



Competition Competence Report

## **Market Definition for Wholesale Broadband Access**

### **Broadband Access on the Wholesale Level: Recommendation of the EU Commission**

The EU Commission defined in its recommendation on relevant product and service markets, the “market for wholesale broadband access”, market 12, as follows:

*„This market covers ‚bitstream‘ access that permit the transmission of broadband data in both directions and other access provided over other infrastructures, if and when they offer facilities equivalent to bitstream access.”<sup>1</sup>*

The increased use of Internet for a mix of communications services has created wide-ranging retail markets for access to data and related services at fixed locations. In general, the provision of retail Internet access consists of two parts: (i) the network or transmission service to and from the end-user’s location and (ii) the provision of Internet services. Bit-stream access is a wholesale product defined as the provision by a network operator of a high speed access link to a customer’s premise and his making bi-directional capacity on this access link available to one or more third parties to enable them to provide high speed data services to their end customers. This basic definition is completely independent of the network technology used.

---

<sup>1</sup> Commission recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with directive 2002/21/EG of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services; OJ, 08.05.2003, L 114/45.

Usually, bitstreaming is discussed within the context of xDSL. The supply of the xDSL-equipment and the provision of transmission capacity over some part of the network between an end-user and the point of interconnection are offered by the supplier on the wholesale level.<sup>2</sup>

## **Authorities' Market Definition for Broadband Products on the Retail Level**

To address an end user market, the use of facilities such as DSL (or equivalent) service or a coaxial cable or satellite capable of passing data in both directions and at rates that are appropriate for the service demanded are required. The RTR employed – as requested by the EC Commission in its SMP guidelines – the methodology of the hypothetical monopolist test in order to define the relevant markets. In this context, the RTR evaluated the following bidirectional provision technologies:

- Copper-based Digital Subscriber Line (xDSL) access network;
- CATV technology based on a hybrid fibre-coax network;
- „Fixed Wireless Access“ products, such as WLL, W-LAN;
- FTTH (Fibre to the home).

The authority estimated the market shares for broadband access products in Austria:<sup>3</sup> 54% of the access products are realised via DSL. However, 46% of the broadband access products are CATV products. Compared with other countries, this figure is extremely high.<sup>4</sup> Alternative technologies like W-LAN, PLC (Powerline) and FTTH (Fibre to the home) are of limited importance.

The RTR reached the conclusion that on the retail level the broadband access products via DSL and via CATV are close substitutes. Therefore, both products belong on the retail level to the same relevant product market. The cable networks were included in this market definition since they offer an equivalent service to that of bitstream access over the copper-based network. The relevant geographic market was defined as national of scope.

---

<sup>2</sup> RTR, Abgrenzung des Marktes für breitbandigen Zugang auf der Vorleistungsebene, p. 3.

<sup>3</sup> Broadband access was defined as access with a downstream data rate of above 144 kbit/s.

<sup>4</sup> RTR, Abgrenzung des Marktes für breitbandigen Zugang auf der Vorleistungsebene, p. 7.

## **EE&MC Study on the Market Definition for Broadband Products on the Retail Level**

EE&MC performed a market study on the substitutability of DSL products with CATV products. Result of the study was the proof that with respect to broadband access substantial substitution relations exist. EE&MC applied the methodology of the Hypothetical Monopolist Test in this study.

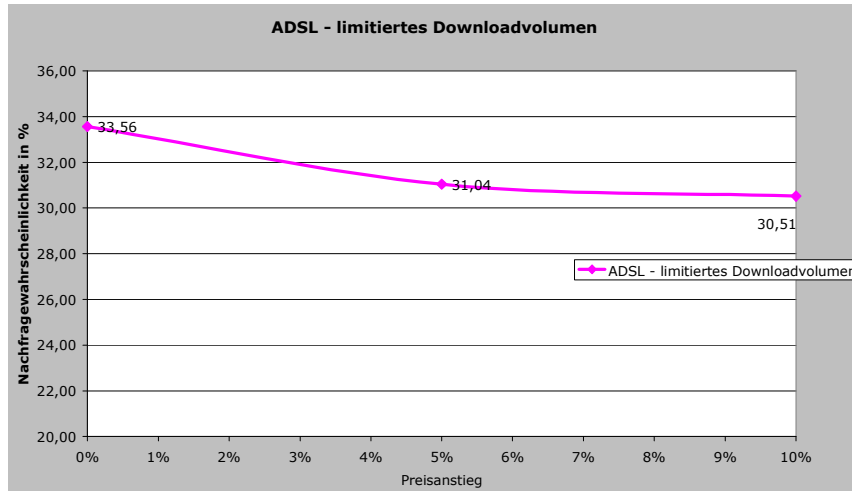
To perform the Hypothetical Monopolist test, a computer based conjoint analysis was programmed. The following attributes were identified as relevant in the end-consumers decision making process: reliability, download volume, payment mode as well as the monthly costs related to the internet use. These attributes were incorporated in the conjoint analysis and presented to the respondents with different specifications.<sup>5</sup> With respect to gender and age of internet users as well as urban/rural population density, the EE&MC study is statistically representative. 532 interviews were completed, with 15 purchase decisions answered in each interview. In total, 7980 opinions were gathered.

