

Regulatory Reform in Hungary

Regulatory Reform in the Telecommunications
Industry



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

Regulatory reform has emerged as an important policy area in OECD and non-OECD countries. For regulatory reforms to be beneficial, the regulatory regimes need to be transparent, coherent, and comprehensive, spanning from establishing the appropriate institutional framework to liberalising network industries, advocating and enforcing competition policy and law and opening external and internal markets to trade and investment.

This report on *Regulatory Reform in the Telecommunications Industry* analyses the institutional set-up and use of policy instruments in Hungary. It also includes the country-specific policy recommendations developed by the OECD during the review process.

The report was prepared for *The OECD Review of Regulatory Reform in Hungary* published in 2000. The Review is one of a series of country reports carried out under the OECD's Regulatory Reform Programme, in response to the 1997 mandate by OECD Ministers.

Since then, the OECD has assessed regulatory policies in 16 member countries as part of its Regulatory Reform programme. The Programme aims at assisting governments to improve regulatory quality — that is, to reform regulations to foster competition, innovation, economic growth and important social objectives. It assesses country's progresses relative to the principles endorsed by member countries in the 1997 *OECD Report on Regulatory Reform*.

The country reviews follow a multi-disciplinary approach and focus on the government's capacity to manage regulatory reform, on competition policy and enforcement, on market openness, specific sectors such as electricity and telecommunications, and on the domestic macroeconomic context.

This report was principally prepared by Patrick Xavier, Directorate on Science, Technology, and Industry, with the participation of Dimitri Ypsilanti, Directorate on Science, Technology, and Industry. It benefited from extensive comments provided by colleagues throughout the OECD Secretariat, as well as close consultations with a wide range of government officials, parliamentarians, business and trade union representatives, consumer groups, and academic experts in Hungary. The report was peer-reviewed by the 30 member countries of the OECD. It is published under the authority of the OECD Secretary-General.

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Executive Summary

Background Report on Regulatory Reform in the Telecommunications Industry

The telecommunications sector in OECD countries has seen significant regulatory reform in recent years. Twenty-three OECD countries now have unrestricted market access to all forms of telecommunications, including voice telephony, infrastructure investment and investment by foreign enterprises, compared to only a handful just a few years ago. The success of the liberalisation process depends on the presence of a transparent and effective regulatory regime that enables the development of full competition, while effectively protecting other public interests. There is a need to promote entry in markets where formerly regulated monopolists remain dominant and to consider elimination of traditionally separate regulatory frameworks applicable to telecommunications infrastructure and services and to broadcasting infrastructures and services.

Since 1993 Hungary has been making commendable progress in adopting pro-competitive regulatory principles, in particular through the 1992 Telecommunications Law (which came into force in July 1993), and its implementation. In recent years, Hungary's programme for regulatory reform has been driven by the principles prescribed by European Union (EU) directives and the 1997 WTO agreement on basic telecommunications. In December 1993, Hungary initiated the first phase of the privatisation of Matav (the state-owned, incumbent monopoly), selling 30.2% of its shares to Deutsche Telekom and Ameritech. The privatisation was completed in June 1999, except for a "golden share" still held by the government. Hungary was also the first Central European country to introduce mobile cellular service and, in 1984, was among the first European countries to introduce competition in the mobile services sector.

Hungary's market liberalisation is occurring several years after most EU countries have fully opened their markets (on 1 January 1998) and established new regulatory frameworks. Nevertheless, this relatively late start can provide Hungary with a unique opportunity to draw on the experience of these countries so as to be able to apply best practice methods of regulatory reform. The 1994 concession contracts that bestowed the right to be the exclusive telecommunications operator for 8 years will largely preclude competition until 2002. The licensing regime needs to be streamlined to facilitate quick market entry at the expiry of the exclusive provision period. Interconnection charges need to be cost-based with accounting separation introduced. Fair and effective competition must be promoted especially in local markets. The nature and extent of universal service obligations must be defined and a way of funding and delivering it in a cost-effective, technologically neutral, way established. The new Communications Act the government expects to come into force by the year 2001 offers a timely opportunity to install such pro-competitive regulatory principles. But while appropriate pro-competitive legislation is an important step, it is only *one* necessary step. The regulatory rules must then be promptly and effectively implemented by a well-empowered independent regulator to develop a fair, transparent and stable competitive environment for all market players. Unfortunately there are signs that in some areas like price regulation and licensing conditions, the rhetoric of reform has not been backed up by decisions made by government. This must change.

Regulatory reform is also being further complicated by technological change and 'convergence'. To its credit, Hungary recognises that, like other OECD countries, it must now address the challenge of not only completing the move to an effectively competitive telecommunications market, but also of preparing for the 'next generation' regulatory regime which convergence will necessitate.

This report examines Hungary's regulatory reform effort thus far and its impact on the performance of telecommunications markets. The report concludes that there are early signs that regulatory reform is already beginning to show evidence of beneficial effects. New operators with links to formidable international telecommunications companies are entering mobile markets and the limited areas of the fixed-line market that are open in order to position themselves for full market opening. These new entrants are deploying infrastructure and services based on state-of-the-art technology, and customer choice and quality of service are improving. Long-distance prices are dropping and discount schemes are emerging.

1. THE TELECOMMUNICATIONS SECTOR IN HUNGARY

1.1. *The national context for telecommunications policies*

Hungary still maintains a monopoly for the provision of all public switched telecommunication (PSTN) services. Unlike other telecommunication markets where monopoly has been the norm, in Hungary the former incumbent does not have a monopoly throughout the country in that separate monopoly local concessions have been given in a number of areas for the provision of local telephony services. Following the 1989 political changes in Hungary, the importance of the telecommunications sector as an important contributor to Hungary's economic growth was recognised and policies were initiated to develop the sector and address the back-log of demand for telecommunications. In the *first phase* of Hungary's telecommunications strategy that applied between 1990 and 1993, the objective was to create a national digital network infrastructure. In the *second phase* of the strategy applying between 1994 and 1997, the priority was to expand and modernise the network and introduce the most important new services for business customers. In the *third phase* between 1997 and 2000, the strategic focus is the extension of a variety of business communication and information services and to the improvement in quality and diversification of services at lower tariffs. In the *fourth phase* applying after the year 2000, the main emphasis will be on the introduction of advanced telecommunications services, including high-tech intelligent services, personal communications services as well as ISDN and broadband multimedia services.

The strategy has achieved some success. The penetration rate or teledensity for fixed-line connections has increased rapidly. As Table 1 shows, teledensity in Hungary rose from 9.6 per 100 inhabitants in 1990 to about 32 in 1997. By December 1998, teledensity had exceeded 35 per 100 inhabitants and the waiting list for telecommunications service significantly reduced. The increase in connections is due in large part to the deliberate policies of the Ministry of Transport, Telecommunications and Water Management (KHVM). Provisions in concession contracts require telecommunications providers to achieve line growth of at least 15.5% per year, and to meet 90% of customer demand for telephone service within 6 months and 98% within 12 months. Although achieving a teledensity of 35 is commendable, there is much further to go since, as Table 1 shows, Hungary's penetration level remains among the lowest in the OECD, with the demand for telecommunications expected to continue to grow rapidly.

The digitalisation of the network has also increased rapidly to exceed 76% in 1998. With the increasing digitalisation of switches, a wider variety of previously unavailable features have become available. The availability of advanced services, such as ISDN, is also growing rapidly.

As discussed in more detail later, subscribership to mobile telephony service has also grown quickly. By the end of 1998, Hungary had a mobile penetration rate in excess of 10%. However, given that this rate is relatively low in comparison to other OECD countries, a continued rapid growth in mobile subscribership may be expected.

In recent years, the drive for reform in telecommunications has been reinforced by the need to prepare for EU membership by the year 2002. In essence this has required that regulatory frameworks for telecommunications be brought into line with EU Directives. Hungary is also a signatory to the 1997 WTO agreement on telecommunications and this is requiring the adoption of regulatory principles endorsed by the WTO agreement. In 1998, the government released details of its telecommunications policy for the period 1998-2005¹ as part of the reform process aimed at fully liberalising telecommunications markets by 2002. In April 1999, the Minister for Transport, Telecommunications and Water Management (the Minister for KHVM) again re-affirmed that a competitive telecommunications market will be created in

Hungary. The Ministry of KHVM has disclosed that it is drafting an EU-oriented Communications Act that would regulate telecommunications, informatics and the postal sector that it expects to be legislated in the year 2000.

Table 1. Access lines per 100 inhabitants in the OECD area during 1985-1997

	Access lines per 100 inhabitants					Residential access lines per 100 households (1)	Telecom access paths per 100 inhabitants
	1985	1990	1995	1996	1997	1997	
Australia	41.6	46.1	50.8	50.8	51.2	96.47	77.3
Austria	36.1	41.8	46.8	46.6	45.7	#N/A	59.9
Belgium	31.1	39.3	45.7	46.5	48.5	#N/A	58.0
Canada	45.5	55.0	59.7	60.8	61.6	104.89	69.7
Czech Republic	12.9	15.8	23.4	27.5	32.0	46.86	37.1
Denmark	49.7	56.6	61.3	62.1	63.6	#N/A	93.5
Finland	44.7	53.5	55.0	55.4	55.6	87.98	101.2
France	41.7	49.5	56.1	56.9	57.6	107.88	67.4
Germany	32.9	40.3	51.5	54.0	55.0	98.18	64.9
Greece	31.4	38.6	49.4	40.8	51.6	98.06	60.2
Hungary	7.0	9.6	21.3	26.4	31.9	55.43	38.9
Iceland	42.6	51.4	55.3	56.7	56.7	121.50	80.7
Ireland	19.8	28.1.0	39.1	42.1	#N/A	57.0	
Italy	30.6	39.2	43.4	44.1	44.9	91.89	65.4
Japan	37.5	44.1	48.9	49.1	47.9	96.75	78.4
Korea	18.5	35.7	48.3	50.3	52.0	115.38	67.1
Luxembourg	42.0	48.2	57.5	62.7	67.1	116.91	83.2
Mexico	4.6	6.2	9.7	9.5	9.8	33.96	11.7
Netherlands	40.2	46.4	51.7	54.1	56.6	#N/A	67.4
New Zealand	38.8	43.9	46.6	49.5	50.5	#N/A	63.6
Norway	42.3	50.3	56.1	58.6	62.6	97.09	101.1
Poland	6.7	8.6	14.9	16.9	19.4	41.55	21.0
Portugal	14.1	24.1	36.5	38.0	39.0	90.50	54.3
Spain	24.3	32.1	38.1	38.8	39.9	91.90	50.8
Sweden	62.8	68.3	68.4	68.4	68.0	114.08	103.8
Switzerland	50.1	57.7	61.5	63.3	64.5	96.25	78.8
Turkey	4.5	12.3	23.3	25.6	28.0	79.06	30.6
United Kingdom	37.0	44.1	50.6	52.8	54.0	95.98	68.3
United States	48.9	53.9	61.6	63.3	66.0	108.94	86.3
OECD ⁽²⁾	32.9	39.2	46.1	47.4	58.9	#N/A	64.3

Notes:

1. Telecommunication access paths include the total of fixed access lines and cellular mobile subscribers.
2. OECD average is a weighted average rather than a simple average.

Source: OECD, *Communications Outlook* 1999, Paris.

1.2. General features of the regulatory regime

Until 1990, telecommunications services, together with radio and television broadcasting and postal services, were supplied and regulated by a single state-owned organisation, the Hungarian PTT (Posts, Telegraphs and Telecommunications) known as Hungarian Post. Frequency management was also the responsibility of this PTT.

Since 1990 there has been a series of notable developments in the Hungarian regulatory regime and these are listed in Box 1. The Acts, Government Decrees and Ministerial Orders have installed a broad range of regulations, including price control and interconnection charges. At present, the primary source of regulatory law remains the Telecommunications Act of 1992 which came into effect in July 1993. This Act established the broad framework of the regulatory regime designating that the duties to be performed by the government in relation to the telecommunications sector include:

- Developing and implementing national telecommunications policy;
- Regulating telecommunications markets, including the supervision of service providers;
- Provision of concession contracts and licences;
- Installing economic and technical regulations to ensure standards and network interoperability;
- Developing and implementing the national numbering plan; and
- Participating in international telecommunications organisations.

Box 1. Developments in the Hungarian telecommunications regulatory regime

The present regulatory regime for the Hungarian telecommunications sector have been installed by various Acts, Government and Ministerial Decrees, including:

1. Acts

- Act LXXXVII of 1990 on price fixing.
- Act XVI of 1991 relating to the award of concession contracts to supply telecommunications services.
- **Telecommunications Act (LXXII) of 1992 which installed major regulatory changes.**
- Act LXII of 1993 on frequency management.
- Act LVII of 1996 concerning the prohibition of unfair and restrictive market practices.

- Act LXV of 1997 which modified the Telecommunications Act (LXXII) of 1992.

2. Government (Korm.) Decrees

- 158/1993 (XI.11) concerning the interconnection of telecommunication networks.
- 48/1997 (III.14.) on licensing telecommunications services.
- 232/1997 (XII.12.) relating to the establishment of the Communications Authority Hungary (HIF) and on amendment of certain legal rules affecting communications.
- 243/1997 (XII.20) on subscriber contracts for telecommunications services.

3. Decrees of the Minister of Transport, Communications and Water Management (KHVM)

- 24/1993 (IX.9.) on the numbering plan for the public telephone network.
- 29/1997 (XII.20) on terms and conditions of particular telecommunications subscriber contracts, associated with the protection of consumers and quality of service.
- 31/1997 (XII.20) on usage charges for public telephony services.
- 1/1998 (I.12) on the distribution of revenue relating to telecommunications services subject to concession.
- 1071/1998 (V.22) Government Resolution formalising the government's telecommunications policy for the period 1998-2005.
- 6/1999 (II.19.) Decree revising Interconnection fees.

1.3. Telecommunications market and participants

In Hungary, the most important market player is the incumbent national operator, Matav. The company was established in 1989 when the state-owned PTT was split into Matav (telecommunications), the Hungarian Broadcasting Corporation (Antenna Hungaria) and the Hungarian Post Office (Hungarian Post). Table 2 shows the number of services presently being offered in Hungary.

In December 1993, Matav was awarded a 25 year concession contract to provide domestic long distance and international public telephony services throughout Hungary. During the first eight years of its concession Matav could operate as an exclusive monopoly supplier of these services. The concession can be extended for another 12 1/2 years by mutual agreement, but notably, it contains no provision for extending the period of Matav's monopoly when it expires at the end of 2001.

Matav is also the major, but not exclusive, provider of local telecommunications services. In 1994, as required by the 1992 Telecommunications Act, the Ministry for Transport, Communications and Water Management (the Ministry) called for "tenders" for concessions to provide local telecommunication services in 25 of the 54 so-called "primary network areas". The concession contracts permitted the provision of local telephone service for 25 years beginning in 1995, including the right to provide the service exclusively for the first eight years of the concession period. For most of the local telecommunications operators (LTOs) the period of exclusivity will end in 2002, while for some the period will end sometime in 2003, depending on when the concession agreement was signed. Tenders were called for in only 25 of the 54 primary areas because municipalities in the other 29 primary areas (including the coveted four Budapest regions) had accepted Matav as the local operator, thereby (as provided for in the 1992 Act) securing those concessions for the company.

Matav was eligible to bid for the 25 concession areas on tender and won 5 of them. In two other areas Matav was allocated the concession because there was no bidder and as required by the 1992 Telecommunications Law, in such circumstances, Matav was obliged to provide service. Thus Matav is the dominant provider of telecommunication services even in the local telephony market, directly serving customers in a total of 36 regions and also providing service on a joint-venture basis (with Bezeq, an Israeli company) in a further three.

Franchises for the other 18 areas, that cover only some 23% of the population, were awarded to 9 consortia operating 13 local telephone companies, namely: Emitel (with 3 primary areas), Deltav (2), Hungarotel (2), Digitel 2002 (2), Monor-tel (1), JaszTel (1), Kelet-Nograd Com (1), Papatel (1), Raba-Com (1), Dunatel (1), Egomcom (1), Kisdunacom (1) and Bakonytel (1). The companies are owned by a variety of Hungarian and foreign companies such as Citizens Utilities (HTTC), United Telecom and Alcatel (UTI), GE Capital, CG Sat, etc. Each local operator is required to make an initial payment to the government depending on the characteristics of the service area and also to pay royalties to the Ministry based on a percentage of annual net revenues (*e.g.* 1.2% in the case of one region). All telecommunications concession-holders (Matav and the other LTOs) must achieve more than 15.5% annual growth rates in each primary area and, from January 1997, 90% of customer demand for telephone service must be fulfilled within six months, and 98% within twelve months.

Next to Matav, the most important fixed line local operator is Matel, a consortium in which Vivendi-owned CG Sat has a 40% stake, General Electric Capital a 25% share, with the rest held by Israeli, Austrian and Hungarian owners. Matel is the holding company for Deltav and Digitel 2002 which operate over 237 000 lines in four of Hungary's 54 primary telecommunications areas. In 1999, Matel announced that it had merged with JaszTel, another LTO, thus further expanding its customer base.

1.3.1. New players in the national market

One of the signs that the Hungarian telecommunications market is being liberalised was the entry of PanTel which will provide access to its network for leased line and data services PanTel was officially established in April 1998, although the groundwork to create the company was undertaken during 1997 with the formation of a company called MKM-Tel. This company consisted of the state-owned Hungarian State Railways, MAV, (25.1%), oil and gas company, MOL, (20.9%), and a computer company, KFKI (5%). In December 1997, Unisource bought a 40% share in the company and Antenna Hungaria a 9% share.² In June 1998, the 49% combined share of the last two companies was transferred to KPN (of the Netherlands).

Another sign of market liberalisation was the entry of Novacom. Novacom, a cable-based operator, was established at the beginning of November 1998 by an RWE subsidiary, Telliance (which owns 50%), Telekommunikations Sudwest of Germany (25%), and the Budapest-based electricity distributor, Elmu (25%), which in turn is owned by RWE (based in Germany). Novacom has completed the installation of its optical cable trunk network and, after the liberalisation of the telecommunications market in 2002, the company plans to become a major competitor to Matav in the voice and data transmission market.³ Through its relationship with RWE Telliance, a partner in the Primatel consortium which won the DCS 1800 licence, Novacom will also be well placed to consider strategies involving a mix of infrastructures when the market is further liberalised.

1.3.2. Mobile

Hungary was the first country in Central and Eastern Europe to introduce mobile cellular service. Table 3 shows mobile operators and their ownership status. In October 1990, Westel 450 Radiotelephone began providing analogue service. In 1994 digital cellular mobile service began with Westel 900 (which Matav owns 51% of and MediaOne of the US, 49%) and Pannon GSM, entering the market using GSM technology. The operating right granted by the Ministry of KVHM to Westel 900 GSM and Pannon GSM was for 15 years.⁴

Pannon GSM's existing major shareholders are KPN of the Netherlands (26.79%); Telenor Invest of Norway (23.43%); and Sonera Holding of Finland (20.90%). The company underwent an ownership change in August 1998 when Tele Danmark sold its 23.2% stake to existing shareholders. The sale was forced upon Tele Danmark by the Ministry of KHVM because of concerns regarding a conflict of interest following Ameritech's purchase of a majority stake in Tele Danmark. The concerns arose because Ameritech is the joint owner of Pannon's rival, Westel, through its ownership of Matav.

