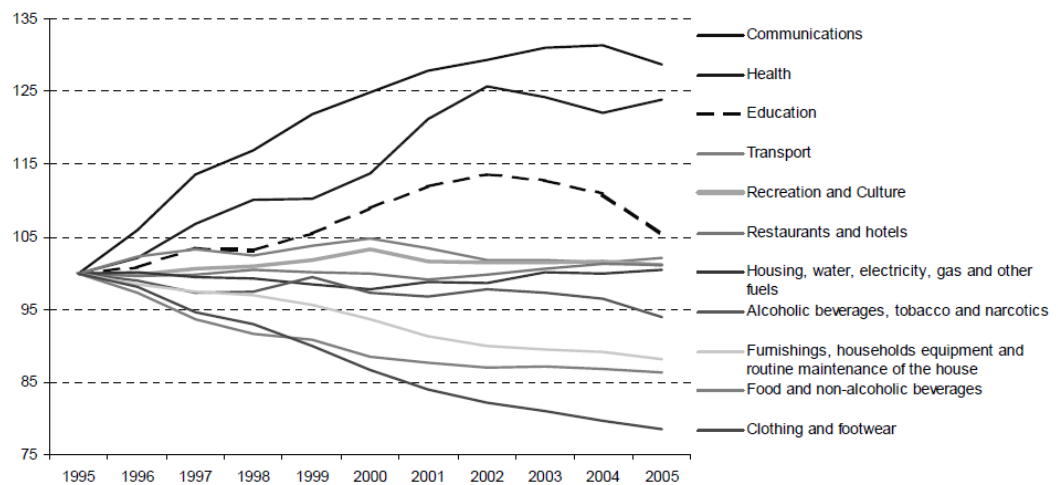
Country	Fixed sub-basket (% of GNI per capita)	Mobile sub-basket (% of GNI per capita)	Broadband sub- basket (% of GNI per capita)	GNI per capita, USD
Singapore	0.26	0.15	0.81	32,470
United States	0.45	0.40	0.39	46,040
Luxembourg	0.49	0.22	0.70	75,880
Denmark	0.62	0.13	0.66	54,910
Hong Kong, China	0.43	0.10	0.96	31,610
United Arab Emirates	0.25	0.21	1.08	23,950
Taiwan, China	0.22	0.69	0.72	17,250
Sweden	0.59	0.20	0.84	46,060
Norway	0.59	0.15	0.90	76,450
Finland	0.51	0.37	1.00	45,820
Macao, China	0.78	0.24	0.86	14,020
Switzerland	0.58	0.71	0.65	59,880
Iceland	0.54	0.31	1.26	54,100
United Kingdom	0.77	0.57	0.83	42,740
Canada	1.00	0.59	0.60	39,420
Netherlands	0.82	0.46	1.00	45,820
Cyprus	1.27	0.25	0.79	24,940
Bahrain	0.29	0.40	1.66	19,350
Germany	0.89	0.31	1.18	38,860
Ireland	1.05	0.47	0.95	48,140
Italy	0.98	0.61	0.92	33,540
Korea (Rep.)	0.39	0.89	1.24	19,690

Japan	0.58	1.03	1.01	37,670
Belgium	1.07	0.65	0.90	40,710
Australia	0.92	0.88	0.92	35,960
Greece	1.08	1.02	1.02	29,630
Austria	0.81	0.68	1.71	42,700
France	0.96	1.11	1.18	38,500
Malta	0.85	0.89	1.66	15,310
Slovenia	1.18	0.71	1.57	20,960
New Zealand	1.43	0.96	1.28	28,780
Spain	1.25	1.36	1.18	29,450
Lithuania	1.82	1.05	1.93	9,920
Portugal	1.63	1.67	1.92	18,950

Source: Data from ITU (2009b), rearranged by present author.

6.4.2. The OECD

The OECD has been active in monitoring e-communications and particularly broadband developments. This section identifies some findings from its recent publications that are especially relevant for affordability.



1. OECD-28, New Zealand and Turkey not included.
2. 2005 estimated.

Figure 9: Increasing importance of communications in OECD household budgets

Source: OECD (2007a).

Figure 9 shows the latest developments¹⁵ in a trend previously noted across all member countries for communications to account for an increasing share of household spending. Over a decade, the average communications share has

¹⁵ This trend has previously been noted in the biannual OECD *Communications Outlooks* since 2001. The next update is expected in June 2009.

increased by some 30 per cent. This reflects both increased volume resulting from lower prices and better service, and substitution – especially by Internet – for other categories of spending such as entertainment. Following the dip shown by the 2005 figures, it remains to be seen whether this growth will continue.

The communications share of household spending is important here because it is widely used to assess affordability. A higher communications share of spending by a lower income group than a higher one (as is now generally found in expenditure statistics from developed countries) points to communications having attained the status of a necessity rather than a luxury.¹⁶ A high share can point to an excessive burden, or simply to the household attaching considerable value to the services. Elsewhere in this paper we consider the question of how high a share should be seen as ‘too high’. Figure 9 makes it plain that any answer will have to be reviewed frequently.

Table 15 presents statistics for selected OECD countries showing the difference in PC and Internet penetration between upper and lower income bands – a way of measuring a ‘digital divide’. High figures here generally indicate especially low propensity to take up by the lower income bands, which may point to affordability problems or to other socio-economically linked barriers, such as poor education. Here Sweden stands out as having unusually even penetration across the income bands, and the United Kingdom as having unusually high disparities. Australia and the other countries covered occupy a middle ground.