The empirical examination revealed that all broadband access products belong to the same relevant product market: ADSL products with limited download volume, ADSL products with unlimited download volume as well as broadband access products via cable. If both ADSL products would increase with 5%, the estimated decrease in demand for ADSL products with limited download volume is 7,52% whereas demand for ADSL with unlimited download would decrease by 7,94%, respectively. Demand for the cable product increases with 10,15% accordingly. These substitutions relations are illustrated in the following figures.

---

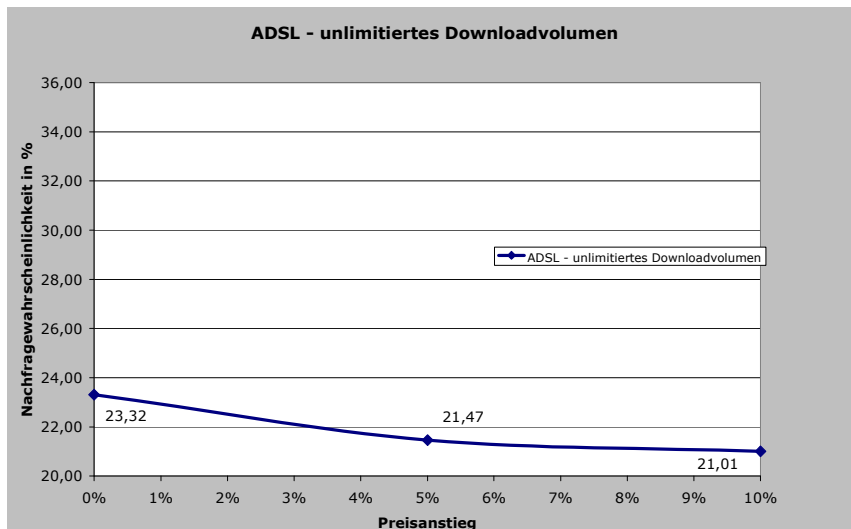
<sup>5</sup> The attributes were selected corresponding to the product combinations available for sale in Austria.

**Figure 1: Share of Preferences: ADSL Limited Download Volume**



Source: EE&MC.

**Figure 2: Share of Preferences: ADSL Unlimited Download Volume**



Source: EE&MC.

The EE&MC study confirms that end-users view broadband access via CATV as substitute to broadband access realized via ADSL. As a reaction to small, permanent increase in ADSL-prices, consumers would prefer broadband access via cable instead. The EE&MC study reached the same conclusion as the RTR namely that broadband products offered via DSL and via CATV can be regarded as substitutes on the retail level.

## **Market definition on the Wholesale Level for Broadband products**

For the market definition on the wholesale level, the interaction between retail and wholesale markets is a central issue. A broad range of wholesale products for broadband access are offered by both, the incumbent and CATV-operators: More than one third of the 90 cable operators offer these products. The issue to address in this respect is whether wholesale products for broadband access via cable networks are appropriate substitutes for DSL-based access.

The investigation of the RTR discussed the following aspects:

- 1) On the supply side there is no substitutability at the wholesale level since the construction of a parallel network would be required.
- 2) On the demand side of the wholesale level, the technical and economic requirements for substitution are met.
- 3) Demand and supply side substitutability on the retail level influences the wholesale level. The substitution of broadband access via cable on the retail level induces competitive influences on the wholesale level.

Since substitution effects on the retail level potentially constrain a hypothetical monopolist on the wholesale level and because of the substitution connections on the wholesale level itself, wholesale products via DSL and CATV are allocated to the same relevant product market.

### **„Technological Neutrality“**

The approach on market definition applied by the RTR is an innovative one since the RTR recognises explicitly the postulate of technological neutrality as required by the EC Commission.

- Broadband access products that are offered via DSL and via CATV are regarded as substitutes.
- In addition to DSL and CATV products, „Fixed Wireless Access“ products, such as WLL, W-LAN or WiFi, are part of the same retail market.
- Broadband access via FTTH is another possible substitute for DSL and CATV products on the retail level.

PLC (Powerline), the UMTS-technology, and broadband access via satellite are excluded from this market definition.

## **EE&MC-Approach**

The peculiarities of telecommunications infrastructures demand a differentiated approach to the empirical analyses. As set forth by the example of broadband access, EE&MC possesses broad experiences in applying the methodology of the Hypothetical Monopolist Test in the telecommunications sector.