Primatel, a consortium led by Airtouch (US) and RWE (Germany) submitted the winning tender for the DCS 1800 concession, announced on 15 June 1999. Two additional licences to provide DCS 1800 service have been reserved for Pannon GSM and Westel 900 without the need for them to participate in a tendering process. But to give the new entrant time to establish itself, the established companies will only be permitted to start using the new band 12 months after establishing conditions permitting roaming on their networks by Primatel (but no later than 1 March, 2001).

Table 2. Telecommunication services available in the Hungarian telecommunications sector
(as at August 1999)

	National	Regional/local
Long distance and international telephony	1 (Matav)	-
Local telephony	-	14 (Matav has 36 concessions with the remaining 18 held by non-Matav operators)
Mobile	4 (Westel 450; Westel 900; Pannon GSM; Primatel DCS 1800(c))	-
Paging	2 (a)	0 (b)
Internet	18	17
Leased lines	15	11
Other datacoms	17	1
Program distribution	0	227 (cable) +1 wireless
Others (incl. fax, telegram, satellite up-link, etc)	5	7

Notes: (a) The 2 national paging service providers have the same owner, but work under separate concession agreements. (b) The regional paging service provider ceased its operations in 1999. (c) Service to start at the end of 1999/beginning of 2000.

Source: Communications Authority of Hungary.

1.3.3. Privatisation of Matav

In 1993, the government began the privatisation of Matav with the first 30.2% of shares in the company sold to MagyarCom, a consortium comprising Ameritech (US) and Deutsche Telekom (Germany). In December 1995, an additional 37% of Matav's shares was sold to MagyarCom. Then, in November 1997, 27% of shares in Matav were placed on the Budapest and New York Stock Exchange simultaneously (raising about US\$1 billion). As at early 1999, MagyarCom held about 60% of Matav shares, with about 35% of the company's shares publicly traded. The remaining 5.74% shares in Matav owned by the Hungarian government were sold⁵ in June 1999, in response to concerns that continued government ownership meant that the government was not an entirely impartial regulator of the telecommunications sector.

The government continues to hold a "Golden Share" (referred to in the concession as the "B" share) which enables "controls necessary for national economic, political and security reasons".⁶ Notably, Matav cannot sell or transfer more than 10% of the assets of the company without the approval of the holder of the 'B' share (the government).

Table 3. Mobile operators and their ownership status

Operator and market share(a)	Year established	Ownership status (b)
Westel 450; market share 8.8%	December 1989	Matav (51%) and US West (49%)
Westel 900 (GSM); market share 51%	Company established in October 1993 and commenced service in April 1994	Matav (43.6%); US West 41.9%; Westel Radiotelephone (9.5%); IFC (5%)
Pannon GSM; market share 40.2%	Commenced service in March 1994	Joint venture of Telenor Invest, Norway; Tele Denmark International; Telecom Finland; the Dutch PTT Telecom; MOL (the Hungarian Oil and Gas Company); Antenna Hungaria; and Wallis Holding
Primatel DCS 1800; market n/a	Concession awarded June 1999. Service to commence before 2000.	Airtouch-Vodafone (50.1%); RWE (19.9%); Antenna Hungaria (20%); Magyar Post (10%)

Notes: (a) Market share as at 31 December 1998. (b) Ownership status as at 31 December 1998.

Source: Communications Authority of Hungary.

2. REGULATORY STRUCTURES AND THEIR REFORM

2.1. *Regulatory institutions*

There is a range of institutions involved in regulating the Hungarian telecommunications sector. The principal regulatory institutions are the Ministry of KHVM, the Communications Authority (HIF) and the Office of Economic Competition (Competition Office). Other important participants influencing the development of regulatory rules and decisions, include the:

- Telecommunications Interest Reconciliation Forum (TEF).
- Information Technology and Telecommunications Committee (ITTC).
- National Board for Communications and Informatics (NBCI).
- Telecommunications Engineering Qualifying Committee (TMMB).
- Ministry of Finance.

Under the provisions of the 1992 Telecommunications Act, the Minister for Transport, Communications and Water Management is responsible for policy-making, legislation and granting concessions. The Law requires that in formulating sector policy and drafting legislation the Ministry shall:

- Lay the foundations for communications strategy decisions;
- Develop the government's communications policy;
- Prepare the rules appropriate to sectoral policy decisions and their issue as legal regulations;
- Perform the tasks necessary for the international co-ordination of Hungarian communications;
- Prepare, and evaluate compliance with, concession contracts; and
- Ensure the active participation of social interest groups and the reconciliation of their views within the process for the development of regulatory rules and decisions.

2.1.1. *Greater clarity required concerning the respective roles of the Ministry and HIF*

In its November 1998 report on Hungary's progress towards EU accession, the EC noted that the respective roles of the principal regulatory authorities, the Ministry of KHVM and the Communications Authority (HIF), were not clearly defined.⁷ The Minister is responsible for policy-making, while HIF's role is seen to be enforcement of the sector-specific regulatory policy. But, the Ministry continues to be heavily involved in price regulation, for instance, and also on assessing compliance with concession contracts that cover some 80% of the market. As discussed later, interconnection prices are determined jointly by the Ministry of KHVM and the Ministry of Finance. Moreover, although price cap arrangements for end-user prices have been in place since 1994, decisions made jointly by the Minister of KHVM and the Minister of Finance frequently overrule the price changes permitted by the price cap formula. This detracts from efficient regulations and provides a strong argument for price control, including interconnection pricing

policy, to become the responsibility of the HIF. When responsibility for price regulation rests with the government, the impact of a price change on public opinion and conditions such as the fear of inflation will count for more than the need for regulatory certainty, transparency, stability, and consistency.

2.1.2. Communications Authority, Hungary

In 1993, in response to a provision of the 1992 Telecommunications Act, a Government Decree⁸ established the so-called, General Inspectorate for Communications, as the telecommunications industry regulator, with the agency being renamed the Communications Authority, Hungary (HIF) in 1995.

In 1997, a Government Decree extended the scope and independence of the HIF.⁹ HIF is now ostensibly the responsible authority for licensing, supervising, and regulating the telecommunications and postal services sectors and for frequency management, carrying out its activities under the control of the Ministry of KHVM. HIF is also responsible for assisting the Ministry to prepare new acts, decrees and policy-statements.

More specifically, the HIF and its regional organs (the Budapest Communications Inspectorate and the Regional Inspectorates) shall:

- Undertake the task of licensing appropriate telecommunications services, allocate the available frequencies under the Frequencies Act;
- Perform the full range of the administrative tasks related to the regulation of telecommunications;
- Analyse, on an ongoing basis, the operation of the communications and information technology market, assess and inform the Minister about the success of the Government's communications policy, highlight any circumstances endangering the security of telecommunications and submit proposals for the necessary action;
- Conduct economic analysis on the communications and related information technology markets;
- Assess the quality of service provided by operators;
- Ensure frequency co-ordination in domestic, international and governmental areas;
- Make proposals to the Ministry of KHVM regarding the formulation of policies and national strategies pertaining to communications and information strategy;
- Monitor the quality of the regulation of communications, the compliance of market players with the law and make recommendations to the Ministry concerning necessary changes to the regulations.

2.1.3. Restructure and re-skill the HIF to meet the challenges of a competitive environment

The HIF appears to be well endowed in terms of financial resources (about USD 18 million, mainly obtained through levies and penalties imposed on telecommunications operators) and the number of staff. But there is an urgent need to restructure the HIF to equip it with the appropriate skills for a new competitive environment. The HIF is divided into nine directorates, with five regional inspectorates responsible for licensing and inspection, nation-wide frequency monitoring and type-approval. There is also a presidential office set up in 1997 to manage appeals against decisions of the regional inspectorates. HIF has about 520 staff, with some 35% in the central directorates and 65% in the regional inspectorates. Of the more than half the staff with professional qualifications, nearly 90% are engineers and the others are economists and lawyers. The requisite staff skills HIF needs in order to regulate effectively in a competitive environment should be the focus of professional analysis and advice. The President of HIF expressed the view that a restructuring of HIF would be more effectively conducted after the new Communications Law is in place. While there may certainly be some advantage in waiting for the new Law, this is not expected until towards the end of 2000. The restructuring will take time to install, and this could mean that the restructured HIF would not be effectively in place by the time the market is open to competition in 2002. There is already plenty of information HIF could draw on from other countries experiences in developing regulatory agencies for competitive circumstances. So the delay in restructuring HIF is unnecessary.

HIF should be restructured to equip the regulatory agency with the economic, legal and accounting skills required to address the formidable challenges of regulating effectively to promote and safeguard competition. With telecommunications markets globalising, appropriate training in international issues is important. HIF should also review policies on recruitment, training programs and salaries required to attract and maintain the staff required to promote and safeguard a competitive telecommunications market

2.1.4. Independence of the regulator

In November 1998, the EC voiced doubts about the independence and efficiency of the HIF and in October 1999 was still urging further efforts "to consolidate the independence of the Regulatory Authority as the influence of the Government bodies is still noticeable in certain areas."¹⁰ Many market participants and government agencies consider that the HIF is still not sufficiently independent of the Ministry.

The need for the sector specific regulator to be independent of telecommunications operators is generally acknowledged. But there is still less understanding and/or acceptance that independence of the regulator from the supervising Ministry/government is also crucial. The most important consideration is that such independence is essential in order to shift "competition" among the major industry players out of the arena of politics and bureaucracy and into the marketplace. Regulatory decisions must be made with consistency and predictability and be seen to be made on their substantive merits, not on the basis of political favouritism or the back door influence of the most powerful player(s). Only an independent, transparent regulatory process, that is seen to be so by all affected parties and the public, can achieve this.

According to the Ministry, the HIF is an independent "administrative" authority whose president holds the status of Deputy State Secretary. The Minister for KHVM appoints the President of HIF (who reports to the Minister) on the basis of advice from the National Communications and Informatics Council. But the council is said to be "close" to the Ministry. According to the Ministry, it cannot withdraw tasks and powers from HIF and may not influence its decisions. HIF is said to be financially independent with

independent cost management, financing its operation from revenues it obtains from fees for frequencies, licenses and fees for type-approval of equipment. Revenue is also obtained through levies for performing quality of service assessment). HIF does not have access to government budgetary funds.

However, HIF is not sufficiently independent from the Ministry/government. The view of most telecommunications operators in Hungary is that in simple service, equipment, network and licensing issues, HIF is independent in its decision-making. But in more important complicated matters the Ministry is seen as the real decision-maker.¹¹ Indeed, the Hungarian government itself recognises that “[u]pon the completion of liberalisation, following the adoption of the new Act on Communications, it is necessary to establish the full independence of the Communications Authority.”¹² The Ministry discloses that HIF is expected to be re-constituted as an independent regulatory authority, as defined by EU directives, under the new Communications Law expected to be legislated during 2000. As part of the re-constitution, consideration should be given to establishing HIF as a Board or Commission rather than headed by a single President.

In addition, there are concerns that HIF may not even be entirely independent of telecommunications operators. This is because the ownership of 25% of PanTel by the state-owned Hungarian State Railways is to be joined by a 30% ownership of Primatel by two state-owned agencies, Antenna Hungaria (20%) and Hungarian Post (10%). So as soon as possible, the government’s stake in telecommunications operators should be divested, in order to separate ownership interests from regulatory concerns.

There is concern also that the current president of HIF who commenced duties in May 1999 was Matav’s former director of Research & Development. To ensure the independence of the regulator, there should be a policy that former employees of operating companies be precluded from being appointed to head the HIF. There should at least be a requirement that there be an appropriate "cooling-off" period of employment in a less directly-related position.

HIF, the industry specific regulator, should be independent not only from telecommunications operators but also independent from the day to day political pressures faced by a government Ministry. Of concern is that, as noted earlier, important regulatory decisions, including price regulation and interconnection fees, and the award of concessions to operators, are still being made by the Minister and Ministry of KHVM sometimes jointly with the Ministry of Finance. Government decisions have sometimes over-ruled price changes permitted by price cap regulation. The decisions thus made on the basis of secret negotiations is leading to increasing uncertainty, cynicism and a lack of transparency concerning the basis of regulatory decision-making.

2.1.5. Accountability

Of course an independent regulator must be subject to standards of accountability to the government, the industry and the public. Thus HIF should be required to report annually on the extent to which the industry is achieving the policy objectives established by government, the results of the regulator’s monitoring of industry developments, and measures of the regulator’s own performance. In addition, procedures for administrative due process, public justification of decisions, appeals to the court and public access to information, all help to ensure the accountability of the independent regulator.

HIF should define performance indicators that are essential for evaluating the development of effective competition and obtain and publish data on these indicators on a regular basis, in order to monitor the cost-effectiveness of regulatory decision-making.

2.1.6. Other institutional players in the regulatory regime

- The Ministry of Finance. The Ministry of Finance is jointly responsible (with the Ministry of KHVM) for price regulation, including interconnection prices.
- The Competition Office. The general laws governing competition also apply to the telecommunications sector. Thus the Hungarian Competition Office is also involved in the regulation of (anti-competitive) conduct which impacts on competition in the telecommunications sector. The role and performance of the Competition Office is discussed later.
- The Courts. Parties dissatisfied with the decisions of the regulatory authorities have recourse to the court system.
- Telecommunications Interest Reconciliation Forum (TEF). The 1992 Telecommunications Act requires that consumers, enterprises and local governments be provided with the opportunity of expressing their views, primarily through representation in the Telecommunications Conciliatory Forum¹³ established by the Act. The Forum has the function of reconciling the viewpoint of different interest groups on new standards and decrees. The three main groups represented are the User Group, the Entrepreneurs Group and the Local Government Group. The Forum has no formal powers and is purely advisory discussing issues before submitting them for consideration by Ministers.
- Consumer Protection Authority. The Consumer Protection Authority represents the interests of consumers in all sectors, including telecommunications. In regard to telecommunications, the Authority has the right to conduct investigations according to criteria specified in the concession contracts or licences. Where technical conditions, quality of service or other business conditions are not fulfilled, the Authority may recommend to HIF that it revoke the service license. HIF may act on this recommendation and impose a penalty and/or forbid the telecommunications operator from providing the defaulting telecommunications service.
- National Board for Communications and Informatics (NBCI). Comprising 11 members, the National Board for Communications and Informatics was set up as an advisory body to the government. The Board submits proposals mainly on spectrum frequency issues but also concerning the market-based regulation of communications “so as to ensure the principle of non-discrimination between operators”.

The number of advisory groups involved in the telecommunications sector should not be excessive. Where there is scope to consolidate advisory groups and/or differentiate their tasks more explicitly, this should be done.

2.2. *Telecommunications regulation and related policy instruments*

The regulatory issues/areas requiring particular attention in Hungary are focused on below.

2.2.1. Regulation of entry and service provision

Government permission to provide various telecommunications service in Hungary, includes:

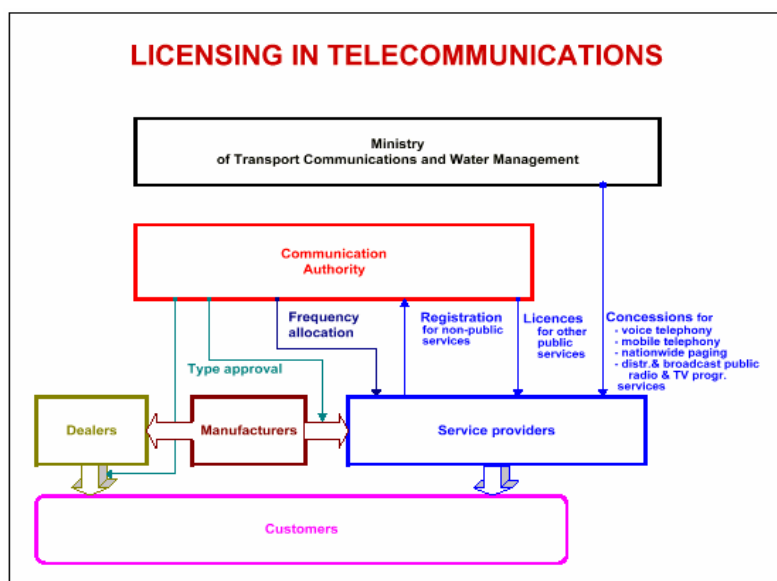
- Services provided exclusively on the basis of a **contract or concession** awarded by the Ministry, including public telephony service; public purpose mobile radio-telephony service; nation-wide public purpose paging service; distribution and broadcasting of national and regional television programs;
- Public telecommunications services provided on the basis of a **licence** issued by HIF;
- Non-public telecommunications services that do not require a licence but where HIF must be **notified** before commencement of service.

A telecommunications service covering more than 50% of the country is considered to be a national telecommunications service. A service covering at least two regional counties but less than 50% of the nation is considered a regional telecommunications service. A telecommunications service not covered by these categories is considered a local service.

As Figure 1 indicates, the award of concession contracts remains the responsibility of the Ministry of KHVM with all other licensing done by HIF. Since 1997, the non-concession services have been separated into two categories. The first category, the so-called “public liberalised services”, requires an individual licence while the second category, “private liberalised services” needs only to be registered with the HIF. An individual service licence may be issued for a period of ten years and may, upon request, be provided with 5 year extensions.

Telecommunications companies operating under concession contracts do not need a separate licence to provide any non-concession telecommunications service. Only registration with HIF 30 days before commencement of the service is required. Cable TV program distribution is an exception. Although it is a non-concession service, it does require a separate license.

Figure 1. Licensing of telecommunications operators in Hungary



Source: Communications Authority, Hungary.

The HIF can revoke a license if it finds that the licensee is committing a serious breach of law or is supplying the service (including service quality) in a manner deviating from the license and fails to remedy the fault within the time limit set by HIF. In addition to revoking its license or forbidding an activity, the HIF can require that the service provider pay a fine amounting to 0.5 – 1.0% of its revenue from the offending service,¹⁴ with the fine accruing as revenue to the Ministry of KHVM.¹⁵

Table 4 summarises the status of market liberalisation in Hungary as at July 1999. At present, entry into some 80% of the Hungarian telecommunications market is blocked by the right of exclusive provision in the concession contracts awarded to Matav in December 1993 (for national long-distance and international service) and to Matav and the other LTOs in 1994 (in the 54 Primary Network Areas).

The question of whether the duration of the monopoly provision should be shortened, for instance, by one year, is one that has received considerable attention over several years. For instance, a 1997 OECD report recommended reducing the period of exclusive provision.¹⁶ And others have joined in this call. Indeed, the Hungarian government is evidently negotiating such an agreement with Matav. But between 2-3 years remain in the exclusivity period (Table 5), so that the net benefits of negotiating an end to the period of exclusive provision one year earlier, is not so clear-cut. While there may be potential benefits, there may also be potential costs. Not the least of these costs may be what the Hungarian government may have to concede to Matav to obtain the company's agreement to bring forward the end of exclusivity. While the Minister of KHVM is empowered to modify the concession contract unilaterally, the contract provides that "this may not cause financial disadvantages for the concession company". The financial and/or non-financial compensation made (*e.g.*, regulatory tolerance) could well be costly. Moreover, it is important that contracts the government enters into with private investors (domestic and foreign) are seen to be honoured. In this context, a key consideration is the Hungarian government's own expressed wish to honour its obligations under these contracts.

The non-Matav LTOs have been arguing that the exclusivity period should be shortened, but only for Matav, not for them. On the other side, Matav has stated that it is prepared to negotiate with the government a reduction of its exclusivity period, but only if the LTOs' exclusivity periods are also similarly shortened, and only if the expected new Communications Law is in place before the period of exclusivity ends.