Table 15: Penetration gaps between upper and lower

	1994	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>Quartiles</i>												
Canada												
Internet	..	..	27	38	43	49	53	53	55	..	..	..
Finland												
Internet	..	..	20	33	41	52	54	49	60	59	47	53
France												
PC	..	18	20	22	28	28	33	32	35	..	34	..
Internet	..	..	..	..	11	20	27	29	35	..	37	..
Sweden												
PC	22	23	25	30	23	18	15	13	15	12	..	..
Internet	..	..	..	29	28	25	21	18	19	17	..	..
<i>Quintiles</i>												
Australia²												
PC												45
Internet												50
United Kingdom												
Internet	..	..	..	24	40	61	62	66	68	69	..	..
<i>Deciles</i>												
Canada³												
PC	32	48	..	..	..	65	..	..	..	..	..	..
Internet	..	18	41	47	55	63	..	..	..	..	..	..
Netherlands												
PC	..	..	..	29	38	38	50	..	..	..	..	..
Internet	..	..	..	24	37	41	59	..	..	..	..	..
Sweden												
PC	30	33	42	35	26	23	18	15	17	12	..	..
Internet	..	..	..	37	34	32	25	23	25	18	..	..
United Kingdom⁴												
Internet	..	..	..	29	42	66	70	73	75	71	76	..

1. Difference in the penetration rates between high- and low-income quartiles, quintiles or deciles.

2. 2004-2005 instead of 2005.

3. 1990 instead of 1994.

4. 1998/99 instead of 1998, and similarly for other years.

income bands

Source: OECD (2007a).

An OECD study¹⁷ of the factors influencing broadband take-up attributed greater significance to price than previous similar studies had done, but found that national per capita income had little influence.

Last but not least, the OECD's report¹⁸ on universal service in the Next-Generation Network environment (where multiple service providers are expected to provide service over shared high-speed infrastructure) highlights the need for a stronger focus on how consumers experience affordability problems. Measures to safeguard affordability will continue to include pre-payment and bill-control mechanisms; actual financial help may better be channelled direct to consumers (through vouchers or an equivalent) than through special tariffs.

6.5. The European Union

6.5.1. *The Universal Service Directive*

The central apparatus of the European Union has had a major influence on attitudes towards, and provisions for, affordability throughout Europe and the European Neighbourhood. The notion is strongly linked to the idea of universal service.

In particular, the Universal Service Directive 2002 (USD)¹⁹ requires that the minimum set of services it identifies (mainly telephony at a fixed location) shall be made available to all 'at an affordable price in the light of specific national conditions, without distorting competition'.²⁰ Affordability of tariffs includes²¹ the possibility of requiring:

tariff options or packages to consumers which depart from those provided under normal commercial conditions, in particular to ensure that those on low incomes or with special social needs are not prevented from accessing or using the publicly available telephone service.

The Directive also requires the provision of facilities such as itemised bills and selective call barring for helping consumers to monitor and control their bills.

The wording is close to that in the earlier legislation that the 2002 Framework replaced,²² and reflects compromise between the demands of the 'social partners' (in this case, mainly consumer organisations and trades unions) for affordable services,²³ the principle of subsidiarity, and the primary purpose of the Framework

¹⁷ OECD (2007b), by the Australian telecommunications economist John de Ridder.

¹⁸ OECD (2006), by another Australian, Patrick Xavier.

¹⁹ Part of the 2002 Electronic Communications Regulatory Framework, which is currently under review.

²⁰ USD Article 1(2). Because of the pivotal importance of this Directive, extracts from it are provided as Annex A.

²¹ USD Article 9(2)

²² The second Voice Telephony Directive came into force in 1998. It included similar wording, and referred especially to the need to maintain affordability in the face of the progressive adjustment of tariffs towards costs.

²³ Consumer organisations in general would have preferred a clear statement on the meaning of affordability against which national situations could be assessed (see BEUC 1998).

in promoting competition. The 2002 Framework, in turn, is close to being replaced by a revised version, whose texts are not yet final; however, the draft replacement texts on affordability have shown little change from the 2002 USD, and have not prompted controversy. The main relevant changes allow for separation of network and service provision, and strengthen the requirements for equivalent levels of access and affordability for people with disabilities.

Despite widespread assent to the principle of equal opportunities for people with disabilities, current European legislation does not permit national regulators to intervene to make specialised communications equipment affordable to them. It is hoped that the forthcoming revision of the Radio and Telecommunications Terminal Equipment (RTTE) Directive will improve this situation.

6.5.2. Implementation monitoring

The European consumer federation BEUC in 1998 published a survey of the EU15 member states' implementation of universal service, including affordability. It found that eight of the 15 countries had no clear definition of universal service. Six of the remaining seven had a definition in terms of existing prevailing price levels, which were presumed affordable (though the existence of supporting evidence was unclear). The honourable exception was Denmark, which set very detailed rules for price evolution taking account of consumers' actual usage patterns, but even it took no account of consumers' incomes.

Annual reviews by the Commission of member states' implementation of the universal service part of the Framework²⁴ have made little mention of affordability, or indeed other consumer aspects, focusing instead on the supply arrangements. There has been a general assumption that fixed telephony has become sufficiently affordable. A flavour of the latest annual implementation report can be obtained from the extracts provided in Appendix 6.2, which touch on seven countries.²⁵

Complementary horizontal reviews of the markets for network industries²⁶ provide a little more information. Their 2007 report, when feeding back consumer views, remarks:

The affordability of these services is an issue of great importance in consumers' daily lives since, in general, they comprise a considerable part of consumers' household budget. A positive aspect is that, according to users' views, most services have become more affordable. Most improvement is observed in urban and extra-urban transport and mobile telephony. Consumers indicate that energy has become less affordable for both electricity and gas. Electricity users are especially dissatisfied with prices in Malta, Finland, Sweden and Poland. Gas users are most dissatisfied in Poland, France, Germany and Hungary.

²⁴ These reports are available online for every year since liberalisation in 1998, at http://ec.europa.eu/information_society/policy/ecomms/library/communications_reports/index_en.htm.

²⁵ The annex contains all the material relevant to this paper found in a trawl of the entire report, hundreds of pages long.

²⁶ Under the auspices of a different part of the Commission – Directorate for Internal Markets rather than Directorate for Information Society (which is responsible for policy and legislation related to electronic communications).

When examining the views of citizens who are non-users of these services on the question of affordability, we can get a picture of the scale of exclusion from using these services due to affordability. The results are not very encouraging since, in this group of citizens, we observe percentages ranging from 21 per cent for urban transport to 39 per cent for electricity.

Some interesting data for the EU15 (the original Western European Member States before enlargement in 2004) are reproduced for convenience in Appendix 6.3. These appear to show the following over the period 1994–2004:

- All consumer groups benefited from price reductions in telecommunications, to extents varying between 0 per cent and 0.66 per cent of their total spending.
- All consumer groups also increased their telecommunications usage volume, by extents varying between 1.12 per cent and 3.49 per cent for the best-off quintile and between 1.83 per cent and 7.12 per cent for the worst-off quintile.
- Thus, the worst-off consumer quintiles have shown a significant price elasticity of demand, and telecommunications now accounts for a considerably higher share of their total spending than of the spending of the best-off consumer quintiles.

The finding that communications accounts for an increased share of overall consumer spending echoes that of the OECD discussed above.

6.5.3. *Reviews of scope of universal service*

By now, two reviews of the scope of universal service have taken place,²⁷ each time addressing the question of whether a) mobile and b) broadband should be added to the scope. Both times the conclusions have been ‘no’:

- for broadband because take-up is not yet so high that the service can be regarded as essential to social inclusion;
- for mobile because, although it has become essential to social inclusion, the market has provided universal availability and affordability.

Along with all other developed countries, EU member states are anxious to foster the spread and take-up of broadband. Various broadband initiatives have emerged outside the ‘universal service’ wrapper. However, Finland, France, Spain and the United Kingdom (at least) have announced broadband plans which either are called ‘universal service’ or look very much like it. It seems probable that the next European review of the scope of universal service will have to include ‘basic’ broadband (at a speed sufficient to enable, for example, interactive access to government websites); this will entail attention to the affordability of broadband.

6.5.4. *Fixed-line social tariffs*

Several member states have special fixed-line tariffs or concessions aimed at affordability for low-frequency users or low-income users, sometimes with limited eligibility. In most countries these are offered only by designated universal service providers, in general the fixed line incumbent; in Belgium, exceptionally, all fixed line operators offer them. Design features may include:

²⁷ See European Commission (2005, 2008) for the conclusions of these reviews.

- a much reduced rental (typically, 50 per cent of the standard level), possibly inclusive of some usage, but often with relatively high call charges once the included usage is exceeded (for example BT Basic and its predecessors, FT Abonnement Social, KPN BelBudget, Eircom Vulnerable User Scheme);
- a straight allowance towards telephony charges, provided either by the telephone company (as in Belgacom's tarif social) or direct to the customer by social services (as in Finland, and the Irish Telephone Allowance);
- zero rental, with a minimum monthly call spend (Maltacom's Easyline and Telefónica's Línea Libre);
- additional concessions for deaf users, with the aim of making the longer time they are obliged to spend on the phone for a given conversation (say, through a text relay service) cost no more than the equivalent conversation time for a hearing user.

6.5.5. Affordability of mobile service

Despite its acknowledged social importance, and despite indications that its affordability is by no means universal, particularly in newer member states,²⁸ it is less likely that mobile service will be included within the scope of universal service. Concern that everyone should be able to afford mobile service is beginning to surface, however. Examples include the following:

- The UK Minimum Living Standards budgets, developed through deliberative research among groups of ordinary citizens about what is essential in contemporary society and published in 2008,²⁹ all include provision for modest use of a mobile phone (as well as a fixed line).
- There is a discussion of whether involuntary exclusion from the mobile phone market is an important issue in a recent consultation by Consumer Focus.³⁰
- The COST605 European collaborative project on economics of telecommunications includes a work strand on affordability of mobile service.³¹

An announcement on 12 May 2009 from Orange (France) of a new mobile social tariff (€10 a month, to include 40 minutes of calls and 40 SMS, available to social benefit recipients) may be followed by similar moves in other European countries.³² The press notice ends by saying that a €20 social triple play offer (telephone, TV and broadband Internet) is being prepared. Orange is providing the mobile social tariff voluntarily, and meeting all costs without outside financial support.³³ Telefónica in Spain is now also offering 50 per cent discounts on both fixed and mobile bills to people who are unemployed.³⁴

²⁸ Survey evidence is available from Portugal (see Puga 2008 for a summary). The series of Eurobarometer E-Communications Household Surveys, available at <http://ec.europa.eu/information_society/policy/ecommm/library/ext_studies/index_en.htm#2009>, has included at different times varying questions related to cost or affordability of fixed and mobile telephony and Internet.

²⁹ See <<http://www.minimumincomestandard.org>>.

³⁰ Consumer Focus (2009).

³¹ See Pau (2008).

³² See Orange (2009); information on other countries obtained in private communication from L-F Pau, leader of COST605 affordability workstream.

³³ Personal communication to the author from Matthieu Belloir of Orange, 14 May 2009.

³⁴ <<http://www.telefonica.es/on/io/es/teayudamos/home.html>>.

It is worth noting that the European Commission has been active in bringing down certain mobile roaming prices directly (first those for voice roaming, followed by those for SMS and data roaming). The intervention has have been widely supported by consumer and public interest groups, on grounds related more to perceived excessive profit margins than to affordability. The Commission justified its intervention in terms of a failure of effective competition, aggravated by national regulators' inability to address the charges levied by the roaming operator in another country. They are now pressing national regulators to reduce mobile termination charges to cost.