It would not help the process of stimulating a competitive market to shorten the exclusivity period without having the new law in place and implementing the range of necessary safeguards which underlie this law (interconnection, universal service, numbering policy, rights of way, etc.). In addition, the appropriate restructuring of the balance of responsibilities between Ministry and regulator, and the necessary staffing of the regulator should be complete. Accordingly, the focus should be on installing appropriate regulatory frameworks while opening up the market wherever possible under present restrictions. For example, developments of new technologies, such as Internet telephony, are providing the government with opportunities to introduce some limited competition in markets by allowing these technologies to be used since such services were precluded by the concession contracts. The government should not allow the negotiations to change the period of exclusivity to distract attention and effort from the more important task of installing a strongly pro-competitive regulatory framework.

Table 4. Status of telecommunications market liberalisation, July 1999

Category of infrastructure/service	Status/licence requirements	Licence conditions
Local voice telephony	Market closed. The required concession contracts were granted in 1994 to several companies to operate in 54 primary network areas for 25 years (with Minister able to provide a 12 ½ year extension) with the right of exclusive provision for the first 8 years. 36 concessions awarded to Matav and 18 to non-Matav companies.	Lump sum concession fee as well as an annual fee of between 0.1 to 5% of net income. Network development of at least 15.5% per year and quality of service obligations (with penalties for default). A requirement to spend 25-50% on Hungarian products. Subject to price and quality-of-service regulation, etc.
Domestic long-distance	The required concession granted in 1993 to Matav to operate for a 25 year period (with Minister able to provide a year extension) with right of exclusive provision during the first 8 years.	Similar to those applying to local telephone operators (LTOs).
International long-distance	The required concession granted in 1993 to Matav to operate for 25 year (with Minister able to provide a year extension) with right of exclusive provision during the first 8 years.	Similar to those applying to local telephone operators (LTOs).
Leased lines	While leased line building is unrestricted, provided a licence is obtained, the use of a leased line offering is limited.	Mobile, paging operators and other service providers have to lease lines from Matav or from LTOs to interconnect their base stations onto the PSTN.
International voice call-back services	Closed because of exclusiveness of concession awarded to Matav.	
Voice over internet	Licence required.	Certain conditions imposed.
Cable telephony	Under the 1992 Telecommunications Law cable TV networks can be used to provide telecommunications services except for public switched telephone services.	An amendment to the law on 16 June 1999 restricts telecommunication operators from operating parallel networks to provide CATV except in areas inhabited by less than 30 000.
Analogue	Closed. Westel 450 is the only provider permitted to provide a NMT 450 service to the public.	
GSM	Limited competition with two operators: Westel GSM and Pannon GSM.	
DCS 1800	Concession awarded in June 1999 to Primatel (led by Airtouch-Vodafone). Westel GSM and Pannon GSM also to be granted licence to operate DCS 1800 service.	Primatel obliged to provide 25% + 1 vote partnership to state-owned Antenna Hungaria and Magyar Post.
Data transmission	Liberalised with several operators.	
Satellite communications	Liberalised with licence required and awarded to over 15 operating companies	

Table 5. Expiry of monopoly status of fixed line concessionaires

Operator	End of monopoly status
Matav's concession to operate national and international long-distance.	At the end of 2001.
Matav's concessions to operate in 36 local network areas through 5 subsidiary companies.	Until May 2002.
Other (non-Matav) local telephone service operators .	Until 1 November 2002.

Source: Communications Authority of Hungary.

It is worth noting that Section 14.05 of Matav's concession to provide long distance service states that if Matav fails to meet the annual development targets set out in section 5.03 of the contract, the Minister may shorten the exclusive period by 20 days for each percentage point by which in any calendar year the concession company fails to meet the required annual percentage increase in Direct Exchange Lines¹⁷ of 15.5% per year. Matav's Annual Report for 1998 discloses a network expansion of 9.35% in 1995, 13.6% in 1996, 11.8% during 1997 and 11.1% during 1998. If, for instance, the company has defaulted by 4% for 1998, as appears to be the case, for this year alone Matav can have its exclusivity period shortened by 4 months. The Ministry of KHVM should examine the extent to which Matav is complying with its contractual obligations in regard to network development. At any rate, as discussed in more detail later, the decline in the rate of network expansion in itself is cause for close attention.

Apart from conditions relating to the pace of network development, the concessions awarded to Matav and other LTOs, contain extensive obligations, including:

- Provision of a business plan;
- Quality of service improvement standards;
- Purchase of products of Hungarian origin should comprise a minimum of between 25% and 50% of expenditure;
- Preference to Hungarian subcontractors;
- Facilitation of Hungarian ownership of at least 25% + 1 vote including ownership by municipalities;
- Support for business ventures by *e.g.* free information service by voice-mail;
- Providing social telephones for the elderly, the sick, the socially disabled, and those requiring care or supervision;
- Helping to develop the area in which it has the concession;
- Helping to develop the information society in Hungary.

In the context of preparing for competitive market entry it is necessary that the Hungarian authorities begin, from now, to formulate a new streamlined licensing framework that will be in place when the market is opened to competition. The use of concession and individual licences enables, indeed, tends to encourage the inclusion of licence conditions of a detailed and *ad hoc* nature, and can delay entry while applications are processed, and increase operating costs. Special conditions, as has been imposed on existing concessions, can also substantially increase a company's costs and distort its commercial strategies. There is need to streamline licensing procedures and minimise licensing conditions.¹⁸ Where licensing is considered necessary, there should be reliance instead on a system of general authorisation, or class licensing, based on a system of general rules. This would be in accord with the EC's Licensing Directive.

2.2.2. *Spectrum allocation and the licensing of mobile operators*

In Hungary, frequency management is conducted under the dictates of a series of Acts and Government Decrees, as set out in Box 2.

Box 2. Hungarian legislation concerning frequency management

Act LXII of 1993 on Frequency Management (including the Annex to this Act).

Government Decree 17/1994. (II.9.) on Establishing a Government Purpose Frequency Management Organisation and on the Order of Governmental Frequency Management.

Government Decree 204/1997. (XI.19.) on Establishing the National Table of Frequency Allocation.

Decree 6/1997. (IV.22.) KHVM (Ministry of Transport, communications and Water Management) on Frequency Reservation and Usage Fees (including Annexes 1-9 to this Decree).

Government Decree 120/1998. (VI.17.) on Rules of Paying Frequency Reservation and Usage Fees.

Public mobile telecommunications services based on radio spectrum may be provided only under a concession contract. Government Decree 48/1997 on the Licensing of Certain Telecommunications Services stipulates (Article 12) clearly that HIF is responsible for conducting a public auction with the license going to the highest bidder (Article 15 (3) where requests for spectrum to provide a telecommunications service exceed the available set of frequencies. Article 13 (1) stipulates that the Communications Authority "possesses the right to decide on licensing the provision of services". But in practice, the decisions concerning spectrum allocation appear to have been based on a far more complicated process.

As discussed earlier, there are two licensed operators: one providing analogue service, Westel 900 providing GSM services, and Pannon GSM also providing GSM services. In March 1999, the Hungarian government invited tenders for a third digital mobile operator using the DCS 1800 megahertz frequency. Bids were due by 7 May 1999 and the license awarded on 15 June 1999. The new mobile operator, is obliged to start providing service within 6 months of the concession contract coming into force and to cover 19 county capitals and 100% of Budapest within 24 months of starting the service.¹⁹

There was considerable international interest in the licence to operate in Hungary. Airtouch Communications (already active in Eastern Europe in Poland and Romania) joined with Germany's RWE Telliance to form the Primatel consortium which bid successfully for the license.²⁰ The Ministry of KHVM disclosed that Primatel had earned only 67 points for the technical aspects of its bid, against 71 points for CG-Sat. S.A.-Mannesmann Eurokom GmbH (a consortium comprising Vivendi of France and Germany's Mannesmann Group) and 66 for Orange Hungaria, led by Orange of the UK. However, the level of Primatel's financial bid weighed the decision in favour of the Primatel consortium.²¹ The concession is for 15 years renewable by the Minister for an additional period of 7 ½ years.

Westel 900 and Pannon GSM will also be granted 15 year concessions to operate in the DCS 1800 frequency band. These existing operators will pay a concession fee of 11 billion HUF, much less than the HUF 48.5 billion fee paid by Primatel. They must sign a roaming contract with the new company within three months after the signing of the concession contract and may only start 1800 MHz service 12 months after signing the roaming contract.

The new entrant will also be given space on the 900 frequency to facilitate provision of GSM 900 mobile service. This is designed to facilitate competition by providing all three companies in the market with access to 1 800 MHz and 900 MHz. However, this process of providing spectrum to Westel and Pannon tends to lock the market to further competitive entry. In addition, to provide spectrum without a tendering process is contrary to transparent and effective regulatory procedures.

The successful bidder for the third licence is required to establish a company in consortium with Antenna Hungaria, a largely state-owned operator of television transmitters, and Hungarian Post, the state-owned post office. The Hungarian partners will have to be given at least 25% plus one share of the voting capital in the new company.²² In fact, they obtained a 30% share. Antenna Hungaria was given a 20% stake with Hungarian Post given a 10% share.²³ This requirement that the winning tender form a joint-venture partnership with Antenna Hungaria and Hungarian Post is of considerable concern. The obligation is glaringly inconsistent with the tide towards privatisation, and the various measures the government has taken to distance regulatory responsibilities from ownership ones in the telecommunications sector. For example, the basis of pressure to sell the last 5.74% tranche of Matav in June 1999 was the concern that continued government ownership could lead to speculation that government was not entirely unbiased in its regulatory decisions. Now, despite signs of pro-competitive reforms and acknowledgement of the need for independence from operators, the Hungarian government is obliging a private sector company to enter into partnership with two of its agencies.

The requirement appears to be a carry-over from the 1994 concession conditions for some LTOs. For example, the concession for UTS (owned by Alcatel) to operate in the region of Veszprem contained a condition that 25% plus one vote of the company was to be owned by Hungarians, and that local government municipalities were to be assisted to acquire such ownership. The condition may have been understandable under the circumstances prevailing in Hungary in 1994. But in 1999, at the verge of market liberalisation and competition, it is a signal that, despite the rhetoric, the attitude of the Hungarian government might not really have changed.

According to the Competition Office, it argued strongly against the mandated partnership arrangement but failed to sway the government.²⁴ Some Hungarian government officials have said that Antenna Hungaria's ownership is only a temporary measure invoked to enhance the attractiveness of purchasing this company when it is privatised (since two previous attempts to privatise the company had failed). This explanation does not reduce concern because, if so, the government cannot afford to see Primatel unsuccessful against its competitors since this would involve a further loss not gain of Antenna Hungaria's attractiveness.

This concern has been expressed somewhat emphatically because some Hungarian government officials have dismissed such concerns and indeed, have expressed the view that the same model for allocating spectrum frequency licences seems suitable when considering the licensing of UMTS 3rd generation telecommunications suppliers. To avoid this, auctions should be used as a neutral, non-discriminatory and transparent way of allocating all licences²⁵ as required by the legislation.²⁶ The requirement for auctions would also avoid the dangerous precedent already taken to provide further spectrum without any open bidding procedure. In view of future licensing of UMTS services there should be no presumption that these new licences should automatically be provided to incumbent licensees. Indeed, there is a strong case that a dominant incumbent should be precluded from participating in an auction. Third Generation mobile licences will provide a unique opportunity to enable new entrants to offer an alternate source of competition to broadband local loop dominated by an incumbent. And this opportunity to install facility-based competition should not be missed.

2.2.3. *Alternative infrastructure*

Cable. The 1997 modification of the 1992 Telecommunications Act categorises CATV as part of public telecommunications services. The licensing of CATV services - as a public telecommunications service - would occur under the conditions pertaining to the licensing of telecommunications services. Under the applicable regulations, all those who comply with the provisions of the legislation, and fulfil the requirements set out shall be granted a licence on demand. The Act was amended by Parliament on 16 June 1999 to restrict a telecommunications operator from simultaneously controlling a cable network in the same geographic area. The intent was to facilitate competition after the expiration of the provision in Matav's concession granting exclusivity in local voice services. However, Matav has moved to circumvent the Parliamentary amendment by buying up local cable companies and ostensibly relinquishing the prohibited controlling stake by selling 75% of the voting rights -- but only 25% of the shares -- to Hungaria Insurance (owned by Allianz of Germany) in August 1999. As the insurance company is not itself experienced in cable television, observers contend that Matav would in fact retain real control over decision-making at the cable company.²⁷

The 1996 Act on Radio and Television Broadcasting contains regulations relating to CATV with emphasis on content. This Act also regulates operations in CATV service provision. Notably, a cable company cannot own and operate a CATV network whose aggregate coverage exceeds any geographically determined area, where one sixth or more of the country's population lives.

TETRA service. TETRA (Terrestrial Trunked Radio) service is to be introduced in Hungary under a licence, not under an exclusive concession.

IP Telephony. In May 1999, PanTel received the first licence in Hungary to provide a long distance and international voice service based on Internet Protocol (IP). The Ministry and HIF declared that voice over Internet was considered to be "packet switched" data communications as distinct from "circuit switched" voice telephony, and therefore that this type of service is not precluded by the concession contracts and can be provided competitively under a licence. However, while this decision is to be applauded, there is a question as to why a licence is required. If voice over Internet is considered a data service, then by definition, no licence should be necessary. But the license requirement is evidently due to a provision of the Hungarian legislation that all types of public services (including Internet or any other data transmission service) shall be subject to licensing.

2.2.4. *Regulation of interconnection prices*

Interconnection charges are a critical factor in the development of effective competition, for one because they can account for some 35% to 50% of the costs incurred by new entrants. In Hungary, interconnection charges are set each year by the Minister of KHVM in conjunction with the Minister of Finance and announced in a joint Ministerial Decree. That is, they are not based on costs, nor on an objective methodology.

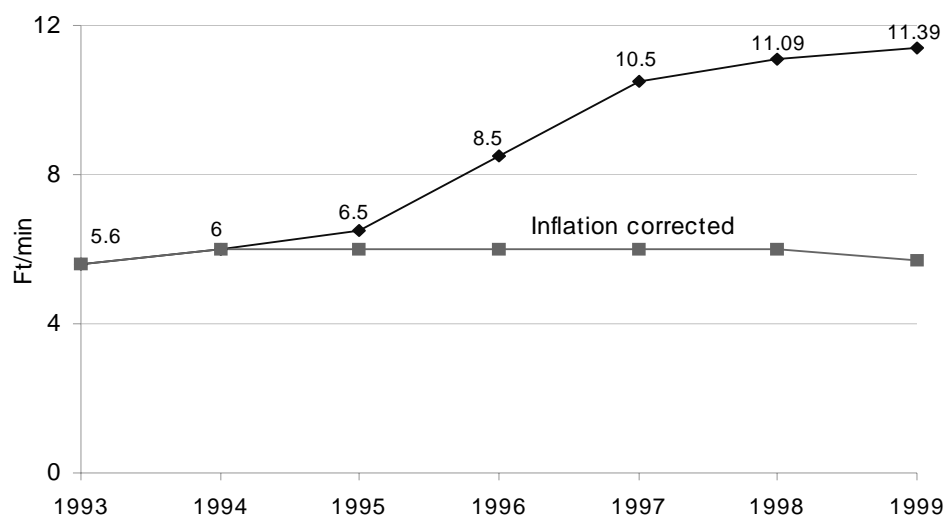
In the Hungarian situation, since Matav has the exclusive right to provide long-distance and international services, other operators are able to interconnect only through the Matav network. The LTOs are not allowed to connect directly with each other since this interregional traffic would be considered long-distance. The same is true for mobile operators. Matav is paid an interconnection fee for forwarding calls initiated from mobile telephones to the fixed line public telecommunications network or the reverse.

In essence, interconnection prices in Hungary have been based on a revenue-sharing arrangement. Tariffs for calls are set out in Decree 31/1998. (XII.23.) KHVM. For example, 30.60 HUF/minute in real-time for tariff zone III. A revenue-sharing formula is laid down in decree 6/1999

(II.19.) KHVM entitling the initiating LTO to get $9.30 + 8.78$ HUF/minute = 18.08 HUF/minute, the terminating LTO to get 9.30 HUF/minute with Matav receiving an interconnection fee of 3.22 HUF/minute. In revising the arrangement for interconnection fee payments, the 1999 Ministerial Decree states that fees are to be determined as the result of negotiations between service providers, HIF, the Ministry (KHVM), the Competition Office, and the Ministry of Finance.

The non-Matav LTOs and Pannon GSM have long complained about interconnection arrangements.²⁸ In particular, they complain that the payments they are obliged to make to Matav are too high. PanTel, a fixed-line operator, has also complained that the interconnect fee it has to pay Matav is about three times higher than in some other EU countries and that Matav is not obliged to provide a “wholesale” discounted fee to other operators.²⁹ Pannon GSM was also critical of the 1999 interconnect fee arrangements since, despite promises it says the government made that the fee would be reduced, the 1999 Ministerial Decree raises Hungarian interconnect fees for mobile operators that the company says is already several times higher than in Western Europe.³⁰ Figure 2 shows that mobile-to-fixed interconnection fees have not fallen as in many countries but have risen sharply in nominal terms and have remained fairly constant in real (inflation-adjusted) terms. Pannon GSM complains that the high interconnect fees it has had to pay to Matav was a major factor leading to the loss it incurred in 1998.

Figure 2. Trend in Pannon GSM’s interconnection fee, 1994-1999



Source: Pannon GSM.

The basis for setting interconnection prices that would encourage efficiency is clear. To help ensure effective competition, the price of interconnection to the incumbent's public switched network should be based on long-run average incremental costs, including a reasonable profit margin. Interconnection rates based on “real costs”, interpreted as historical accounting costs, will maintain high rates and restrict new entrants from offering lower rates to customers. Further, any access deficit contributions should be addressed through price re-balancing, and transparently separated from interconnection charges. While the best way to accomplish cost-based pricing is through competitive pressure, where access customers face a local monopoly, regulation is necessary to reduce interconnection charges to reflect costs.

The Hungarian government’s expressed intention of moving to cost-based pricing of interconnection by the end of 1996 has not been realised.³¹ Even more than 2 ½ years after this date, cost-based pricing has still not been implemented.

The Ministry and HIF acknowledge that interconnection payments should be based on costs. Indeed, telecommunications operators were obliged to develop and apply from 1 January 1999, at the latest,³² a system of accounts that would enable the cost analysis³³ necessary for cost-based tariffs to be applied (as required by EC directives on interconnection). The 1997 Ministerial Decree on interconnection stipulated that HIF was required to guide the development and implementation of this system of accounts³⁴ on the basis of a work program to be published by the Minister by 15 February 1998. This work has not been conducted, nor was the work program published by the Minister.

The Ministry claims that the 1999 interconnection decree is a first step towards introducing cost-based interconnection fees in 2000. But there must be doubt this deadline can be achieved since the studies to identify the costs involved in providing interconnection have not been conducted. Evidently the studies have not yet been done because Matav failed to provide the necessary cost data.

In the 1999 Ministerial Decree on interconnection, telecommunications operators are obliged to present their data concerning costs, revenues and traffic to KHVM before end of August 1999. After that date, the regulator, taking into consideration EU interconnection studies, is to prepare cost studies to enable cost-based interconnection fees to be introduced in Hungary. These deadlines have not been met. A further deadline should be set as a matter of priority and strictly enforced.

It is crucial that there be no further delay in conducting studies to ascertain costs levels and structures in the provision of interconnection and various other services to serve as crucial inputs during future negotiations and/or regulatory decisions.

A major obstacle to progress thus far appears to have been Matav's inability or unwillingness to provide the required data to allow service costs to be estimated. Matav claims that it is doing its best to provide the data but has faced difficulties. The fact is that while interconnection prices have been set at relatively high levels well above costs, there has been little incentive for Matav to provide cost information since this would serve to provide the information to drive prices down. In the interim, while cost data is being provided and evaluated, and a cost allocation methodology is being put in place, the government should immediately apply EU best practice interconnect prices. Or at least a schedule for establishing interconnection prices that reflect EU best practice (commencing this schedule with a price based on the current "average" EU price. This would help bring prices down as well as provide the requisite incentive for Matav to provide relevant data.

Accounting separation

The objective of cost-based pricing which excludes cross-subsidies is formulated also in Government Resolution 1071/1998. (V.22.). In that document the government explains that it aims: "[t]hrough re-balancing to establish cost-based tariff system where all forms of cross-financing are eliminated." Indeed, rules prohibiting cross-subsidy are also clearly stipulated in the concession contracts: "The Concession Company should not use its revenues from public telephone services to support its non concession-bound telecommunications services and further to support its communication - and computer technology product trading activities. Point 7.02 does not limit the Concession Company to spend its net profit for the development of non-concession telecommunication services." According to HIF, this means that the Concession Company should not spend its net profit to support the operation of non-concession services, but the net profit can be invested for the development of new (non--concession) services.

Under the terms of its concession contract, Matav is expressly prohibited from favouring its own operations in terms of the service or financial conditions it offers other networks; and it is required to give strictly equal treatment to all public telecommunications operators. However, in the absence of financial transparency of the Matav operations, it is difficult to assure new network investors that they will not operate at a disadvantage. One means of providing this assurance is to implement the requirement in the

concession contract for accounting separation of Matav's operations *e.g.*, for long-distance and local. Such a requirement will become even more important when competition between networks carrying voice services is allowed at local and long-distance levels.

It is true that accounting separation has weaknesses as a regulatory tool. There are, for example, problems of "information asymmetry" concerning an incumbent's costs, as well as the ingeniousness of "creative accounting". Nevertheless, data provided on the basis of accounting separation will go some way in restricting Matav's cross-subsidisation activities. Moreover, sustained effort to analyse and calculate service costs will improve understanding of the costs that can be attributed to various activities.³⁵ At minimum, therefore, the HIF should ensure immediate cost studies with a view to enabling accounting separation by Matav with accounts subject to scrutiny by an independent accounting firm. In the interim best practice methodologies already exist from a number of other OECD countries with many years of experience in building-up competitive telecommunication markets.

2.2.5. *Promotion of competition*

As yet there is no competition in Hungary's local telecommunications markets, nor for long distance or international services. To facilitate market entry and promote local competition, the various avenues to competition should be kept open when the exclusive concession periods terminate. In particular this would require promoting resale, unbundled network elements, and facilities-based competition.

Resale

In Hungary, resale is not permitted for public telecommunication services. Certainly, when the period of exclusivity for Matav and LTOs ends and the market is liberalised, simple resale, including international simple resale, should be permitted. Resale can help promote and sustain competition in telecommunications services by: (1) allowing retail-stage competition to emerge more rapidly and on a more geographically widespread basis than facilities-based entry; (2) yielding substantial net benefits to customers by way of price falls and increased customer choice as the retail portion of the industry begins to develop; and (3) facilitating a more rapid rate of facilities-based entry as the number of retail customers increases.

Provision should be made for resale in the new Law.

Unbundling

Hungary has no policy in place to oblige access to unbundled network elements that are essential facilities although the importance of the issue has been recognised in Hungary and, indeed, was a matter tabled for discussion in the Parliament in June 1999. The unbundling issue has attracted increased attention recently because of an heightening concern to widen access to high capacity bandwidth. In the UK, Oftel has advocated that BT be required to provide competitors unbundled access to its local network while it is upgrading its copper wire local loop plant with asymmetric digital subscriber line (ADSL) technology. Oftel argues that BT's competitors be permitted to upgrade BT's local telephone lines in order to begin providing their own xDSL broadband access services. Oftel considers that such competition in the upgrade of the network is an essential complement to BT's planned ADSL roll-out.

The approach adopted in Canada where unbundling of designated elements is mandated for a limited period (5 years) is worth considering. Also worth considering is the Netherlands system whereby local loop unbundling will start at cost-based prices and move to commercial pricing over five years. This

finite period maintains incentives for firms to seek to deploy their own infrastructure rather than depend indefinitely on another firm to provide it. This approach could be applied in considering a mandated unbundling of xDSL networks deployed by Matav to allow access by service providers. This is an issue of concern to Hungary's rapidly growing number of Internet users.

Provision should be made for unbundling (including collocation) in the new Law.

Cable as alternative infrastructure

As the OECD warned in its 1997 report on regulatory reform,³⁶ the ownership of cable television networks by incumbent telecommunication companies, together with their control of the public switched telecommunications networks, could give them an extremely powerful bottleneck position in the local loop. Effective competition is likely to develop only when the existing bottleneck power derived from ownership and management of local access networks, is eroded by the emergence of alternative access networks. In this context, reducing the market power of existing dominant operator(s) over alternative infrastructures, such as cable television networks, is crucial. **Each source of alternative infrastructure foreclosed by the incumbent makes it less likely that effective competition will develop.**

In June 1999, the Hungarian Parliament commendably modified the 1992 Telecommunications Act to restrict telecommunications companies from owning a controlling stake in cable television operators, except in areas inhabited by less than 30 000 people. However, as noted earlier, Matav has been trying to evade this restriction.

Future local competition will depend importantly on the ability of alternative infrastructure to offer both voice telephony services and newly developing information services. CATV infrastructure provides one of the most rapid and efficient means to stimulate entry into the local loop. Due to its dominance in the majority of local markets, permitting Matav to engage in cable operations generates a high risk that it can foreclose an opportunity for cable to provide an alternative local loop for telephony. Divesting the cable licences Matav has already acquired would help stimulate local competition as well as competition in the CATV market.

2.2.6. *Numbering*

Telecommunications service operators need to have access to adequate numbers in order to achieve an effective provision of their services so numbering is another important local competition issue. In Hungary, the HIF is responsible for numbering and for managing numbering blocks.

Also important is the introduction of number portability, which refers to the ability of customers to change their location, service provider, or service without being required to change their number. Number portability is important because when customers cannot keep their telephone number, they have to incur costs that can be substantial for some users (printing new letterheads, informing friends, business partners and clients, etc). Thus the absence of number portability can put a new entrant at a disadvantage since the potential "switching costs" acts as a strong artificial disincentive for customers to switch from the incumbent to a new entrant. Implementation of a permanent form of number portability would be an important step in ensuring that subscribers do not face artificial disincentives in deciding whether to switch carriers.

Complying with EC Directives,³⁷ HIF plans to implement number portability two years after the market is liberalised, *i.e.* in year 2004. This is too late. The government should empower HIF to oblige operators to introduce number portability by 2002. There is enough time for operators to prepare for this, particularly since the technology is now well tested in a number of countries.

2.2.7. *Carrier selection and pre-selection*

Carrier selection has been commonly achieved by making a customer dial a prefix. The need to dial such a prefix weighs against a new entrant's ability to compete effectively with the incumbent. Carrier pre-selection allows the customer to designate (pre-select) an operator to carry all his long-distance calls without the need to dial additional numbers. A call over-ride facility is also important because it allows the customer to access any special discounts that other operators may be providing from time to time. In this context it is notable that carrier pre-selection is firmly in place in several OECD countries such as Australia, Denmark, Mexico, New Zealand, US, the Netherlands, etc. The EC requires member states to ensure by 1 January 2000 that fixed network operators with significant market power enable their subscribers to obtain access to the services of other interconnected service providers, by means of pre-selection with a call-by-call over-ride facility. This requirement should be applied in Hungary as soon as possible. The current Ministerial decree on numbering does not provide for equal access (since a four digit prefix is required) and the introduction of carrier selection is not scheduled.³⁸ Carrier pre-selection should be in place as soon as markets are opened to competition. There is sufficient time to begin undertaking the necessary technical configuration for this as well as any necessary regulatory provisions.

2.2.8. *Rights of way*

In principle, there must not be discrimination between providers of public telecommunication networks with regard to the granting of *rights of way*. The problem of obtaining rights of way for new entrants can be a formidable one. In some countries local governments have delayed rights-of-way approvals resulting in significant delays in the construction of cable network infrastructure. Since concerns relating to the protection of private property and the environment, as well as the scarcity of suitable sites, appear to be growing, the regulatory authority should act to encourage negotiated arrangements and, as a last resort, impose facility-sharing arrangements. As part of the preparation for competition the government should legislate to enable the mandated sharing -- on reasonable terms -- of the facilities of all telecommunications operators as well as other public utilities.

The 1992 Telecommunications Act also allows for telecommunications devices to be installed on premises, and upon demand from the public telecommunication service provider. HIF can make decisions - in the public interest - to establish rights of access. Should the authority HIF is empowered with prove inadequate, an arbitration procedure should be established for use when carriers and local governments cannot reach agreement on the use of public land.

In addition, the new Law should ensure that there are arrangements for facility sharing between operators, including sharing of antenna masts, insofar as this would not impose an unreasonable economic burden or technical difficulty on the incumbents and facility-based carriers.

2.2.9. *Regulation of pricing*

Telecommunications companies in Hungary operating under concession contracts are obliged to file tariffs in a form specified by the Minister at least 60 days before they are effective and they are then made public by the Minister.³⁹ These companies are obliged to provide the Ministry of KHVM with data required to assess the extent of the price increases, the likely impact on usage, and other issues associated with the regulation of prices and the telecommunications market.

Price cap regulation

The prices of fixed-line telecommunications services, including interconnection charges, are regulated by the Ministry of KHVM in consultation with the Ministry of Finance. Mobile telecommunications prices were also subject to regulation but this ended in December 1997 because it was considered that, with competition developing in the mobile services market, tariff regulation was no longer required. Services that are not provided under a concession agreement are also generally unregulated. The Prices Act of 1990⁴⁰ specifies the various services that are subject to price regulation with all unlisted services considered exempt. The practice in Hungary of restricting price regulation only to services provided under a concession is to be commended since price regulation should only apply to services for which there is limited competition and significant barriers to entry.

The method of price regulation applied to services subject to a concession contract is the so-called "price cap regulation" now being applied in an increasing number of OECD countries. The original concession contract with Matav, signed in December 1993, established a price cap formula whereby the average price increase permitted in each year for national and international long distance services could not exceed the rate of inflation. That is, the price cap formula was $CPI - 0\%$. This $CPI - 0\%$ price cap formula was also applied to the LTO's. In 1998, a productivity factor of 2% was set for Matav while the productivity factor for the LTOs (including Matav's 36 LTO concessions) was still left at 0% but in 1999, this was changed to 2%.

The price cap formula for Matav set at $CPI - 2\%$ is generous to the company and does not do justice to customers,⁴¹ especially when compared with the price cap formula in other OECD countries. This generosity is manifested by Matav's 62% boost in net income in 1998 (as discussed further in section 3). Moreover, as Table 6 submitted by Matav shows, in 1996 and 1997, the company increased its prices by less than the permitted percentage increase, suggesting that the price cap constraint was so generous it was not placing an effective ceiling on the company's price increases. As a basis for comparison, the UK formula applied to BT is $CPI - 7.25\%$ and the formula in Australia applied to Telstra is also $CPI - 7.25\%$. In Denmark it is $CPI - 7\%$ for the year 2000. With the technological enhancement now being enjoyed by telecommunications companies, productivity improvement is substantial, especially for companies like Matav that are at an early stage of a productivity enhancement program. In particular, the experience of OECD countries indicate that there is considerable potential for price falls for domestic and international long-distance services that Matav holds the right of exclusive provision. A larger more appropriate "X" factor in the price cap formula for Matav should be implemented so as to ensure that customers share more equitably in the cost reductions flowing from technological and other sources of productivity improvement. A larger "X" factor would also assist the government's efforts to control inflation.⁴² But the size of any increase in the "X" factor should be based primarily on a review of Matav's productivity performance.

Table 6. Price cap regulation in Hungary

	1996	1997	1998	1999
Price increase for year	19.6%	19.6%	16%	10.5%
Price cap applied	28.3%	23.3%	18.8%	10.5%

Source: Matav submission to OECD, 18 June 1999.

The need for price re-balancing

To its credit, in designing the price cap scheme, the Ministry of KHVM recognised the need to permit substantial price re-balancing as a fundamental requirement in addressing the problems stemming from cross-subsidisation. The Ministry recognised that, before the telecommunications market is

liberalised to permit competition, it is important to have prices more closely aligned with costs. Otherwise, there will be difficulties in attempting to force competition upon a fundamentally distorted local service market (where prices are kept artificially low). New entrants will target customers for whom prices are above costs and avoid those for whom the reverse is true. They may be able to enter profitably even if they are less efficient than the incumbent solely because of the wide difference between costs and rates.

Table 7 shows the schedule for the price re-balancing required by the Ministry between the years 1994 and 2000. For instance, monthly subscription fees were scheduled to increase by 5% per year over 1994 to 1997, by 0.5% in 1998 and by 10% in 1999 and 2000. For local calls, the price re-balancing factor of 1.07 during 1994 - 1997 meant that, after allowing for the 2% productivity adjustment, the real price for local calls could increase by 7%. The adjustment factor of 0.96 for long distance and international calls means that real prices for these services must fall faster than 2% per year.

While the principle of permitting, indeed, requiring price re-balancing is to be applauded, the rigid year-by-year schedules for each category of service are of concern. For one thing, in several OECD countries, international call prices have fallen by much more than the 6% (4% + 2%) in 1998 and 10% (8% + 2%) during the period 1999-2000 indicated by the Hungarian schedule. Price falls deliver benefits to customers and must be permitted particularly where, as in the case of Hungary's international prices, the prices are well above costs.

Table 7. **Tariff rebalancing factors, 1994-2000**

Tariff class	Nominal value of the tariff re-balancing factor		
	1994-1997	1998	1999-2000
Category 1: monthly subscription fees	1.05	1.005	1.100
Category 2: call charges for local and long-distance tariff zones I and II	1.07	1.057	1.064
Category 3: call charges for domestic long-distance tariff zone III and international	0.960	0.960	0.920

Source: Decree 31/1997 (XII.20). KHVM (Ministry of Transport, Communications and Water Management) on Usage Fees for Public telephone Services, Article 17 (6).

Table 8 shows that Matav's price re-balancing has been significant under the price cap scheme. However, the appropriate nature and extent of re-balancing depends on the level and structure of the costs of providing the various services. But as discussed earlier, the work to identify these cost levels and structures has not been conducted and until this is done it is difficult to ascertain the appropriate nature and extent of re-balancing. Since it is important to re-balance tariffs before the market is liberalised to allow competition, it must be reiterated that the work to identify costs should be proceeded with as a matter of priority.

Table 8. **Results of Matav's price re-balancing in real terms, 1996-1999**

Service category	1996/1998	1998/1999
Monthly subscription fee	Up by 9.0%	Up by 19.8%
Local tariffs	Up by 22.8%	Up by 6.3%
Domestic LD tariffs	Down by 13.4%	Down by 10.7%
International tariffs	Down by 6.6%	Down by 10.2%

Source: Matav, 18 June 1999.

HIF should undertake work to identify the cost of providing various services as a matter of priority. Only when this data is available can there be confidence that Hungary is meeting its undertaking to comply with EU directives concerning cost-based pricing.⁴³

Arm's length regulation

An increasing number of countries are deciding that basing price regulation on a price cap scheme, rather than direct government authorisation, allows a distinct move towards the “arm's length” regulation of prices.⁴⁴ A major aspect of the rationale for using price cap regulation is that price regulation can be set on “automatic-pilot”. So long as a price increase does not exceed what is permitted under a “CPI – X” formula, no approval need be obtained from regulatory authorities. In Hungary, however, Ministerial decisions have regularly over-ruled price modifications that would have been permitted under the price cap scheme. There now appears to be a cynical expectation that the Minister's promises made each year not to intervene in the following year will not be kept. Moreover, the scheme itself has been subjected to various changes leading to the loss of coherence and stability that are important advantages of the scheme. The producer price index used in the initial formula was replaced with a consumer price index. The inflation rate used in the estimation of permitted price increase was changed from the previous year's inflation rate to the inflation rate projected for following year⁴⁵ (when the latter was expected to be lower).

The regulation of prices, in effect, through government authorisation is unsuitable for competitive circumstances particularly since it depends on a process which lacks transparency and is driven more by political considerations rather than the pro-competitive need for price flexibility in the dynamic, converging, telecommunications industry. Thus, responsibility for the regulation of prices should be given to the HIF. This ensures that considerations of price efficiency, productivity, etc., are isolated from political considerations which have driven decisions by the KHVM and Ministry of Finance in the past.

Price regulation, where necessary, should continue to be on the basis of an ‘arm's length’ price cap regulation scheme designed and monitored by HIF. The transparency, coherence and consistency of price regulation should be ensured by depending on the price cap regime to regulate prices and by not over-riding the price cap regulation regime established to regulate prices through *ad hoc* Ministerial decisions.

Sunset clause for price regulation

Finally, price regulation should be seen to be only a temporary measure since price controls can result in distortive inefficiencies, especially when left in place for long periods. In order to enable the pricing flexibility that ‘convergent’ technologies, markets and services require, price cap regulation should be clearly installed as a temporary measure to be streamlined and withdrawn as soon as (competitive) conditions permit. To help ensure that price caps are withdrawn promptly from competitive markets, the Hungarian authorities need to ensure that the price cap scheme incorporates a ‘forbearance provision’ to oblige withdrawal of price caps in any market that the regulated operator could prove had become competitive.

2.2.10. Social regulation, including universal service obligations

Universal service obligation

The concept of “universal service obligations” as such has not yet received in Hungary the attention it has in several other OECD countries. But in fact, the concession contracts for Matav and LTOs impose similar service obligations, including network development, the installation of public pay-phones, directory services, free calls to emergency numbers, etc.

Aggregate annual development target

As discussed earlier, Matav's concession contract requires it to meet specific aggregate annual development targets during 1994 to 1999, as set out in Table 9. In aggregate terms, the increase is to show a cumulative annual increase of 15.5% per annum. Matav's performance in this regard is discussed in Section 3.4.

Table 9. **Matav's aggregate annual network development targets**

(Number of direct exchange lines)

	1994	1995	1996	1997	1998	1999
Aggregate annual development target	1 320 000	1 525 000	1 761 000	2 034 000	2 350 000	2 714 000

Source: Exhibit E, Matav's Long-Distance Concession Agreement dated 19 December 1993.

Matav is also required to present to the Minister each year a "regional development plan" for the aggregate number of direct exchange lines it plans to put in service during the next three calendar years.⁴⁶

Moreover, Matav is required to meet network development targets during 1995 to 1999 in the two regions (Primary Network Areas) for which a concession was not granted and which Matav was obliged to accept as a part of the national concession.

In regard to public payphones, Matav and the LTOS are obliged to install:

- At least two public telephone stations (one operated by phonecard, the other by coin⁴⁷) in every village having a population less than 500;
- One public telephone for every 500 persons in larger villages (half of it operated by cards, the other half by coins);
- At least 5% of the public telephones specially equipped for the hearing-impaired;
- At least 4% of the public telephones to be useable by the handicapped; and
- The public pay telephones taking into consideration the opinion of the local government municipalities.