6.6. The United States

6.6.1. *Affordability as part of universal service*

The United States is the country which originated the idea that communications should be affordable to all,³⁵ and which has put in place the most extensive provisions to achieve this end.³⁶ In spite of low take-up³⁷ by eligible groups, 7 million households are provided with subsidised telephone service under the Low Income Program by 1,700 registered telephone companies. Along with Do Not Disconnect policies in most states, this has contributed to telephony penetration of near 90 per cent in the lowest income group (household income below US\$10,000 a year).³⁸

Much recent concern and debate has been caused by the rapid growth of the multi-billion dollar Universal Service Fund (USF), the lion's share of which (62 per cent in 2007) has been used to subsidise operations in high-cost rural areas, so that tariffs are comparable to those prevailing elsewhere. Special affordable tariffs for low-income customers (called Link-Up for initial connection and Lifeline for ongoing service) have cost much less (in 2007, a 'mere' US\$823 million, only 12 per cent of the Universal Service Fund) and attracted less controversy.

Some commentators argue that low take-up and high cost per customer benefited point to a need for improvements in target group awareness and in packaging and presentation of the tariffs. In particular, it has been pointed out³⁹ that a growing majority of low-income households now prefer wireless to fixed service⁴⁰. At least since 2000, wireless as well as fixed carriers have been able to offer low-income packages through these programs, and such wireless packages are now available in a growing number of states. In 2007, 14.6 per cent of low-income USF disbursements were to competitive carriers rather than incumbents, with more than half of this competitive share going to wireless carriers. In Alaska, Arizona and South Dakota, wireless carriers had the most Lifeline customers.

³⁵ See Cooper (1996) for a useful historical summary.

³⁶ Much of the information in the following paragraphs is drawn from the Universal Service Administration Company's Low Income Program website at www.lifelinesupport.org and the FCC's pages at www.lifeline.gov.

³⁷ In 2007, under half of eligible households in all but six states, according to the map at http://www.lifelinesupport.org/_res/documents/li/pdf/li-participation-rate-map-2007.pdf.

³⁸ See NRRI (2006), which is also a useful source for more detail on the Lifeline and Link-up schemes.

³⁹ See, for example, Hauge, Chiang and Jamison (2009), who provide many earlier references.

⁴⁰ The best data on mobile-only and mobile-mostly households are provided by the National Health Interview Survey, available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200905.htm> (where they are interestingly related to health issues).

6.6.2. *Assessing affordability*

Pioneering basic research into underlying principles for affordability has been carried out in the context of energy affordability. Some of its lessons may be transferable into communications markets. A recent study into best-in-class low-income utility rate affordability programs⁴¹ came up with and applied the following five criteria:

- Is the program reasonably open to all households in need?
- Does the program recognise the multiple facets of energy affordability ‘need’?
- Does the program efficiently use program funding?
- Does the program provide for continuous improvement?
- Does the program provide for reasonable cost recovery?

Earlier studies by the same consultancy have examined the important question of how to identify households who should receive assistance, and determine a threshold for an acceptable energy burden (that is, proportion of household spending devoted to energy).

The project devised the following Household Level Home Energy Insecurity Scale for Home Energy Assistance Programs:⁴²

- *Thriving*. A ‘thriving’ household has achieved generally accepted standards of well-being.
- *Capable*. A ‘capable’ household is secure, even though not having achieved the full range of generally accepted standards of well-being.
- *Stable*. A ‘stable’ household does not face significant threats and is unlikely to be in immediate crisis.
- *Vulnerable*. A ‘vulnerable’ household is one that is not in immediate danger, but that may avoid this danger only through temporary or inappropriate solutions.
- *In crisis*. An ‘in crisis’ household faces immediate needs that threaten the household’s physical and/or emotional safety.

A questionnaire enables each household to be classified at the appropriate level. Replies throw light on the following areas of concern:

- *Receipt of outside assistance*. This includes more than simply energy assistance. The household is asked about the extent to which the household’s ‘home energy bill became due and [the household] did not have money to pay it without somebody’s help’.
- *Constraints on energy usage*. Different questions explore different intensities of constraint on energy usage. One question, for example, asks whether the household is constrained in the energy it ‘wants’ to use. A more intense constraint involves whether reductions in energy use are to ‘uncomfortable or inconvenient levels’. An even more intense constraint involves turning hot water heating or space heating/cooling off entirely because of the lack of money.
- *Constraints on household necessities*. Different questions explore different levels of impact that home energy bills have on the provision of household necessities. On the one hand, the involuntary discontinuance of energy service due to non-payment is

⁴¹ See Colton (2009), which summarises Colton (2007).

⁴² The following material is taken from LIHEAP (2003).

considered to be an adverse impact on the provision of household necessities. On the other hand, households are asked the extent to which, if at all, they reduce their expenditures on household necessities such as food or medicine because there is not enough money to pay for these *and* the home energy bill.

- *Non-payment of energy bills.* Again, different questions explore different levels of intensity of the response. Households are asked whether they ever do ‘not pay our home energy supplier because there is not enough money for the home energy bill’. A more intense non-payment issue is raised by the question of whether the household has ever had its supplier of electricity or heating energy threaten to disconnect electricity or home heating fuel service, or discontinue making heating fuel deliveries, because the household could not afford to pay a past-due energy bill. An even more intense response involves the *actual* disconnection of service (or discontinuance of deliveries).
- *Financial strain.* The presence of ‘strain’ is measured through a variety of questions, including the extent to which, if at all, a respondent ‘worried whether [his or her] home energy bill would become overdue before [he or she] could get money to pay it’.

6.7. South Africa

This overview is designed to focus on developed countries, since their experience is most likely to provide useful learning for Australia. South Africa is included because its unusual mix of First and Third World economies has led to some particularly interesting developments.