With the onset of competition, there is need to reconsider how universal service obligations should be delivered in Hungary. Much has already been written on this subject⁴⁸ so only a brief discussion is necessary here. The first task is to define the nature and scope of universal service systematically. The second is to determine how universal service is to be delivered, the cost of the program and how it is to be funded. Where delivery of universal service by the incumbent (Matav) will place it at a substantial competitive disadvantage, other operators should contribute to a transparent, competitively and technologically neutral Universal Service fund.

In assessing the significance of the costs of providing universal service to the incumbent, it is the *net* cost incurred that is relevant. In the UK, OfTel had initially decided that USO costs be funded by all operators. However, estimates that the size of the burden on BT is in fact quite limited (about 0.5% of sector turnover) subsequently convinced the regulator that there is no need, at this time, to establish a fund because the burden of meeting USOs also gives BT some benefits⁴⁹ that in fact largely offset the costs. But

Oftel has not dismissed the idea of a USO fund and recognises that it may become relevant in the future. If that occurs, payments from the fund should be made to whichever firm incurs costs of providing the universal service obligations.

In fact, the idea of a universal service fund is not a new one to Hungary. Indeed, such a fund was established by the 1992 Telecommunications Act with the objective of financing projects additional to normal network development, where the project would otherwise have been judged to be uneconomic. But in 1994, the serious national economic situation caused Parliament to vote that Telecommunication Financing Fund revenues (obtained through concession fees, privatisation revenues, other income from concessions, and penalties) be subsumed in the overall national budget.

In its 1997 report, the OECD recommended⁵⁰ that the Ministry of KHVM should define the nature and extent of universal service and develop a plan for its achievement, including consideration of the need for financing universal service obligations. To date this task has not been addressed. There should be no further delay in doing so.

The government should proceed quickly to specify the nature and extent of universal service obligations. HIF should then proceed immediately to estimate the net cost to Matav and LTOs of delivering universal service obligations and, if considered necessary, promptly establish an explicit, portable, competitively and technologically neutral universal service fund in readiness for market opening in 2002.

Universal service in a converging information economy

The Hungarian government's 1998 policy document which articulates its communications sector strategies during 1998 - 2005,⁵¹ acknowledges that the financing scheme for a universal service program to support "uneconomic customers" should recognise the burden on "economic customers" and the necessity to avoid providing benefits to those not in need. The government's policy document rightly declares that subsidised service should be restricted to a minimum, determined according to what the economy can afford.

However, the document then goes on to say that the universal service obligations will include subsidised service to schools, hospitals and public institutions as well as the disadvantaged (the disabled, the elderly).

The document states that the main goal is to make Internet accessibility the same as that of the telephone service by around the year 2002. Measures ensuring general cheap access to Internet services are to play a highly important role among the steps taken to speed up and support the development of an information society. A necessary condition is perceived to be Internet access nation-wide at local telephone tariffs. Also it is considered that the quality and infrastructure of telecommunications services will have to be guaranteed, whereby a minimum 64 kbit/s data transmission link Internet service must be available for every stratum of society by the year 2004.

The document goes on to say that the government will support local initiatives in small communities, providing them with programmes with respect to the propagation of knowledge, education and the management of issues specific to the given area.

In the UK, Oftel concluded that the concept of universal service should not be used to promote new technologies and services. The concern that there not be a digitally divided society of "have" and "have nots", over access to Internet for schools, as well as for telephony services for disabled people, is to be tackled separately. **Telecommunications operators should not be made to subsidise educational,**

health, and social policy objectives.⁵² Where deemed to be necessary, the government should provide subsidies from general revenue. The most important contribution the regulator can make is to safeguard an efficient telecommunications market through which competition will diffuse services to customers.

2.2.11. *International aspects*

During the 1990s, several formidable international players have entered the Hungarian market, as indicated in Table 10.

Table 10. **Foreign ownership of major Hungarian telecommunication operators, 1999**

Matav (Including mobile subsidiaries Westel & Westel GSM)	Deutsche Telekom (Germany): 29.79%	Purchased in Dec 1993 and Nov 1995	National operator with monopoly on national and international telephony
	Ameritech (US): 29.79%	Purchased in Dec 1993 and Nov 1995	National operator with monopoly on national and international telephony
PanTel	KPN (Dutch):49%	Purchased from AT&T-Unisource in June 1998	Alternative operator specialising in business communications
Pannon GSM	KPN (Dutch):26.79%; Telenor Invest AS 23.43%; Sonera Holding NV 20.90%; Tele Danmark A/S 3.87%; Mediatel Holding Rt. 15.18%	March 1994	Mobile operator GSM
Primatel-DCS 1800	Vodafone (UK)-Airtouch (US) (50.1%); RWE Telliance: (19.9%)	The winning bidder for the 3 rd mobile DCS 1800 licence. Concession agreement signed on 7 July 1999.	Obligated to enter into partnership with Antenna Hungaria and Hungarian Post which together are to hold 30% + 1 share in Primatel

Source: Communications Authority of Hungary.

Requirement to purchase products of Hungarian origin. Matav, and other companies operating under concession contracts, are required to use products and services of Hungarian origin in the provision of public telephone services where such products and services are competitively priced, and are equivalent to similar non-Hungarian products and services. Matav is required during its 8 year exclusive provider period to ensure that between 1994 and 1996, at least 25% of the value of products and services purchased shall be of Hungarian origin and, after 1 January 1997, at least 50%. For each percentage point by which, in a calendar year, the concession company fails to meet this requirement, it is required to pay a penalty equal to 0.1% of its capital expenditure in that year.⁵³

Several companies have expressed considerable concern about public procurement obligations, including obligations to purchase products in which there is at least 25% Hungarian value-added content. Clearly, in the context of developing efficient telecommunications markets, imposing procurement burdens on operators is counterproductive and should be dropped.

Hungary's WTO commitments

Hungary's international commitments concerning regulatory reform are related to the regulatory principles contained in the "Reference Paper" attached to the WTO agreement of basic telecommunications services. Hungary signed the WTO agreement in September 1997, some six months after the agreement had been concluded in February 1997 with the commitment of sixty-four countries. The Hungarian offer does not impose limitations to national treatment with respect to cross-border supply,

consumption abroad and commercial presence in any of the areas covered by its schedule. However, Hungary placed some limitations on market access. The main limitations concern the exclusive rights granted to Matav on international long-distance and domestic services until 31 December 2002 and for local services until 31 December 2003. There is also the requirement that licences be allocated only to companies registered in Hungary; and a foreign-ownership limit of 75% minus one vote for Matav and Antenna Hungaria.

In the February 1999 revision of its WTO commitment, Hungary indicated that the reservation of mobile services to three existing suppliers will end by 2004. Hungary also commits to competition in domestic long distance and international public voice telephone as of 2003 and in local voice service as of 2004. At least 25% Hungarian equity has been required for local and domestic voice services and facilities-based international service (although, according to HIF, this Hungarian equity requirement is no longer in force). In view of Hungary's EU aspirations, such restrictions should be lifted. Services such as paging, data transmission, and leased circuit services are fully liberalised without phase-in. Hungary also commits to the regulatory principles contained in the "Reference Paper" attached to the WTO agreement.

2.2.12. *Streamlining regulation*

Regulation can impose costs as well as benefits and there is accordingly need to ensure that benefits of regulation outweigh its costs. Even though Hungary is still in the process of installing a new regulatory system, it has to bear in mind that all regulations should be subject to regular review to ensure that only regulations which confer benefits in excess of costs are retained.

Regulation will continue to be required in areas that cannot be handled by market competition. These include: universal service; consumer protection and information; enforcement and promotion of competition goals; and spectrum management.

The government should require that a systematic regular review of all regulations be conducted (say every three years) to ascertain whether the regulations are still in the public interest and whether such regulation should be abandoned or modified. "Forbearance" procedures (or "sunset clauses") should be incorporated to ensure that regulations no longer necessary are eliminated. Reportedly the EC is considering issuing a directive to require such a regular systematic review of regulations.

2.2.13. *Application of competition principles*

The general rules relating to the regulation of competition specified in *Act LVII of 1996 on the Prohibition of Unfair and Restrictive Market Practices* (the Competition Act)⁵⁴ are also applicable to the telecommunications sector. Article 21 of the Competition Act explicitly prohibits abuse of a dominant position. Some of the particular tactics that are prohibited include:

- 1) Setting unfair purchase or selling prices or by forcing the other party to accept disadvantageous conditions;
- 2) Discriminating, without justification, against trading parties, including the application of prices, periods of payment, discriminatory selling or purchase terms and conditions or methods, thereby placing the discriminated against party at a competitive disadvantage;
- 3) Setting extremely low prices, which are not based on greater efficiency, that are likely to drive out competitors from the relevant market or to hinder their market entry;

- 4) Creating, without justification, disadvantageous market conditions for competitors in order to obtain unjustified advantages.

The Competition Act applies for all sectors of the economy, except where the law provides otherwise. Thus the Competition Act does not override the regulation of prices of services provided under a concession contract that is authorised by statute. This means that if a consumer lodges a complaint at the Competition Office about a telephone tariff regulated under the telecommunications law, the Competition Office would transfer the case to the Ministry of KHVM. If a complaint concerns any other supplier, a cable television service provider, for instance, the Competition Office would investigate and rule on the case. The regulation of abuse of a dominant position and of prohibiting competition, are matters that fall within the provisions of the Competition Act and under the jurisdiction of the Competition Office. This applies also for telecommunications operators. However, the concession contracts for Matav and the providers of mobile services also prohibit these operators from gaining unfair advantage from the dominant positions established by the concessions (the concession contracts of LTOs do not contain any provisions relating to a dominant market position). In particular, concession holders are prohibited from applying prices that can hinder competition. So there appears to be some overlap in jurisdiction and potential confusion between the responsibility of the Competition Office and the Ministry of KHVM. Responsibility in this area should be clarified.

Although there has been the perception that the Competition Act covers the setting of interconnection charges that are anti-competitive the Competition Office considers that it has no jurisdiction to adjudicate in this area. This became evident from the following case: in September 1997, after 8 months of negotiations between operators and the regulator, a joint declaration of the Minister of KHVM and the Minister of Finance announced official interconnection prices for Matav and the LTOs for the 1998-2000 period. In November 1997, the LTO Association submitted a “complaint against Matav’s abuse of monopoly position” to the Competition Office and also notified the European Commission. The 13 LTOs filed the complaint on the grounds that Matav had influenced the position of the Minister to set interconnection charges to the detriment of the LTOs. The LTOs argued that Matav abuses its economic power when it influences an unfair and unjustified share of the tariff from calls initiated by the LTOs through an excessive interconnection fee (several times the European average for long-distance calls). The Competition Office declined to adjudicate on the case.

The concession contracts for telecommunications companies contain provisions relating to the merger of telecommunications companies. Under the terms of the concessions, a substantial share in a concession company, or the control thereof, cannot be transferred to another company without the consent of the Minister of KHVM. In the case of Matav and LTOs, a change in ownership affecting more than 10% of the capital stock is regarded as substantial, while the ratio is 5% for the GSM mobile operators.

However, in recent years, the competition law has been applied forcefully and with some success. One example of this is the case of Matav’s proposed takeover of JaszTel, a local telephone operator (LTO) that was being sold by its owners, Swisscom of Switzerland and KPN of the Netherlands. Matav’s bid to pay US \$30 million to acquire a 95% holding of JaszTel was the highest, but approval of the Competition Office was required (because the aggregate net annual turnover of the merged company would exceed the HUF 10 billion threshold).

While expressing some concern over the takeover, the Minister of KHVM did not move to stop the merger. Since the Minister clearly was empowered to stop the takeover under the concession provisions, since far more than a 10% share transfer was involved, this seems to have been a case of regulatory failure.

On 3 November 1998, the Competition Office ruled to prohibit Matav from finalising the proposed takeover. The reason provided by the Competition Office was that while Matav's acquisition of control over JaszTel would not have restrictive effects in the present exclusivity period, the effects would be strongly manifested at the end of this period when the market would be more fully liberalised. The Competition Office considered that Matav's takeover of Jasztel, on the grounds that the acquisition would undesirably re-inforce Matav's "definitive control" of the market.

Matav disagreed with the decision, but did not appeal the decision in the courts.

Another example of the effective intervention of the Competition Office concerns the restriction on telephone service providers from acquiring and operating new CATV networks. Due largely to the efforts of the Office, in June 1999 the Hungarian Parliament adopted a new provision that restricts a telecommunications company (or an entity in which a telecommunications company directly or indirectly holds a significant interest) from having control over a cable network parallel to its own public telecommunications network, except in settlements having less than 30 000 inhabitants.

The decision is an important one because cable television providers have become strong potential competitors to local telephone operators. They have connections to homes and are beginning to provide high speed data access. The technology for providing voice telephony service through the cable network is already available and will be further improved and probably cheaper by 2002.

Matav contends that restrictions on telecommunications operators are unnecessary in view of the Media Law. Under the Media Law, a dominant cable television service provider cannot pursue its activities on more than one-sixth of the country's territory.⁵⁵ Matav argues that this restriction is enough to prevent monopoly power from developing.

The parliamentary decision was not retrospective. That is, it does not apply to licences to operate a cable business already held by a telecommunications operator before 27 July 1999. It is notable in this context, that in 1998, Matav had acquired several cable television networks within its local telephone service areas. Moreover, since the Parliamentary decision, Matav Kabelteve, Matav's cable TV subsidiary, has acquired two local government operated cable networks in keen competition with UPC⁵⁶ with a further three acquisitions possible.⁵⁷ Thus contrary to what was intended, the new provision could in fact therefore result in strengthening Matav's dominant position if Matav is not made to divest these cable licences. The Competition Office should act to ensure that Matav is required to divest the cable licences it already holds.

As effective competition develops, there will be greater reliance on competition law. With competition yet to develop, it is clearly too soon for a greater reliance on a competition law based approach in Hungary. The position rightly taken by the Competition Office is that the formal opening of the market (in the future) will not automatically result in effective competition. The Office has itself emphasised that, in keeping with EU Directives, during a transitional period, the Hungarian telecommunications sector should be governed by sectoral rules which provide protection against abusive market conduct. The Office rightly emphasises that MATÁV's dominance should be restricted as much as possible since it is more difficult to treat an operator with a strong developed dominant position *ex post*, than to hinder an increase of the operator's market power *ex ante*.

The Competition Office itself considers that to reach the stage of effective competition as fast as possible, some assistance by the state is needed to assist new entrants by way of asymmetric regulation "unfavourable" to Matav.⁵⁸

Since the demands on competition law will undoubtedly increase as competition intensifies, one area requiring review is the nature and extent of the strengthening required to the competition law legislation. This is an issue addressed by chapter 2 of the full country study for Hungary. Another area requiring review is the resources available to the Competition Office, in particular, staffing. It is of concern that within the Office, only three officers specialise in the field of telecommunications, with two additional officers dealing with regulatory and competition policy issues. As the concession monopolies end and the scope for competition increases, there will be need for additional staff with appropriate skills, and this should be planned for immediately. There will also be need for close co-operation between the sector specific regulator and general competition law enforcers to ensure that regulatory resources are used in a complementary and cost-effective manner.

2.2.14. *The impact of convergence on regulation*

The onset of technological, infrastructure and service convergence between the telecommunications, broadcasting, information technology and content sectors is now exerting pressure on regulators in OECD countries to look beyond current concerns to develop effective competition. They are already considering how to facilitate the process of convergence or at least ensure that regulation does not present barriers to convergence. A major concern here is that regulatory barriers do not constrict materialisation of the potential economic and social benefits of convergence and the new services it will deliver, including, notably, electronic commerce. Sound strategies are needed to help ensure that short-run regulatory decisions are consistent with broader longer-term policy objectives, so that regulatory change does not occur in an *ad hoc* manner.

To its credit, even though specific policies to liberalise Hungary's telecommunication markets⁵⁹ are still being established, the Hungarian government has already begun giving attention to the impact of convergence. **A key need is to ensure effective co-operation and co-ordination between regulators in the various communications sectors.**

It is crucial also that new services being spawned by convergence should not be suffocated by regulation. There are some encouraging signs that this has been recognised in Hungary. One example can be found in the decision to licence the provision of Internet telephony service by deeming it to be outside the exclusivity provision of the PSTN concessions.⁶⁰

2.2.15. *Consumer protection and information*

Effective competition will, in delivering lower prices, improved choice and quality of service, etc., be the best way of promoting consumer interests. But equally there is need to ensure that consumer interests are indeed protected. There is need to ensure that consumers have sufficient information to enable consumers to make informed choices. Moreover, consumers need rights of redress, and to be aware of the existence of these rights. In time, protection of telecommunications customers will need to be based as far as possible on general consumer protection legislation.

In Hungary, there are several agencies to which complaints about telecommunications operators can be taken to. The 1992 Telecommunications Act divides representation of consumer interests among the Ministry of KHVM, the HIF, the Consumer Protection Authority, and the Courts. Customers can lodge complaints regarding telecommunications operators with the HIF; the Ministry of KHVM; the Consumer Protection Authority; the Consumers' Panel of the Telecommunications Forum for Reconciliation of Interests; the Competition Office; and the Ombudsman. Reporting on the number of consumer complaints forms part of the annual statistical obligations of each state administration organisation.

The existence of several agencies customers can complain to can be confusing unless the role of each agency is made clear, for instance, in a widely available, easy to understand, booklet.

Quality of service

The concession contracts for telecommunications operators concluded during 1994 prescribe comprehensive indicators to be used to achieve detailed scheduled improvements in quality of service until 2000. Penalties for failure to meet the stipulated targets were clearly stated. Telecommunications operators are obliged to provide data to HIF to enable the regulator to check compliance with these quality of service targets and are required to pay a levy to HIF for this service. But, HIF does not publish the results of its quality monitoring and assessment nor, according to operators, does it provide them with feedback about their quality of service performance. HIF should publish quality of service data and its assessment of each operator's quality of service performance on the basis of the data collected.

Billing disputes generally fall within the jurisdiction of the Courts. This situation is seen to be unsatisfactory because there is no uniform judicial principle for ready application in resolving billing disputes, and, accordingly, it takes a long time to deal with complaints. Billing concerns are addressed further in the next section of this chapter.

The process of handling consumer complaints has been rendered more difficult because there are no well-resourced consumer protection organisations operating in Hungary, even for large business customers. According to the government, this has resulted in complaints arriving unfiltered" to the HIF "the majority of which is rooted either in ignorance or mis-information".⁶¹

HIF should facilitate the establishment of consumer associations for residential as well as business customers, and assist them materially with advice and information to enable them to present complaints effectively supported by the sort of information useful to regulatory decision-making.

3. PERFORMANCE OF THE TELECOMMUNICATIONS INDUSTRY

3.1. *Regulation and market performance*

The rationale for regulatory reform is the desired effects it is expected to deliver. Thus in assessing the impact of regulatory reform, a key issue is the impact of reform on market performance. The broad criterion is how well reform has delivered, and promises to deliver, desired effects. The main elements of market performance examined below are:

- Lower prices;
- Impact on revenue and profits;
- Network development and modernisation;
- Increased product range and customer choice;
- Improved quality of service;
- Increased range of services based on leading edge technology and infrastructure;

- Enhanced productivity; and
- Net benefits to the community.

These effects are among those promised by market liberalisation that results in growing competition. This emphasises that competition is important because it is a means of providing what consumers want.

This section focuses on available indicators relating to these main elements of market performance. The concern relating to network development and modernisation is important to Hungary, particularly since this is critical to delivering the benefits of the Information Economy. This makes it important to also identify how reform is impacting on operator revenue and profits since these financial factors influence the capacity for network expansion and modernisation.

3.2. Price trends

In examining price regulation in Hungary, section 2.1 discussed the extent of price re-balancing that has occurred in recent years. The present section analyses the price trends in Hungary in more detail and compares telecommunications prices in Hungary against those in other OECD countries.

As Table 11 indicates, Matav's local call charges have increased in nominal terms since 1992 especially since 1996 when sharp increases occurred particularly for peak period calls, reflecting deliberate price re-balancing strategies. In real (inflation-adjusted) terms, local call prices have increased by about 17% for peak use and by between 10% to 23.5% for off-peak use.

Table 11. Matav's local call charges (HUF/min), 1992-1999

	1992	1993	1994	1995/I	1995/II	1996	1997	1998	1999
Peak	1.67	2.50	3.00	3.00	4.09	5.00	6.00	7.20	8.40
Off-peak	1.67	1.67	2.00	2.25	2.50	3.46	4.91	6.80	8.40
Discount	0.83	0.83	1.00	1.25	1.25	1.67	2.35	3.00	3.30
Night	0.42	0.42	0.56	0.75	0.75	0.75	1.29	1.90	2.10

Source: Matav, 18 June 1999.

Matav's prices for domestic long distance have also increased since 1992 (Table 12) with some levelling off since 1997. Prices for calls within zone 2 (Budapest suburbs), reached a peak in 1997 before being sharply reduced for both peak and off-peak use by about 18% in real terms. The reduction in price is largely in anticipation of strong competition here but also to "grow" the traffic.

Table 12. Matav's national long distance prices (HUF/min), 1992-1999

	1992	1993	1994	1995/I	1995/II	1996	1997	1998(a)	1999
Zone 1									
Peak	5.0	6.67	8.11	8.11	9.78	11.25	12.0	11.0	9.0
Off-peak		5.0	6.0	6.0	7.2	8.33	8.85	9.8	9.0
Discount	2.5	2.5	3.0	3.0	3.0	3.6	4.91	6.0	7.2
Night		0.83	1.5	1.5	1.5	1.8	2.7	4.0	4.2
Zone 2									
Peak	15.0	16.67	18.75	18.75	20.45	25.0	31.76	13.2	13.2
Off-peak		15.0	16.67	16.67	16.67	20.45	25.71	11.76	13.2
Discount	7.5	7.5	8.11	8.11	8.18	9.38	12.27	7.2	9.0
Night		3.44	3.75	3.75	3.75	4.5	6.75	4.8	5.4
Zone 3									
Peak	20.0	25.0	26.0	26.0	29.03	34.60	31.76	33.00	30.60
Off-peak		20.0	20.0	20.0	21.43	26.47	25.71	32.80	30.60
Discount	10.0	10.0	10.0	10.0	10.0	12.16	12.27	14.50	15.00
Night		5.0	5.0	5.0	5.0	6.0	6.75	9.60	11.40

Notes: Prices are in Hungarian forints per minute in nominal terms.

(a) Until 1997, the tariffs of telephone calls between Budapest and some settlements surrounding Budapest were determined as the tariffs of Zone 1 + 20%. Since 1998, Zone 2 and Zone 3 have been merged. Tariffs of calls between Budapest and the specific settlements then appeared under Zone 2. Some of these settlements belong to LTOs other than Matav, so the tariff of telephone calls from Matav to LTOs and vice versa may be different.

Source: Matav, 18 June 1999.

Nominal prices for international calls have also risen steadily throughout the 1990s, as Table 13 indicates. However, between 1998 and 1999, prices for calls to zones 1-3 fell slightly in nominal terms. With inflation at about 15% in that period, the fall in real terms was substantial.

Table 13. Matav's international call prices (HUF/min), 1992-1999

	1991	1992	1993	1994	1995/I	1995/II	1996	1997	1998	1999
Tariff Zone 1	35	45	45	50	50	50	60	70	80	79.2
Zone 2	50	60	60	65	65	65	80	95	110	108
Zone 3	70	70	70	75	75	75	160	160	120	111
Zone 4	125	125	125	130	160	160	180	190	240	270
Zone 5	150	150	150	160	180	180	220	230	290	315
Zone 6	180	180	180	180	250	250	250	290	340	375

Notes: Including VAT of 6% in 1993; 10% in 1994; and 25% since 1995. In addition to these charges, a call set up fee of 6.6 HUF is levied.

Source: Matav, 18 June 1999.

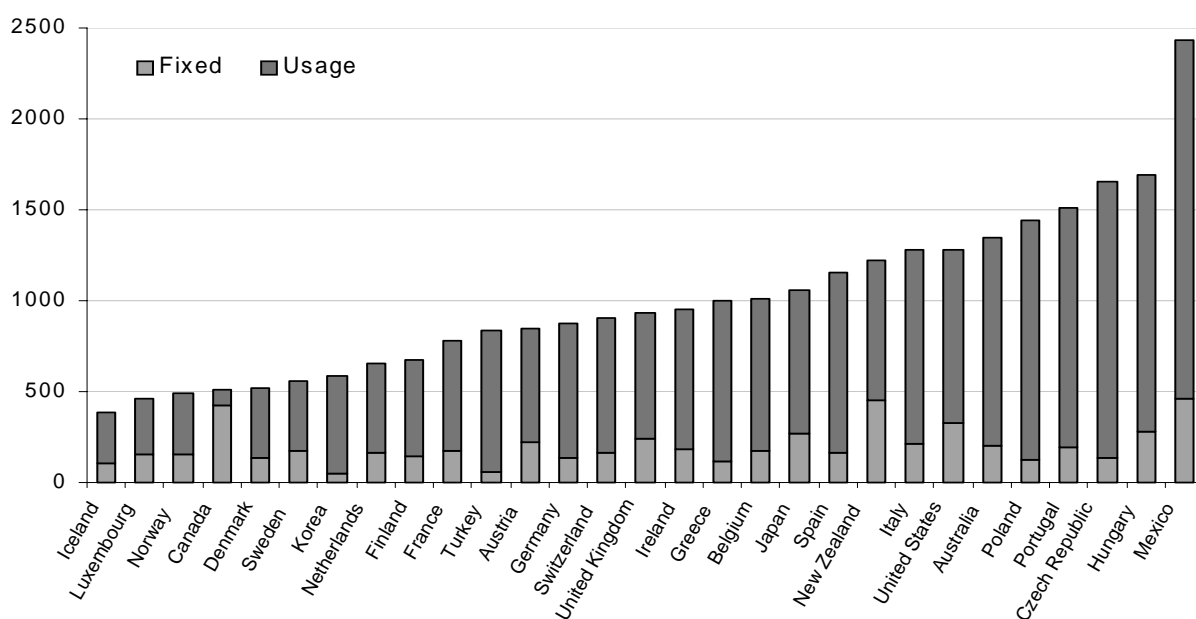
The tables for national long distance prices show only the "list" price which does not indicate the prices actually paid by customers when discount schemes are available. Such discount schemes are becoming increasingly common in countries with competitive telecommunications markets. In April 1999, as part of preparing for competition, Matav offered its first discount scheme to subscribers. For a payment of HUF 240, subscribers can call three selected domestic numbers at a 15% discount at any time. Also a low user discount scheme has been introduced. Matav has also initiated an Internet Access Discount Scheme whereby it charges customers for only the first 52 minutes of each call during the night period (from 10pm to 5am).

Because price falls for some services have been offset by increased prices for local services, the overall extent of gains to customers cannot be generalised. Clearly customers who make significant long distance and international calls are more likely to be benefiting from the price re-balancing that has occurred.

While prices have fallen for some long distance services, the falls have been much less than in other OECD countries with competitive telecommunications markets where falls of 15-20% in real (inflation-adjusted) terms have been common (e.g., in Mexico). Moreover, despite the recent fall in the prices of some international calls, price comparisons undertaken by the OECD indicate that Hungary's long distance prices are amongst the highest prevailing in OECD countries.⁶² Figures 3 and 4 indicate that prices in Hungary (as at November 1998) were at the higher end of an OECD comparison for both residential as well as business customers. Figure 5 indicates that Hungary's prices for leased lines were also relatively high. Hungary's relatively poor performance is not surprising given the monopoly situation in its fixed-line telecommunications market. The experience of other OECD countries that have liberalised their telecommunications markets indicate potential for considerable falls in long-distance and international prices in Hungary.

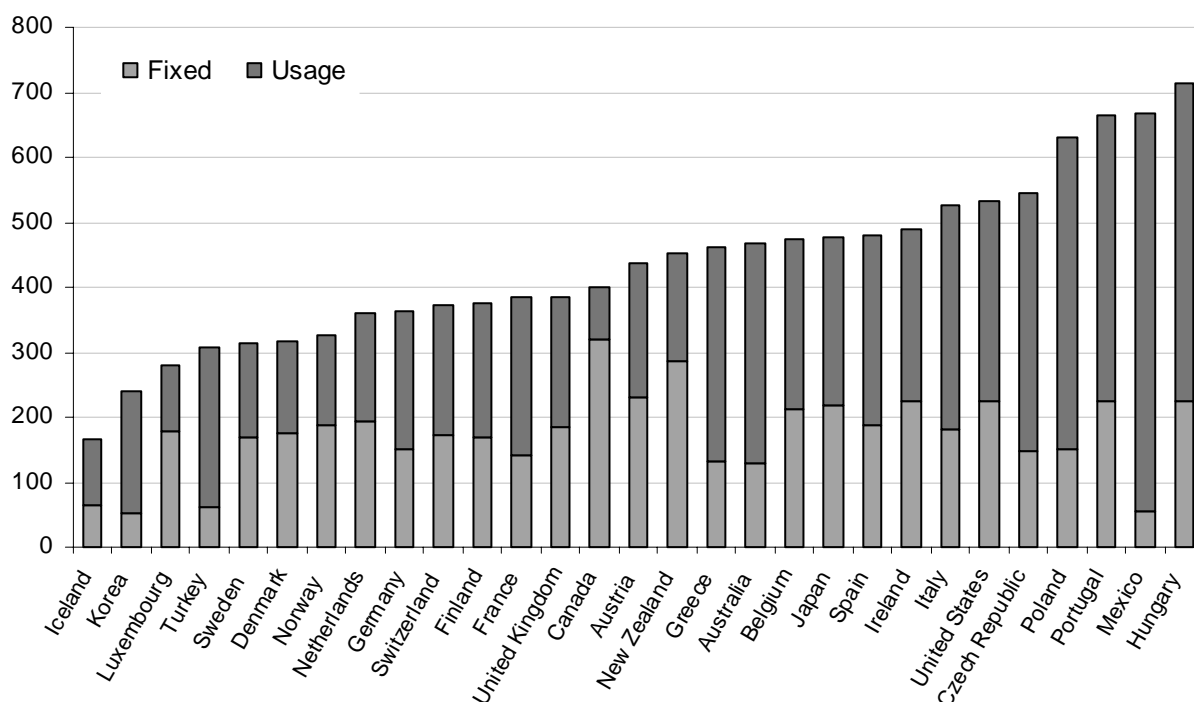
Figure 3. **OECD national business tariff basket, November 1999**

(US\$ PPP)



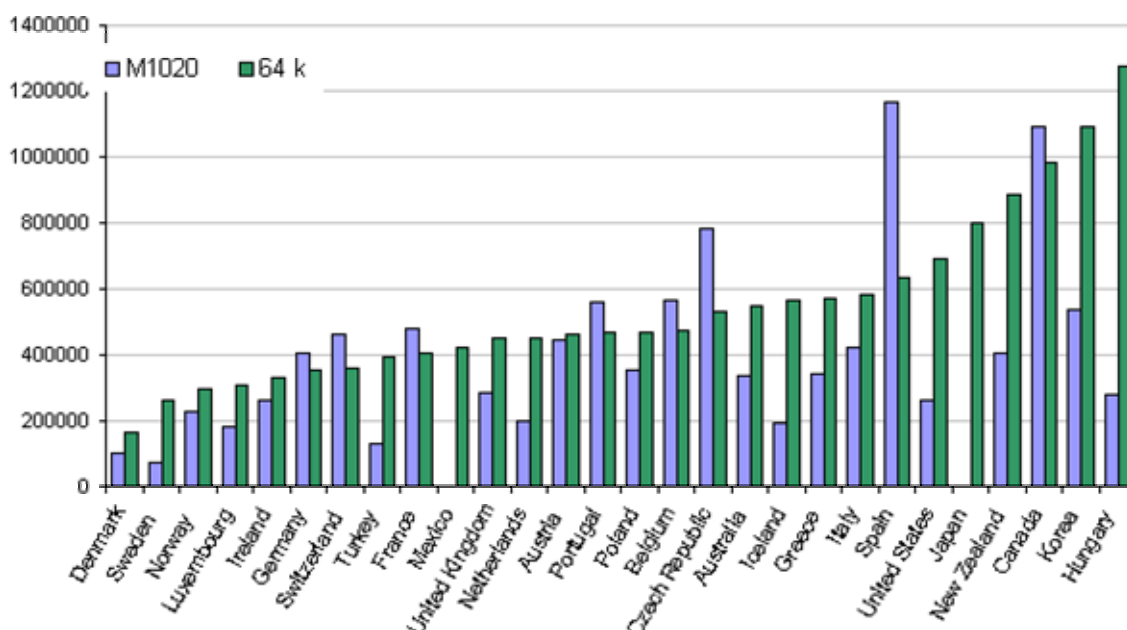
Source: OECD/Teligen.

Figure 4. OECD national residential tariff basket, November 1999
(US\$ PPP)



Source: OECD/Teligen.

Figure 5. OECD national leased line tariff basket, November 1999
(US\$ PPP)



Source: OECD/Teligen.

3.3. Impact on revenue and profitability

Apart from loans and equity injections, an operator's revenue and profits influence its capacity to expand and modernise the network. Table 14 indicates that during 1997, Matav's net income increased by 56%, with a 62% increase in 1998. Operating profits increased by some 42% over 1996. In 1998, operating profits again increased substantially by about 30% with net income increasing by 62%. During the six months to June 1999, revenue again rose strongly by almost 20%, with after-tax profit increasing by 29.6%. The rise in after-tax profit occurred despite the fact that Matav's five year tax holiday had ended, with the company beginning to pay 7.2% company tax from 1999.⁶³ While Matav's improving profit performance is striking, less impressive is the company's performance in network development as discussed in section 3.4. below.

Table 14. Matav's financial performance, 1996-1998

(Figures shown are for year ended 31 December, in millions of HUF)

	1996	1997	% change 1996-97	1998	% change 1997-98
Total revenue	196 490	253 948	29.2	318 060	25.2
Operating profit	52 071	74 054	42.2	96 109	29.8
Net income	23 088	36 034	56.1	58 337	61.9
Earnings per share (HUF)	22.26	34.7	55.7	56.2	61.9
Self-funding ratio	66.6%	80.9%	----	96.2%	----

Source: Matav, Annual Report, 1998.

Mobile services

A substantial proportion of the revenue increase earned by Matav came from its mobile operations. Westel 900 subscribers increased by nearly 184 000 during 1998 to reach 546 000 by the end of 1998. Revenue increased by about 62 billion HUF to 318 billion HUF in 1998 relative to 1997, an increase of 28%. Average monthly usage per subscriber remained high at 221 minutes in 1998.

During 1998, the number of active Pannon GSM users increased from 260 000 to about 420 000, representing an increase of more than 60% on the previous year's subscribership. Table 15 shows some aspects of Pannon GSM's financial statement for 1966-1998. Operating revenues reached HUF 63 billion (about USD\$ 300 million), a nearly 100% increase compared to the previous year. Pannon GSM projected that it would achieve a HUF 9 billion profit in 1999 after having posted losses in 1998 despite boosting its revenue by 86% in that year. According to Pannon the losses in 1998 were mainly attributable to high sales cost and the interconnection fees that Pannon had to pay Matav.

Table 15. Pannon GSM, Profit & Loss statement

	31 December 1996	31 December 1997	31 December 1998
	(Thousands of HUF)	(Thousands of HUF)	(Thousands of HUF)
Total operating revenues	19 177 069	33 794 946	63 000 000
Total direct costs	6 855 372	9 913 809	
Operating expenses	10 551 185	16 667 877	
Operating income before financial expenses	1 770 512	7 213 260	
Total financial expenses	(3 428 004)	(5 740 532)	
Operating result	(1 657 492)	(1 472 728)	
Retained profit/(loss)	(2 241 010)	1 382 604	(887 597)

Notes: Loss figure for 1998 provided by Pannon GSM.

Source: Company annual reports at <http://pgsm.hu>.

3.4. Network development and modernisation

While the increase in the number of telecommunications connections in Hungary has been impressive, there is cause for concern that the momentum is not being sustained while there is still so much further to go for Hungary to catch up with other OECD countries.

As noted earlier, Matav's concession contract requires the company to expand the fixed-line telecommunications network by at least 15.5% per annum. Table 16 suggests that this has not occurred. However, HIF points out that because there was an increase in main lines of around 20% in the "first years" of the concession, the 15.5% obligation has in fact been met.

Table 16. Matav's network expansion performance

	1994	1995	1996	1997	1998
Number of access lines ('000)	1 732	1 894	2 151	2 404	2 672
% increase		9.35%	13.6%	11.8%	11.1%

Source: Matav's Annual Report, 1998.

At any rate, whether or not these figures indicate the extent to which Matav's network expansion obligations have been met, it is evident from Table 16 that from a peak 13.6% expansion in 1996, the rate of network expansion has fallen to 11.8% in 1997 and further to 11.1% in 1998. Moreover Table 17 shows that new business connections and the number of public payphones increased by only about 4.3%, the greatest contribution to the overall percentage increase of 11.8% in 1997 and 11.1% in 1998 being made by substantial increases in the number of ISDN channels. If the claim is that the rate of increase of network expansion has slowed because there has not been the demand to warrant a higher increase, there would nonetheless be need to consider the extent to which excessively high tariffs are restraining the strong growth in demand evident in most countries.

Table 17. Network development in Hungary, 1996-1998

No of connected main lines	1996	1997	Change from 1996 (%)	1998	Change from 1997 (%)
Residential	1 767 942	1 982 186	12.1	2 201 366	11.1
Business	337 960	347 737	2.9	362 828	4.3
Public payphones	24 013	35 468	4.3	36 954	4.2
Number of ISDN channels ("B")	11 128	38 520	246.2	70 642	83.4
Total number of lines	2 151 043	2 403 911	11.8	2 671 790	11.1

Source: MATAV, Annual Report 1997 & 1998 at <http://www.matav.hu>.

Table 18 indicates that Matav's investment expenditure as a percentage of revenue has fallen significantly over the past ten years. From a peak of about 71% in 1989-91, the percentage of revenue devoted to investment fell to 45% in 1995, recovered to 61% in 1996 but declined again to about 52% in 1997. Matav's annual report for 1998 shows that the company's capital expenditure increased by only 7% in 1998.

Table 18. Public telecommunication investment as a percentage of revenue

	1986-88	1989-91	1992-94	1995	1996	1997
Hungary	66.5	70.8	61.3	45.3	61.6	51.7

Source: OECD (1999), *Communications Outlook 1999*, Paris, Table 4.10, p. 111.

In this context it is notable that Matav's self-funding ratio for capital expenditure has increased from 21% in 1994 to 96% in 1998 (Table 19). This is disappointing for a telecommunications operator in a high growth sector and a country wherein there is a pressing need for rapid network development and modernisation and where such rapid network development is part of the concession arrangement. A company operating in such circumstances might be expected to be significantly supplementing internal resources for capital expenditure with loans and equity injections.