In the spirit of its 1994 democratic constitution, South Africa has paid a good deal of attention to the idea of affordable communications for all. It has a dedicated Universal Service and Access Agency⁴³ which is currently consulting on the detail of various definitions required by legislation: universal access and universal service (which both use the concept of affordability), under-served area and needy person. Regulatory activity in support of affordability has included:⁴⁴

- requiring the fixed incumbent Telkom to provide lines to raise telephone penetration in under-served areas. A low-priced prepaid offering (but with a line rental) was introduced for this purpose. Between 1997 and 2002, Telkom installed over 2.6 million new lines as required, 1.6 million of them in under-served areas, but within a few years the majority had been disconnected for non-payment of the monthly rental – real net line growth was only 0.6 million;
- requirement for provision by cellular operators of large numbers of free SIM cards to needy people, in part-recognition of the privilege of 3G licensing;
- provision of both fixed and mobile ‘lifeline’ services, whereby calls can still be received and emergency calls can be made even on lines whose credit or payment status does not permit charged outgoing calls;
- special licensing (with financial support, and relatively gentle licence conditions) since 2004 of new operators for the provision of affordable service to needy people in under-served areas. Twelve such licences have been issued, but only a few of the

⁴³ See <<http://www.usaasa.org.za>>.

⁴⁴ This section draws on Msimang (2006), which is a good source for further information.

licensed operators are in business, and none is operating on anything like the scale originally planned;

- requirements on both fixed and cellular operators to provide Community Service Telephones – that is, public pay phones with controlled call charges (achieved through compulsorily reduced interconnection rates). Since 1997, nearly 200,000 such pay phones have been provided in many locations, though demand for more of them in deprived areas continues. Where these phones exist, people often use them to make outgoing calls, reserving their cell phones for receiving calls.

These measures have, however, had less impact than the market in achieving real progress towards universally affordable service. In particular, the mobile market in South Africa (despite the high call prices for which it attracts criticism) offers many innovative services which improve affordability. Although the technology obviously permits them, such services tend to be unavailable in developed countries. They include:⁴⁵

- low-cost prepaid starter packs including a SIM card (from under US\$2);
- the popular ‘please call me’ free SMS service;
- low-value credit top-ups (down to around US 50 cents);
- over-the-air airtime transfer between mobile users;
- reverse-charge calls to contract customers who accept such calls, or pre-authorise them from a specific number;
- real-time discounted call rates reflecting spare network capacity. Customers opting in are informed of the discounts (which can be up to 95 per cent) by SMS;
- itemised call statements for prepaid customers;
- ‘shared phone’ SIM cards which make it easy for an individual to set up a personal call resale service on any cellular handset (so they become a sort of walking pay phone).

6.8. The United Kingdom

6.8.1. *Affordability in context*

Lennard and George (2008) provide a valuable overview of how low-income and other disadvantaged consumers in the United Kingdom fare in relation to telecommunications markets.⁴⁶ They make some important points which are relevant to affordability, including the following:

- The variability of individual needs and circumstances in turn leads to variable levels of necessary consumption. In particular, disability and illness both often raise consumption requirements while at the same time lowering income.
- Many consumers find it difficult to take advantage of the competitive offers in the market. This difficulty is compounded by personal disadvantage, and may lead to the

⁴⁵ Examples other than the last are taken from <<http://www.vodacom.co.za>> and <<http://www.mtn.co.za>>.

⁴⁶ The reference given is to a book chapter. The book is a major study of the problems faced by the poor in the market for seven essential services in the United Kingdom – energy, food, housing, water, telecoms, transport, and financial services. Together, these represent 60 per cent of spending by the poorest 30 per cent of households.

least well-off consumers being unable to find best buys, and even paying above-average prices.⁴⁷

- Disconnections caused by debt remain too frequent.

They quote 2006 household survey findings which show lowest decile communications spending at around 3.6 per cent, double the budget share for the highest decile, while half the amount in money terms (equivalised for household size).

In the last few years, Ofcom has carried out a considerable amount of consumer research, some of which has addressed affordability and other reasons for involuntary non-use of services. Its attitudinal study of people on low incomes (Ofcom 2007) is worth reading in its entirety by anyone wanting to follow up affordability issues. As qualitative research, it naturally provides no figures, but makes it clear that the proportion of people citing cost as a barrier to use of telephony is now very low. Having to pay bills through a bank account, and being tied in to contracts which may prove to be a mistake, are much more significant considerations for most of the group surveyed.

6.8.2. Additional charges

A lot of bad feeling has been caused in the last year or two by the increasing tendency of service providers to charge more when customers do not pay their bills by direct debit, or other automated method. Additional charges are now also typically made for paper rather than electronic billing. Both types of charge weigh most heavily on lower income and especially elderly consumers, who may resist direct debit even if they have a bank account, and who often cannot receive bills by email. Although the amounts in question are usually not very large, and can be justified in terms of costs, many people feel them keenly as discriminatory and unfair. Ofcom has looked into these and other additional charges, and concluded that while it neither could nor should ban them, it is important that such charges should be cost-justified and transparent.⁴⁸

6.8.3. Special fixed line tariffs

The new BT Basic social tariff⁴⁹ is intended to replace the old Light User Scheme and In Contact tariffs.⁵⁰ While marginally more generous to light users than its predecessors (and without additional charges for non-direct debit payment and paper bills), it is the first UK telecoms tariff with restricted eligibility (dependent on receipt of specific benefits). Ofcom requires BT to recruit 600,000 users to BT Basic before the predecessor tariffs can be withdrawn. It is more generous than its predecessors in allowing beneficiaries also to use mobile phone and broadband service.

⁴⁷ Findings such as those of Waddams and Chang (2008) show that switching provider is by no means always advantageous.

⁴⁸ The statement on Ofcom's Review of Additional Charges is at <<http://www.ofcom.org.uk/consult/condocs/addcharges/statement>>, where links to the consultation and responses can also be found.

⁴⁹ See <<http://www.bt.com/btbasic>>.

⁵⁰ Grilli (2004) discussed the deficiencies of these schemes and draws wider lessons for social tariff design.