While it is true that Hungary's penetration rate has improved significantly, and that this needs to be recognised and commended, it is also true that Hungary's penetration rate is still among the lowest of all OECD countries (with only Mexico, Turkey, and Poland being lower). Thus, there is still much to do to simply catch up. Matav cannot rest on its achievements and should be sustaining rather than winding down effort towards network development and modernisation.

Table 19. **Matav's self-funding ratio for capital expenditure, 1994-1998**

1994	1995	1996	1997	1998
21.0	41.0	66.6	80.9	96.2

Source: Matav's annual report 1998.

A similar concern applies to network modernisation. While as Table 20 indicates, Matav's network digitalisation has grown between 1993 to 1998 to cover 76% of the network, it is a digital coverage considerably behind that of many other OECD countries that have already achieved a 100% coverage.⁶⁴

Table 20. **Matav's network digitalisation, 1993-1998**

1993	1995	1996	1997	1998
27.0	53.0	64	70.0	75.7

Source: OECD (1999), *Communications Outlook 1999*, Table 4.5, p. 77, Paris. 1998 figure from MATAV.

The Hungarian government should publish its assessment of Matav's performance in network development and modernisation including the extent to which the company has met the provisions in its concession contract.

3.5. *The impact of new entrants on network development*

PanTel will deliver its services using an infrastructure of 3500 km optical fibre network built along the rights of way of Hungarian State Railway Company MAV. The national backbone network will be capable of digital voice, video and data transmission. From January 1999, PanTel has been connected to the Pan European KPN network and will be able to deliver international services when the market is opened. PanTel's relationship with KPN (which has a 49% share of PanTel) is linking it to various state-of-the-art infrastructure initiatives the Dutch company is involved in. For instance, KPN will establish a joint venture with Qwest Communications (of the US) to construct and operate a high-capacity optical IP network in Europe that will connect to the data, voice and video system of Qwest in North America. Consequently, PanTel subscribers will have direct access not only within Europe, but also to North America.

Novacom has completed several basic fibre optic networks in Budapest, each containing 120/144-fibre optic lines with a capacity of 2.5 Gbit/s. Novacom claims that its switching and transfer technology is state-of-the-art and will vastly increase Hungary's capacity to carry transmission traffic.⁶⁵ The company's strategy is to initially compete in the corporate telecommunications market offering data

services, including internet, leased lines, frame relay, ATM and private branch networks, in the Budapest region using Elmu's existing infrastructure. Services will then be offered, in stages, throughout the rest of Hungary. A company strategy is to exploit RWE's majority ownership of a regional electricity distributor, Emasz, and gas distributor, Tigas, to create a telecommunications network in the north-east region of the country. Novacom has also been in discussion with some of Hungary's six local electricity distributors, with the aim of establishing fixed-line services in various parts of Hungary, although no arrangements have been announced as yet.

CG-Sat/Matel, which was renamed Vivendi Telecom Hungary, is a holding company owned by French, American, Israeli, Austrian and Hungarian companies. The company has already invested more than USD 280 million in Hungary. It operates Deltav and Digitel 2002 which service some 237 000 lines in four primary areas with a total population of 710 000. In February 1999, Vivendi announced that it would buy the local telephone operator JaszTel from Swisscom and KPN Telecom, after receiving the approval from the Ministry of KHVM and the Competition Office that Matav had failed to obtain. JaszTel, set up in 1994 as a local operator in one of Hungary's 54 primary areas services over 27 000 lines. In October 1999, Vivendi bought a majority stake in United Telecom Investment (UTI) and thereby the four local concession firms (LTOs) UTI owned. As a result Vivendi increased the number of its subscribers by 178 000 to 460 000 and its market share to between 13 to 14%. Vivendi's action is significant as a manifestation of the company's plan to become Hungary's largest alternative telecommunications service provider after the liberalisation of the market.⁶⁶

Mobile

Table 21 shows the rapid growth in the number of cellular subscribers since 1990. As of June 1999, the penetration rate in Hungary was estimated as being close to 11%, very low relative to the average for the OECD. By December 1998, Pannon GSM had 420 000 subscribers (Table 22). The company has a 40% market share and by 1999 was covering 99% of the Hungarian population.

During the past five years Pannon GSM has invested more than US\$500 million. In 1998 alone over US\$100 million was invested in developing Pannon's network.⁶⁷ By the end of the year, national GSM coverage was ensured by 8 switching centres and more than 800 base stations.

Table 21. **Increase in the number of cellular subscribers in Hungary, 1990-1998**

1990	1991	1992	1993	1994	1995	1996	1997	1998
2 645	8 477	22 010	40 860	140 500	269 000	466 953	699 099	1 054 000

Source: Communications Authority of Hungary.

Table 22. **Mobile operators and subscribership (as at December 1998)**

Operator	Standard	Launch	Subscribers at Dec 1997	Subscribers at Dec 1998	Annual growth (%)
Westel 450	NMT450	Oct 1990	79 099	94 000	18.8
Westel 900	GSM	March 1994	360 000	540 000	50.0
Pannon GSM	GSM	March 1994	260 000	420 000	61.5

Source: Communications Authority of Hungary.

As discussed earlier, the Primatel consortium, led by Airtouch and RWE Telliance, has been awarded Hungary's 3rd mobile licence. A notable development is that Airtouch, a San Francisco-based company that is the leading US cellular-phone service provider, is to be purchased by Vodaphone, a British

company. This merger will create the world's largest wireless company with more than 29 million customers in over 23 countries.⁶⁸ What this means is that Hungary's new entrant DCS 1800 operator, Primatel, will be backed in its infrastructure and service development by a formidable leading edge international mobile service operator. Primatel expects to start signing up its first customers by the end of 1999.

3.6. *Increased range of products and services*

The entry of new operators with new technology, products and services is expanding the range of customer choice.

Novacom is using fibre optic network to provide corporate network services, managed leased lines, Frame Relay, ATM, Closed user group voice, PBX services. Global One announced at the end of November 1998 that it had launched its 'Global Frame Relay' services in Hungary, providing Internet protocol, X.25 and frame relay services throughout its Budapest based network node.

Equant, which runs the world's largest data communications network, said it would offer its combined voice and data service to business customers in Hungary.⁶⁹ According to Equant, the company's voice and data service, known as iVAD, can lower business phone bills by as much as 20% to 40%. The service, now available in 44 countries, commenced in Hungary in October 1998. It allows businesses to send voice and data traffic over the same network for a flat monthly fee, rather than paying separately for phone calls and data services.

Matav is responding vigorously to the challenge of new competitors with its own new services. Price discounts, prepaid cards (such as cards which enable customers to place calls from any telephone using a password), caller ID, three way calling, call forwarding and call waiting are increasingly available.

In April 1998, Antenna Hungaria, Motorola and British Telecom established a consortium to install and operate a TETRA communications system.

As elsewhere, the Internet is a growing presence in Hungary increasing the demand for telecommunications networks that can provide packet-switching and other functions that are necessary to facilitate further Internet growth. In 1998, Matav entered the market for online content services launching AltaVizsla in May 1998 as a result of co-operation between Matav and Compaq.

3.7. *Quality of service*

In terms of the usual indicators, Matav's quality of service improved markedly between 1990 and 1997 as information published by the OECD indicates.⁷⁰ This enhancement of service quality was no doubt largely the result of improvements in telecommunications technology that has significantly improved quality of service world-wide.

As noted earlier, Matav and the LTOs are required to provide service quality data to HIF. HIF is responsible for assessing the extent to which quality of service provided fulfils the service quality requirements detailed in the concession contracts. A penalty is imposed for non-fulfilment of the determined service quality levels. The operators are obliged to pay HIF a levy for the assessment service. However, HIF's assessment of the data it collects is not provided as feed back to operators to assist them to improve performance. Nor is performance data published to assist customers to make informed judgements about operators that are performing well in regard to quality of service. The publication of quality of service information by the telecommunications' regulator has been a practice in countries such as Australia, the UK and the US over many years.

As recommended earlier, HIF should publish the quality of service information it collects and the assessment of quality improvements it makes to assist customers in making informed choices and to provide valuable feedback to operators concerning their quality of service performance.

3.8. *Productivity*

Total factor productivity estimates for Hungary are not available. While only a rough indicator of productivity, Table 23 shows that the widely used ‘lines per employee’ measure shows a significant productivity improvement for Matav from about 45 lines per (fixed-line employee) in 1990 to about 162 in 1997. In 1998, productivity improved further to 201 (by some 23%)⁷¹ and to 219 by June 1999. In this context, it is notable that once competition begins it will exert sustained pressure for increased productivity improvement (thereby enhancing the potential for price reductions). HIF should require Matav to publish productivity estimates to enable improved monitoring and to assist in setting the “X” factor in price cap formula. HIF should also take steps to improve its own expertise in undertaking productivity studies.

Table 23. **Hungary (Matav) -- Access lines per employee, 1985-1997**

	1985	1990	1995	1996	1997
Hungary	10.7	45.2	98.3	129.0	162.2
OECD average	117	147	194	199	206

Source: OECD, *Communications Outlook 1999*, Table 9.3, Paris, p. 209.

3.9. *Benefits to community and employment*

Because the fall in prices of long distance and international services has been offset by increased prices for local services, the extent of gains to customers cannot be generalised. Clearly customers who make more long distance and international calls are likely to be better off.

Accelerated network development is creating employment in the telecommunications industry with multiplier effects in other industries. Importantly market liberalisation is already helping Hungary to accelerate deployment of the infrastructure requirements of the information economy. This will help position Hungary to benefit from the opportunities that will emerge and will also help enhance the country’s international competitiveness.

In discussing technological developments, it is informative to consider the impact on employment levels. In common with considerable ‘downsizing’ by telecommunications carriers in many countries, Matav’s employees fell from about 22 052 in 1990 to 21 942 in 1995 and 19 618 in 1997 (Table 24). During 1998, Matav reduced the number of its employees by a further 8.8% to reduce the number of employees to 16 595 (as at 31 December 1998).

Table 24. **Number of employees in telecommunications service supply**

	1985	1990	1995	1996	1997
Hungary		22 052	21 942	20 552	19 618

Source: OECD (1999), *Communications Outlook 1999*, Paris, p. 220.

The data do not allow jobs recently created by new entrants to be detailed. At the end of 1998, Pannon GSM was reportedly employing some 760 employees. Novacom, as it establishes its operations, has been gradually employing more staff. It is clear that with the entry of new operators employment opportunities in the telecommunications sector as a whole is poised to grow. Certainly the business plans announced by the new operators suggest that a substantial number of new jobs will be created over the next few years.

3.10. *Some costs of regulatory reform impacting on customers*

In countries where competition has been introduced, some customers have been victims of unscrupulous operators⁷² and have :

- Found that their long distance carriers have been switched without proper consent (a practice known as 'slamming' in the US);
- Received bills for services they never ordered (a practice referred to in the US as 'cramming');
- Been levied line item charges that are sometimes too high and are often inadequately explained.

Customer complaints about billing are already common in Hungary. And billing infringements are likely to increase as competition intensifies unless action is taken to contain them. A remedy for dealing with slamming and other billing issues is the provision of clear and timely information to subscribers. Three important principles can be identified. First, telephone bills should be clearly organised and should highlight any new charges or changes to services provided. Second, telephone bills should provide clear descriptions of all charges and of the service provider responsible for each charge. Third, telephone bills should contain clear and conspicuous disclosure of information necessary to make inquiries about charges.

The government should consider requiring the establishment of an industry *Code of Conduct* backed up by a *Customer Service Guarantee* scheme to help maintain standards by prescribing financial compensation for customers when operators fail to meet minimum service levels, including billing accuracy.

The regulator should determine – after broad consultation with customers – information to be made publicly available that will enable customers to make comparisons (such as of quality of service) delivered by operators. Customers -- residential and business -- need adequate information in order to make informed choices among the increasing range of products and operators in a competitive telecommunications market. After all, a major benefit promised by competition is that customers will be empowered with more choice. Regulators can help enhance the efficiency of this choice by ensuring that information made available to customers is meaningful, relevant, accurate, timely, and unbiased.

More broadly, the regulator should define performance indicators that enable evaluation of the effectiveness of competition and should ensure such data is available on a timely and regular basis. It is important that information to enable the performance of regulatory reform to be monitored and assessed is available. In time the additional information generated will allow a trend to be established and monitored thus allowing a more thorough assessment to be made. Improved information is also crucial for assessing the nature and scope of any problems associated with efficient development of, and equitable access to, the developing information economy and for designing well-targeted and cost-effective strategies for overcoming them.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. *General assessment of current strengths and weaknesses*

The regulatory regime in Hungary displays some distinct strengths, including those listed below.

Box 3. **Strengths**

- Recognition by the government of the need for effective pro-competitive regulation.
- Price re-balancing has been occurring since 1994 with a published schedule for further re-balancing.
- Gradual installation of pro-competitive telecommunications legislation that is consistent with EU and WTO regulatory principles.
- Matav, the incumbent dominant operator, is now fully privatised thereby separating the government's ownership interests in Matav from its regulatory concerns.
- Recognition by the government of the potential for development of infrastructure competition through cable networks.
- A competent pro-competitive Competition Office with some recent successes.

The 1992 Telecommunications Act made a good start to the regulatory reform required to install a competitive system. And since this law, there has been gradual further legislation to put in place the necessary regulatory rules. In recent years, the move towards regulatory reform has been underpinned by commitments to introduce EC and WTO regulatory principles.

Two additional mobile service licences have already been awarded to Pannon GSM (1994) and Primatel (1999). Both operators have links to large international European and US telecommunications operators. Other new entrants using different technologies (PanTel, Novacom) are positioning themselves for market opening in 2002, and have plans to develop technologically-advanced networks. In a commendable decision, Parliament voted in June 1999 to restrict Matav (and other telecommunications operators) from operating CATV businesses in parallel with telecommunications supply. If effectively implemented, this will enhance prospects for new entrants to compete on the basis of alternative cable infrastructure. However, as noted earlier, there are concerns that Matav is acting to thwart the intentions of the Parliamentary action.

There appears to be recognition by the government that effective pro-competitive sector-specific regulation is necessary with an increasing role for competition law as the number of operators increases and competition intensifies. The Hungarian Competition Office itself recognises the importance of its future role and, indeed, has already registered some notable successes in initiating pro-competitive decisions by Parliament. Moreover, the government has been looking ahead to anticipate the regulatory requirements of a convergent communications sector in a new up-dated communications law expected to be approved by Parliament in the year 2000.

However, there are significant weaknesses in Hungary's regulatory regime, including those listed below.

Box 4. Weaknesses

- The 1992 Telecommunications Law is outdated and requires replacement with an up-to-date strongly pro-competitive legislation.
- The 1994 concession contracts giving holders an 8 year period as exclusive providers of fixed-line service has impeded, and will continue to impede, competition for several more years.
- A complicated, outdated, licensing regime still largely based on individual licenses with onerous conditions and in need of significant reform.
- Continuing role of Ministry of KHVM and the Ministry of Finance in price regulation, including interconnection prices, with frequent over-riding of the established price cap regulation regime.
- The industry regulator, HIF, currently lacks adequate independence from the Ministry of KHVM and lacks authority to exercise key legislative provisions.
- Lack of consultation and transparency in rule-making and decision-making.
- High interconnection charges based on revenue-sharing and not (as should be) on long-run incremental costs
- Lack of preparation for competition by the regulatory regime, such as carrier selection, funding universal service obligations.

The need to update the core regulatory legislation and licensing regime has been recognised. But while appropriate legislation is a necessary step, effective competition will develop only if the legislated rules are implemented vigorously and effectively, and this will require a sustained commitment to market liberalisation and pro-competition reform. There are signs that the government/Ministries are reluctant to transfer real decision-making authority to the regulator and this has resulted in a lack of consistency in the application of regulations that needs to be addressed.

The existing onerous conditions attached to licenses can act as a deterrent to entry and can present post-entry disadvantages for a new entrant and its preferred competitive strategies. Primatel, the successful bidder for the third licence is required to form a partnership with Antenna Hungaria and Hungarian Post. These state-owned agencies are to have 30% of the shares in the new enterprise.⁷³ This raises concerns about the threat to regulatory neutrality in such a situation. On the other hand, there are also concerns that since the objectives of a government-owned company can conflict significantly with commercial objectives, considerable difficulties in formulating competitive strategies can arise. Shares held by state-owned agencies in telecommunications operators (including the 25.1% stake the state-owned Railways holds in PanTel) should be sold as soon as possible.

Although some price re-balancing towards costs has occurred, more is required since price-distorted markets impede competition. An over-riding deficiency -- long recognised but not addressed by the government -- is the lack of cost information, estimated on the basis of rigorous analysis, to guide the appropriate nature and extent of further re-balancing, as well as other regulatory decisions (including interconnection charges).

HIF has adequate powers and resources and is financially autonomous, but these resources need to be significantly re-focused to meet the challenges of promoting and regulating a competitive market. Of major concern is that HIF appears to lack authority and is widely regarded not to be independent of the Ministry of KHVM. Important decisions (such as those pertaining to price regulation and interconnection) are still made by the Ministry (on some issues in conjunction with the Ministry of Finance). The political

considerations influencing such decisions are often not transparent and have over-ruled regulatory rules such as price cap regulation. This has not served to promote clarity, consistency and coherence in the rules and their application. The best prospect for ensuring transparent and accountable regulatory processes is for HIF to be accorded greater independence along with greater authority and accountability.

With the onset of a liberalised market, there should be no delay in implementing essential competitive safeguards including numbering policy, carrier pre-selection and frameworks to ensure rights of way for new entrants. There should also be no delay in establishing an explicit, portable, competitively and technologically neutral universal service fund to cost-effectively pursue universal service objectives.

4.2. Potential benefits and costs of further regulatory reform

While the impacts of reform – some of which are long term – need to be judged over many years, Section 3 of this document pointed to some early evidence that some benefits are already identifiable. The onset of competition and the limited entry of operators backed by strong international companies is yielding benefits by way of:

- Lower national and international long distance prices for fixed-line service, although offset to some extent by increased local service subscribership and usage charges;
- Accelerated network development and modernisation;
- Wider range of services, including advanced services;
- Increasing choice for customers of mobile services; and
- Improved quality.

A sustained commitment to regulatory reform is required to ensure that the regulatory principles enacted are effectively implemented and weaknesses addressed. Moreover, there are additional complexities emerging as a result of technological and market ‘convergence’ that require attention.

From a longer-term perspective, the most important impact of pro-competitive regulatory reform is its contribution to facilitating dynamic growth, innovation and employment. The onset of competition has already accelerated, and will continue to accelerate, the development and adoption of new technologies and services, including the growth of electronic commerce and other information-intensive sectors, and the development of the information economy.

The regulatory challenge to ensure delivery of the potential benefits of competition in Hungary is a formidable one. But the potential benefits are substantial. While a good start to regulatory reform is being made, much more needs to be done. Hungary has a unique opportunity to apply best practice approaches to regulatory reform gleaned from the lessons of the countries that have preceded it in opening their markets to competition and regulatory reform. It must grasp this opportunity.

4.3. Policy recommendations

The following recommendations are based on the assessment presented above, and the policy recommendations for regulatory reform set out in the *OECD Report on Regulatory Reform* (OECD, June 1997).