The service was launched in the autumn of 2008 and by mid-May 2009 over 300,000 people had registered with the scheme, and it was on target for 425,000 by the end of May,⁵¹ when BT also expected to have written to all existing Light User Scheme customers, advising them of BT Basic. Light User Scheme customers whose lifestyle data indicates low income are being invited to move to BT Basic without completion of an application form or eligibility checks.

Needy groups who cannot benefit from these schemes include:

- the homeless – a privately funded and provided free voicemail service with free message pick-up is now available to homeless people.⁵² In 2007, it had 1,000 customers;
- prisoners – a recent complaint by Consumer Focus on behalf of prisoners succeeded in getting a modest reduction in their pay phone rates, which remain high.

6.8.4. Affordability of mobile phone service

While pay-as-you-go mobile is undoubtedly the cheapest telephony option for people who make few calls, high call charges mean that it can rapidly become very expensive if usage increases. So, in a short period of crisis which requires extra calling (for example, sickness in the family), the mobile can become an extra liability. This is even worse if necessary calls include those to specially tariffed numbers, typically used by call centres – not only are these often charged at a premium, but it may be necessary to hold for some time before getting any attention.

Subject to these concerns, commercially available prepaid mobile tariffs are now acceptable to the vast majority of the UK public, even if higher-frequency users with contracts are getting more benefit from price reductions than lower-frequency and prepay users.⁵³ The MVNO market in particular is targeting low-income users, largely through supermarket brands such as Tesco and Asda. It has produced a virtually free youth service, funded by advertising,⁵⁴ and a number of low-priced services targeted at people who make many international calls.⁵⁵

The fate of marginal prepaid users has been brought into debates over reductions in mobile termination rates, with the industry arguing that the ‘waterbed effect’ will drive them to recover lost termination revenues from other sources, to the greatest detriment of the lowest users. A recent Ofcom consultation, when touching on this issue, suggests that if this effect matters it should be addressed through targeted measures:⁵⁶

6.48 The net effect of the rebalancing of call and subscription charges would be likely to favour consumers that make more calls, against those that make

⁵¹ This information and what follows were kindly provided to the author in a personal communication from Fiona Miller of BT.

⁵² See <www.voicemail4all.org.uk>.

⁵³ As Ofcom’s recent Mobile Sector Assessment pointed out. See Chapter 4 of *Mobile Citizens, Mobile Consumers*, available at <<http://www.ofcom.org.uk/consult/condocs/msa08/msa.pdf>>.

⁵⁴ See <<http://www.blyk.com>>.

⁵⁵ See, for example, <<http://www.lycamobile.com>>.

⁵⁶ See 20 May 2009 Ofcom preliminary consultation on future regulation on wholesale mobile voice call termination at <http://www.ofcom.org.uk/consult/condocs/mobilecallterm/mobile_call_term.pdf>.

fewer calls. This section sets out our preliminary views about the nature of these effects and their relevance to choosing an approach to setting termination rates.

6.49 For some customers, particularly low users, who do not make many calls, this effect could make them decide not to continue to have a mobile phone(s). We think the impact of this effect is real though the size of the effect is unclear. Industry claims of widespread negative impact need to be weighed against the evidence of widespread take-up and low barriers of affordability in the UK for mobile services.

6.50 To the extent that the impact is significant, this issue may be better addressed through alternative policy means rather than allowing termination rates to be higher than they would otherwise be – e.g. through broader consumer protection measures. For example, some form of mandatory social tariff to ensure that mobiles are affordable for low usage subscribers could be the best vehicle to achieve this objective more directly. We also note that according to an Analysys Mason report that we commissioned (annex 8.1), it appears that the relevant regulatory authorities in countries where mobile termination rates are very low or zero – US, Hong Kong, Canada and Singapore – have not expressed concerns about distribution issues and the need for a mandatory social tariff.

6.8.5. Barriers to Internet use

Having been reduced to a small issue for telephony, affordability arises again in the context of Internet use and broadband take-up. Recent research⁵⁷ found that cost was the second most quoted reason for those without home Internet access not planning to get it in the coming year, at 22 per cent of respondents (with 55 per cent quoting lack of need or interest). Sub-groups for which cost was more important than average included the lowest income group (31 per cent), those aged 15 to 34 (46 per cent), mobile-only households (46 per cent) and, most strikingly, households with children (50 per cent).

Because of the priority now given by government to getting as many people as possible online, broadband affordability has become a new area of concern and prepaid broadband tariffs have been mooted.⁵⁸ When speaking of people's reasons for not having broadband, it is hard to disentangle mentions of affordability from their perceptions of need and benefit. Perceptions of low need or little benefit may themselves be much influenced by limited competence and fear or dislike of the unknown.

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⁵⁷ The figures quoted are taken from Ofcom (2009), a summary of several pieces of research which may be consulted individually for full details.

⁵⁸ One such has already been introduced, by the 3G mobile operator 3 (see <http://www.three.co.uk/Mobile_Broadband/Ready_to_go_Mobile_Broadband>). As might be expected, it is very expensive per GB of data compared with 3's contract options, which are competitive with the best fixed broadband offers.

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6.10. Appendixes

Appendix 6.1: Extracts from 14th Implementation Report of the European Commission⁵⁹

Belgium

The Commission has opened infringement proceedings against Belgium on the costing and the financing of the Belgian universal service obligations, and in particular the social tariffs.

In Belgium, all operators offering public telephony services to consumers are required to offer social tariffs. In this system, the net cost of universal service is calculated as any loss of revenue resulting from the granting of social discounts. Any net cost so calculated, which is incurred by an operator, has to be considered as an unfair burden.

The Commission considers that the provisions in the Belgian Electronic Communications Act with regard to calculation of net cost and determination of the unfair burden infringe the Universal Service Directive. It decided to refer the Belgian State to the European Court of Justice in January 2008.

Czech Republic

A draft proposal for changing overall the compensation mechanism for universal service to public funding has been prepared. The current financing system allows for public funding only with respect to measures for disabled users.

The incumbent and the smallest mobile operator were again designated for the element of special social tariffs for disabled users on the basis of the new Government Decree of 2008. The decree specifies the reduction of the scope for the element of special tariffs, which was introduced by primary legislation at the beginning of 2008, by excluding the provision of special prices for low-income recipients. Nevertheless, in addition to the requirements set out in the designation, the smallest operator decided to maintain the original wider scope of special discounts. The third mobile player did not apply for a designation to provide social tariffs. However, it continues to offer on a voluntary basis more generous discounts than those provided for by the current universal service obligation.

France

The legislator has been active in France in 2008 regarding electronic communications regulation. A law on competition and consumer protection (Loi n° 2008-3 du 3 janvier 2008 pour le développement de la concurrence au service des consommateurs, so called 'loi Chatel'), with specific provisions on mobile, fixed and broadband services, was adopted in January 2008. The law on the modernisation of the economy (Loi n° 2008-776 du 4 août 2008 de modernisation de l'économie, LME) includes a chapter on electronic communications.

⁵⁹ Available at
<http://ec.europa.eu/information_society/policy/ecomm/library/communications_reports/index_en.htm>.

An issue raised by many mobile communications users, especially those not residing permanently in France, seems to be the short validity period of pre-paid cards in France and the early expiry of the recharge period, together with the loss of unused credit. Such conditions might have contributed to the small proportion of pre-paid users in France.

It should also be noted that under the LME (outside the universal service regime), mobile operators will provide a special tariff for people with low income, on a voluntary basis, further to an agreement between operators and the government, still to be concluded.

Greece

According to EETT's decision, the Greek incumbent remains the universal service provider until the completion of the procedures for universal service provider designation under Law 3431/2006. The relevant legislation on the conditions for the selection and compensation of related costs was finalised in 2008. At the time of drafting this report, EETT was working on specifying the selection process to be followed. A Joint Ministerial Decision was adopted in September 2008 introducing measures for users with disabilities in order to ensure access to and affordability of publicly available telephone services.

Lithuania

Billing and payments remained the main themes of consumer complaints in 2008. Several instances of exorbitant bills were identified. RRT has prepared changes to the rules clarifying the setting of limits for consumption of telecommunications services.

Luxembourg

While transparency is a key principle of the Universal Service Directive, several citizens of Luxembourg have informed the Commission's services of their concerns in the matter of the period of validity of prepaid cards.

While no universal service provider has been designated, the incumbent provides universal service on a voluntary basis. As a result, not much information is available on the effective provision of some components of universal service, such as public pay phones, universal directory services and social tariffs.

Poland

Alternative operators maintain that the compensation figure was inflated by the inclusion of a social tariff plan, which was priced below cost, and was available for all new subscribers and not only those with low incomes or the disabled. This plan was only available to new subscribers until December, and was replaced by one restricted to the most disadvantaged.

Appendix 6.2: Extracts from Universal service directive 2002

Selected paragraphs from the Preamble

(7) Member States should continue to ensure that the services set out in Chapter II are made available with the quality specified to all end-users in their territory, irrespective of their geographical location, and, in the light of specific national conditions, at an affordable price. Member States may, in the context of universal service obligations and in the light of national conditions, take specific measures for consumers in rural or geographically isolated areas to ensure their access to the services set out in the Chapter II and the affordability of those services, as well as ensure under the same conditions this access, in particular for the elderly, the disabled and for people with special social needs. Such measures may also include measures directly targeted at consumers with special social needs providing support to identified consumers, for example by means of specific measures, taken after the examination of individual requests, such as the paying off of debts.

(10) Affordable price means a price defined by Member States at national level in the light of specific national conditions, and may involve setting common tariffs irrespective of location or special tariff options to deal with the needs of low-income users. Affordability for individual consumers is related to their ability to monitor and control their expenditure.

(13) Member States should take suitable measures in order to guarantee access to and affordability of all publicly available telephone services at a fixed location for disabled users and users with special social needs. Specific measures for disabled users could include, as appropriate, making available accessible public telephones, public text telephones or equivalent measures for deaf or speech-impaired people, providing services such as directory enquiry services or equivalent measures free of charge for blind or partially sighted people, and providing itemised bills in alternative format on request for blind or partially sighted people.

(15) Member States should monitor the situation of consumers with respect to their use of publicly available telephone services and in particular with respect to affordability. The affordability of telephone service is related to the information which users receive regarding telephone usage expenses as well as the relative cost of telephone usage compared to other services, and is also related to their ability to control expenditure. Affordability therefore means giving power to consumers through obligations imposed on undertakings designated as having universal service obligations. These obligations include a specified level of itemised billing, the possibility for consumers selectively to block certain calls (such as high-priced calls to premium services), the possibility for consumers to control expenditure via pre-payment means and the possibility for consumers to offset up-front connection fees. Such measures may need to be reviewed and changed in the light of market developments. Current conditions do not warrant a requirement for operators with universal service obligations to alert subscribers where a predetermined limit of expenditure is exceeded or an abnormal calling pattern occurs. Review of the relevant legislative provisions in future should consider whether there is a possible need to alert subscribers for these reasons.

(16) Except in cases of persistent late payment or non-payment of bills, consumers should be protected from immediate disconnection from the network on the grounds of an unpaid bill and, particularly in the case of disputes over high bills for premium rate services, should continue to have access to essential telephone services pending resolution of the dispute. Member States may decide that such access may continue to be provided only if the subscriber continues to pay line rental charges.

Selected articles

Article 3: Availability of universal service

1. Member States shall ensure that the services set out in this Chapter are made available at the quality specified to all end-users in their territory, independently of geographical location, and, in the light of specific national conditions, at an affordable price.

2. Member States shall determine the most efficient and appropriate approach for ensuring the implementation of universal service, whilst respecting the principles of objectivity, transparency, non-discrimination and proportionality. They shall seek to minimise market distortions, in particular the provision of services at prices or subject to other terms and conditions which depart from normal commercial conditions, whilst safeguarding the public interest.

Article 7: Special measures for disabled users

1. Member States shall, where appropriate, take specific measures for disabled end-users in order to ensure access to and affordability of publicly available telephone services, including access to emergency services, directory enquiry services and directories, equivalent to that enjoyed by other end-users.

2. Member States may take specific measures, in the light of national conditions, to ensure that disabled end-users can also take advantage of the choice of undertakings and service providers available to the majority of end-users.

Article 9: Affordability of tariffs

1. National regulatory authorities shall monitor the evolution and level of retail tariffs of the services identified in Articles 4, 5, 6 and 7 as falling under the universal service obligations and provided by designated undertakings, in particular in relation to national consumer prices and income.

2. Member States may, in the light of national conditions, require that designated undertakings provide tariff options or packages to consumers which depart from those provided under normal commercial conditions, in particular to ensure that those on low incomes or with special social needs are not prevented from accessing or using the publicly available telephone service.

3. Member States may, besides any provision for designated undertakings to provide special tariff options or to comply with price caps or geographical averaging or other similar schemes, ensure that support is provided to consumers identified as having low incomes or special social needs.

4. Member States may require undertakings with obligations under Articles 4, 5, 6 and 7 to apply common tariffs, including geographical averaging, throughout the territory, in the light of national conditions or to comply with price caps.

5. National regulatory authorities shall ensure that, where a designated undertaking has an obligation to provide special tariff options, common tariffs, including geographical averaging, or to comply with price caps, the conditions are fully transparent and are published and applied in accordance with the principle of non-discrimination. National regulatory authorities may require that specific schemes be modified or withdrawn.

Article 10: Control of expenditure

1. Member States shall ensure that designated undertakings, in providing facilities and services additional to those referred to in Articles 4, 5, 6, 7 and 9(2), establish terms and conditions in such a way that the subscriber is not obliged to pay for facilities or services which are not necessary or not required for the service requested.

2. Member States shall ensure that designated undertakings with obligations under Articles 4, 5, 6, 7 and 9(2) provide the specific facilities and services set out in Annex I, Part A, in order that subscribers can monitor and control expenditure and avoid unwarranted disconnection of service.

3. Member States shall ensure that the relevant authority is able to waive the requirements of paragraph 2 in all or part of its national territory if it is satisfied that the facility is widely available.

**Appendix 6.3: Extract from European Commission (2007)
Evaluation of the Performance of Network Industries
Providing Services of General Economic Interest**

(These services are electricity, gas, transport, telecommunications, and postal services.)

5 *Distributive effects of market opening*

5.1.2. Telecommunication services

Following the transposition of a number of EU Directives into Member States' legislation, the national markets for telecommunication services are largely open to competition. This market opening is accompanied by market analyses and the imposition of appropriate remedies by national regulatory authorities across the EU. Member States have however not reached the same level of completeness or consistency in this regard, which means that consumers have not yet reaped the full benefits of competition across the EU.

On average in the EU15, prices for telecommunications decreased by 22% between 1996 and 2004, as did the overall prices of telecommunications equipment and services. In a number of Member States, including Germany and Luxembourg, published telecoms prices declined by even more than 30%. Other Member States experienced much smaller price reductions, though still in the order of 10%, as in Belgium, Finland, the Netherlands and Spain. The price differential between overall CPI inflation and the index of telecommunications equipment and services prices is therefore very large in all countries, which has induced important behavioural changes on the part of consumers.

Over the same time period we observe substantial increases in the volume of telecommunication services consumed (volume change in Table 16). These results emphasise the strong elasticity of consumption to prices, as well as the effect of technological progress and changes in habits across user categories and across Member States over the past decade.

Comparing the direct price effect between lower-income and higher-income households, we can see that the expenditure of the former was affected more by the direct price effect.

The remarkable increase in usage of telecommunication services – and mobile telephony in particular – may also be explained by the presence of club externalities: Each new subscriber benefits from accessing a group of pre-existent users, while also offering a new possibility for communication (actual or potential) to that group of connected customers. These club externalities furthermore amplify the reaction of consumers to price reduction. From Table 16 we can conclude that households with lower income increased their consumption of telecommunication services to a much greater extent than households with high income. Thus, low-income households now spend a considerably higher share of their outgoings on telecommunication services. The most prominent example is Ireland with an increase in the expenditure share for low-income households of 6.5 per cent, while high-income households increased their share by only 2%. In Italy, changes are similar with a plus of 4.5 per cent for low-income households and an increase of only 1.5 per cent for high-income households.

Table 16: Effect of telecommunications price changes 1994–2004 on total household spending

In %	Household quintile with low income			Household quintile with high income		
	Direct price effect	+ Volume change	= Overall change in expenditure Share	Direct Price Effect	+ Volume change	= Overall change in expenditure share
AT	-0.19	2.12	1.93	-0.17	2.11	1.94
BE	-0.05	1.83	1.78	-0.03	2.58	2.55
DE	-0.66	2.16	1.50	-0.41	1.12	0.71
DK	-0.46	2.46	2.00	-0.27	1.42	1.15
EL	-0.38	2.55	2.17	-0.28	3.16	2.88
ES	-0.13	3.52	3.39	-0.13	3.49	3.36
FR	-0.35	3.39	3.04	-0.26	2.21	1.86
IE	-0.47	7.12	6.65	-0.50	2.69	2.19
IT	-0.23	4.68	4.45	-0.14	1.46	1.32
LU	-0.44	2.58	2.14	-0.29	1.68	1.39
NL	-0.05	4.90	4.85	-0.03	2.68	2.65
PT	-0.17	4.28	4.11	-0.13	3.09	2.96
SW	0.00	4.56	4.56	0.00	2.61	2.61
UK	-0.39	2.75	2.36	-0.30	1.89	1.59

Note: Data for Finland not available.

Source: Eurostrategies based on Eurostat.