1. Ensure that regulations and regulatory processes are transparent, non-discriminatory and applied effectively

An important aspect of regulatory reform is the installation of a clear stable coherent regulatory regime. This will be assisted by increased transparency and participation in the process of policy formulation and regulatory decision-making. But it is also critical that the responsibilities of regulatory institutions be clear and that the independence and authority of the regulator be established and not overruled by *ad hoc* government decisions. HIF should have the sole responsibility for enforcing regulations pertaining to the telecommunications sector, including price regulation and interconnection terms and conditions. To help ensure effective regulation, HIF should be equipped with staff possessing the requisite skills. HIF should be made responsible for establishing procedures for administrative due process, public justification of decisions, appeals to the court and public access to information (that does not constitute business secrets). But there must also be greater accountability. HIF should be required to report annually on the extent to which the industry is achieving the policy objectives established by government, the results of the regulator's monitoring of industry developments, and measures of the regulator's own performance.

- Review the regulatory structure with a view to reassessing and clarifying the distribution of responsibilities of the Ministry and HIF and to providing more real authority and independence to HIF.

Transparency in regulation applies to licensing procedures. But licensing reform to facilitate market entry would best occur through implementing a general class licensing framework rather than be based on concession contracts or individual licences. Hungary's approach to licensing should be consistent with the objective of the 1997 EU licensing directive which is emphatically to streamline licensing principles and procedures and minimise licence conditions.

- Implement a framework to market entry through the use of a class licensing system thereby minimising the requirements for obtaining a license and the conditions attached to a license.

In particular, the condition imposed on a new entrant to accept a state-owned agency as a corporate partner (as in the case of Primatel) is blatantly inconsistent with moves to separate government ownership interests from regulatory concerns. Shares in telecommunications operators held by state-owned agencies, including the 25.1% share the state-owned railways holds in PanTel should be sold as soon as possible.

In its 1997 report the OECD recommended that cost-based pricing of network interconnection be introduced as soon as possible. While some move towards the use of cost-based interconnection pricing is claimed to have occurred, it has not yet been accomplished. Efficient pricing needs to be based on forward-looking LRAIC costs, including a reasonable profit margin. But to put in place such a system, the relevant costs have to be ascertained. The relevant data has not been provided by Matav. Until this is done, interconnection prices should be related to EU best practice prices, or at least, to begin with, related to the average of current EU prices.

- Impose EU best practice interconnect rates on Matav immediately and proceed without further delay to complete cost studies for the purposes of guiding price re-balancing, interconnection price setting, costing of universal service obligations, and accounting separation.

The regulator needs to ensure that access to unbundled elements of Matav's network, including any ADSL enhanced segments, is made available at reasonable prices. This is important to enable service providers to compete in widening access to high capacity networks for the Internet and electronic commerce. Forward-looking LRAIC-based pricing is also the appropriate cost basis for pricing unbundled network elements. But to maintain incentives on new entrants to deploy their own infrastructure rather than depend indefinitely on the incumbent's, the requirement on Matav to provide unbundled elements of its network should be restricted to a specific specified period.

- Require Matav to provide unbundled access to its network by other operators on reasonable terms when the market is opened to competition, including any ADSL enhanced segments, for a limited period of five years.

Under the 1992 Telecommunications Law, a dominant operator is required to provide HIF with separate accounts, for example, for end-user telecommunications service and for interconnection service, for monopoly as opposed to non-monopoly service, for concession as distinct from non-concession activity, but this has not been enforced. In its 1996 report, the OECD recommended that Hungary ensure speedy implementation of accounting separation but this has not yet occurred. While the effectiveness of accounting separation is weakened by the problems of "information asymmetry" about an incumbent's costs as well as by the ingeniousness of "creative accounting", the information provided may go some way towards containing and/or detecting cross-subsidisation activities.

- Implement immediately the accounting separation provisions already provided for in existing legislation and in concession contracts.

Approval of rights-of-way is becoming a major reason for delay in infrastructure deployment in a number of OECD countries. An arbitration procedure, to be used when carriers and local governments cannot reach agreement on the use of public land, should be established. In addition, improved arrangements should be made for facility-sharing between operators insofar as this would not impose an unreasonable economic burden or technical difficulties on the incumbent and facility-based carriers.

- Take steps to ensure that new entrants have appropriate access to rights-of-way to facilitate infrastructure development.

An absence of provisions to allow for number portability acts as a strong disincentive for customers to switch from the incumbent to a new entrant because such switching imposes transaction costs, such as the burden of informing others of their new number. Full implementation of a permanent form of number portability would be an important step in ensuring that subscribers do not face artificial disincentives in deciding whether to switch between carriers.

- Ensure that numbering allocation and number portability policies for both mobile and fixed-line carriers are competitively neutral and are introduced as soon as possible. Policies should allow for competitively neutral carrier selection as well as call over-ride to enable carrier selection on a call-by-call basis.

In June 1998, Matav was licensed to provide cable-television services, and for this service founded the "Matav Kabeltelevizio Ltd" with a 100% ownership. On 1 January 1999, Matav waived its licence and at the same time Matav Kabeltelevizio Ltd applied for and received the licence. Future local competition will depend importantly on the ability of alternative infrastructure to offer both voice telephony services and newly developing information services. Due to its dominance in the majority of local markets, permitting Matav to engage in cable operations generates a high risk that it can foreclose an opportunity for cable to provide an alternative local loop for telephony. To its credit, the Hungarian Parliament agreed with the Competition Office that telecommunications operators should be restricted from operating CATV. However, the legislation was not retrospective and may not have the intended effect. Divesting the cable licences Matav has already acquired is a necessary further step and would help stimulate local service competition as well as competition in the CATV market.

- Sustain efforts to promote infrastructure competition in the local loop. In this context, Matav should be required to divest the cable TV licences it has already acquired.

The regulation of prices through government authorisation is unsuitable for competitive circumstances, particularly since it depends on a process which lacks transparency and is driven more by political considerations rather than the pro-competitive need for price flexibility in the dynamic, converging, telecommunications industry. Price regulation, where necessary, should continue to be on the basis of an 'arm's length' price cap regulation scheme designed and monitored by HIF with Ministers refraining from *ad hoc* decisions that over-rule the scheme.

In the present circumstances of concession-endowed monopoly, the current price cap formula (CPI - 2%) which requires a real price fall of only 2% per annum is overly generous to Matav and does not do justice to customers in gaining for them an equitable share of productivity gains.

In order to enable the pricing flexibility that 'convergent' technologies, markets and services require, price cap regulation should be clearly installed as a temporary measure to be streamlined and withdrawn as soon as (competitive) conditions permit. To help ensure price caps are withdrawn promptly from competitive markets, a price cap scheme should incorporate a 'forbearance provision' to oblige withdrawal of price caps in any market that the regulated operator could prove had become competitive.

- Reform the price cap regulatory regime by:
 - a) Shifting responsibility for price cap regulation from the Ministry of KHVM and the Ministry of Finance to the regulator, HIF. Until this occurs, refrain from Ministerial decisions that over-ride the price cap regime*
 - b) Reviewing the price cap formula applied to Matav with a view to increasing the "X" factor so as to ensure customers share more equitably in the cost reductions flowing from technological and other sources of productivity improvement.*

In its 1997 report the OECD recommended that the Ministry of KHVM define the nature and extent of universal service and develop a plan for its achievement, including consideration of the need for, and alternative ways of, financing universal service obligations. This task has not yet been addressed. There should be no further delay in deciding whether the significance of the net costs of Matav's universal service obligations constitutes a substantial competitive disadvantage and whether this warrants the establishment of a separate Universal Service Fund to which all operators would contribute. Such a fund would make the delivery of universal service more transparent. In an era of rapid technological change, it is important that it be designed to be technologically neutral.

The essential preliminary step in the process is the definition of the nature, extent and speed with which universal service objectives are to be addressed. The Ministry of KHVM should complete this task as soon as possible so as to enable the regulator to proceed with the determination of the net costs of the universal service obligations thus identified.

- Proceed without further delay to estimate the net cost of universal service obligation for Matav and the LTOs and, if considered necessary, promptly establish an explicit, portable, competitively and technologically neutral universal service fund in preparation for competition.

2. Reform regulations to stimulate competition and eliminate them except where clear evidence demonstrates that they are the best way to serve the broad public interest.

Hungary has the unique opportunity of drawing on the regulatory experience of other OECD countries as they opened their telecommunications markets to competition. It can benefit through incorporating the regulatory “best practices” gleaned from these experiences into its new regulatory law. But the promised new Communications Law and regulatory frameworks must be installed and vigorously implemented if Hungary’s market liberalisation is to deliver its promised benefits.

- Pass the new Communications Law without delay and ensure all necessary safeguards are in place before market opening.

Where the Law and regulatory frameworks are in place, the sooner the market is opened the greater the benefits delivered.

- Make determined efforts to accelerate market opening.

The government should require that a systematic regular review of all regulations be conducted (say every three years) to ascertain whether a regulation is still in the public interest and whether such regulation should be abandoned or modified. “Forbearance” procedures (or “sunset clauses”) should be incorporated to ensure that regulations no longer necessary are eliminated.

- Establish a mechanism to ensure that regulations in all areas of telecommunications are regularly and systematically reviewed with a view to streamlining and where appropriate abandoning them.

Improved information will be necessary to facilitate the regular effective review of regulations. Under the terms of its mandate, HIF is responsible for collecting data from operators and for conducting analyses for the purpose of generating information that would assist policy development and review. It should do so and publish the acquired information.

- HIF should define performance indicators that are essential for evaluating the development of effective competition and obtain and publish data on these indicators (including quality of service indicators) on a regular basis, in order to enable the cost-effectiveness of regulatory decision-making to be monitored.

3. Review, and strengthen where necessary, the scope, effectiveness and enforcement of competition policy

With its hold over 36 of the 54 primary network areas, including the Budapest region, Matav will continue to be the dominant operator in Hungary. As noted earlier in the text, the Hungarian Competition Office has itself argued that asymmetric regulation is required to address Matav’s dominant position.

- Use asymmetric regulation in areas where Matav’s dominance could obstruct the development of effective competition.

The development of competition in telecommunications will require that greater resources be devoted to the sector by the Competition Office. There will also be need for close co-operation between the telecommunications regulator and the general competition law enforcer to ensure that resources are used in a complementary and cost-effective manner.

- The Competition Office should increase the number of staff with appropriate skills, and this should be planned for immediately.
- The Competition Office and HIF should maintain and improve their co-operation.

The development of competition provides increased scope for customer choice. In order to assist customers in making this choice

- HIF should ensure that accurate, timely information sufficient for consumers to compare the prices and service qualities of carriers is published.
- Telephone bills should be clear and clearly identify the service provider responsible for the charges.

NOTES

1. Government Resolution 1071/1998 (V.22), *The Government's Communications policy, 1998 - 2005*, Hungarian Government.
2. Phare Regulatory Observatory for telecommunications, broadcasting and posts, "Hungary: Country Report on the situation as at 1 May, 1999." Produced for the European Commission by Cullen International, May 1999.
3. "Matav rival Novacom to start operations in March", *Napi Gazdasag*, 02/02/1999.
4. Communications Authority, Hungary, "Hungarian Telecommunications Regulatory Environment and Authority", 7th edition, Budapest, March 1999, p. 14.
5. "Hungary: CSFB to manage Matav share sale" *Reuters News Service*, 26 April 1999.
6. OECD (1997), "Review of Telecommunications Policy in Hungary", Centre for Co-operation with the Economies in Transition, p. 61.
7. "Fourth Report on the Implementation of the telecommunications Regulatory Package", November 1998. At <http://www.ispo.cec.be/infosoc/telecompolicy>; <http://www.europa.eu.int/comm/dg4/lawliber/libera.htm>.
8. Government Decree No. 142/1993 (X.13).
9. Government Decree No. 232/1997 (XII.12) on a United Communication Authority as well as on Amendment of Certain Legal Rules Affecting Communications.
10. Regular Report from the Commission on Progress towards Accession, Hungary - October 13, 1999, p. 7 of 13. At http://europa.eu.int/comm/enlargement/hungary/rep_10_99/b4.htm.
11. For instance, by the Deputy Director of Regulatory Affairs for a major telecommunications operator in a written submission made to the OECD in July 1999.
12. Government Resolution 1071/1998 (V.22), *The Governments' Communications policy, 1998 - 2005*, Hungarian Government.
13. Article 19 (2) of Act LXV of 1997 as of 16 August 1997.
14. With the amount of the fine being not less than HUF 30 000 as stipulated in Article 11 of Government Decree 48/1997 (III.14.) on Licensing of Certain Telecommunications Services.
15. Article 64 (I) of Act CXXIV of 1996 on the 1997 annual budget of the Republic of Hungary as cited in Government Decree 48/1997 (III.14.) on Licensing of Certain Telecommunications Services.
16. OECD (1997), Centre for Co-operation with the Economies in Transition, "Review of Telecommunications Policy in Hungary", Recommendation C4, Paris 1997.

17. Hungarian Competition Office, *Matav/JaszTel Case and Competition Advocacy in Telecommunications in Hungary*, Contribution of the Hungarian Competition Office, Prepared for the Fifth Competition Conference of the Central and Eastern European Countries and the EC Commission (Workshop 30), Krakow 28-29 June 1998, p. 7.
18. In principle, licensing conditions should increasingly become no more demanding than those applying in other industries.
19. “Nokia lands Primatel GSM dual band telecom contract”. Reuters Business Briefing, 7/9/99.
20. “Airtouch joins bidding for Hungarian mobile phone license” Reuters Business Briefing, 5/05/99.
21. “Airtouch wins first Hungarian 3G licence”, *European Telecommunications*, 29 June 1999, Volume 17, Issue 13, p. 3.
22. “Hungary seeks mobile phone tenders”, *Financial Times*, 25/02/1999, p. 9
23. Circular from Antenna Hungaria, Budapest 15 July 1999.
24. In Hungary, if a construction of a telecommunications facility cannot proceed because of problems with rights of way, the HIF may establish an easement or other rights-of-use or rights -of-way. The owner of the premises is obliged to permit various bodies, duly authorised by the relevant legislation - to the extent necessary for performing their professional tasks - to temporarily use his site. In such cases, the owner of the premises is entitled to be compensated. If the said use or limitation prevents or restricts the proper use of the premises, the owner can require that the premises be purchased, or expropriated, CC. Article 108. (1)-(3).
25. Auctions could also speed up spectrum allocation. PanTel argues that in Hungary the process for spectrum allocation is quite slow as for example in the case of new spectrum ranges for point-multipoint and broadband wireless local access where the delay in spectrum allocation is more than six months. Such delays are particularly important where -- as in Hungary -- there are restrictions in constructing urban cable networks. PanTel, *Conditions for Setting up and operating an EU conform competitive market in Hungary – Aspects of licensing telecommunications services from the perspective of a service provider*, August 1999.
26. Government Decree 48/1997 (III.14.) on Licensing of Certain Telecommunications Services.
27. “Matav upsets Hungarian legislators”, *Financial Times*, 13 September 1999, p. 23.
28. A submission from the LTO Association to the Ministry in March 1997 demanded that changes be made to the interconnection agreement, which it considered to be both unfair and prejudicial to the ability of the LTOs to conduct their businesses successfully. *Submission to OECD*, 18 June 1999.
29. PanTel (1999), *Conditions for Setting up and operating an EU conform competitive market in Hungary – Aspects of licensing telecommunications services from the perspective of a service provider*, August.
30. “Pannon GSM critical of higher interconnect fees” MTI-ECONEWS, 23/02/1999.
31. OECD (1997), Centre for Co-operation with the Economies in Transition, “Review of Telecommunications Policy in Hungary”, Recommendation C4, Organisation for Economic Co-operation & Development, Paris.
32. Paragraph (3) of Section 13 of KHVM Decree 13/1998 (V.27).

33. Under Article 14 of Decree 1/1998 (I.12).
34. "For preparing the application of real cost-based service and interconnection charges, cost analyses shall be conducted and an accounting system shall be developed which enables the introduction of cost-based charges. The required professional preparatory activities to be performed on the basis of a separate work program with the participation of all the interested parties shall be directed by HIF."
35. This was demonstrated for instance in the UK where OfTel considers that cost allocation efforts in various studies undertaken have succeeded in reducing the joint/common costs from about 30% down to some 10%.
36. OECD (1997), *The OECD Report on Regulatory Reform*, Paris, June.
37. According to section 3 of Article 1 of the EC directive 98/61/EC there is a period of grace of two years for the introduction of number portability. With market liberalisation expected to occur in 2002, the two year grace period requires introduction of portability in 2004.
38. See PanTel, *Conditions for Setting up and operating an EU conform competitive market in Hungary – Aspects of licensing telecommunications services from the perspective of a service provider*, August 1999.
39. The Minister may disapprove the proposed tariffs only if: (a) the calculations contain mathematical errors; or (b) the terms and conditions violate applicable laws or decrees in a material respect.
40. Act LXXXVII 1990.
41. With inflation estimated at 18.3% in 1997 and 14.3% in 1998, Matav was permitted to increase prices in nominal terms by just 2% less.
42. A larger "X" factor would limit Matav's price increases without the need for destabilising government intervention to restrict the increases Matav is permitted under the prevailing price cap formula. According to press reports, the Hungarian Government is trying to get Matav to limit price increases to 6% in 2000 instead of the about 8% increase it is entitled to under the CPI - 2% price cap (with inflation estimated at about 10%). "Matav's 2000 Tariffs to Back Govt's CPI Target", Dow Jones International News, 20/09/1999.
43. "Hungary Telecom Prices to Meet EU Norms in 2000 - Official" Dow Jones International News, 09/09/1999.
44. OECD (1995), *Price Cap Regulation -- Policies and Experiences*, Paris. Also OECD (1999), *Communications Outlook 1999*, Paris.
45. "Hungary: Ministry says telephone rates will not be fully freed up". Reuters Business Briefing from Magyar Hirlap 01/03/1999, p. 1.
46. Article 5 of Matav's concession contract.
47. Since multimode payphones that accept cards and coins are now common, this requirement should not be necessary in the new Law. Two multimode payphones would lead to an improvement in accessibility.
48. EC Directive on universal service.
49. Benefits pointed to include concepts such as brand enhancement, ubiquity and life-cycle effects in the sense that an uneconomic customer can become a more profitable BT customer in the future.

50. Centre for Co-operation with the Economies in Transition (1997), “Review of Telecommunications Policy in Hungary”, Recommendation C4, Paris, OCDE/GD(97)56.
51. Government Resolution 1071/1998 (V.22), *op cit*.
52. For a further discussion on this point see, OECD (1997), “Universal service obligations and universal access in a technologically convergent communications sector”, Paris.
53. Government Resolution 1071/1998 (V.22), *op cit*.
54. Article 12, section 12.01 of Matav’s concession contract.
55. “Cable television market regulations to be modified”, *Vilaggazdasag*, 19/04/1999
56. UPC Hungary is a subsidiary of United Pan-Europe Communications (UPC), a member of the Denver-based United International Holdings (UIH) group.
57. “Matav takes over Budapest cable companies in race to deadline”, *Reuters Business Briefing*, 2 August 1999.
58. Hungarian Competition Office, *Matav/JaszTel Cae and Competition Advocacy in Telecommunications in Hungary*, *op cit*.
59. Government Resolution 1071/1998 (V.22), *op cit*.
60. HIF declared that if it is a call made between personal computers and/or so called Internet telephone sets (telephone sets intended for direct connection to Internet), it needs no separate licence. However, if the transmission is established between a personal computer and a normal telephone set as well as between normal telephone sets, it should be licensed under certain conditions.
61. Ministry of Transport, Telecommunications and Water Management response to an OECD questionnaire, May 1999.
62. OECD, *Communications Outlook 1999*, Paris.
63. “Hungary: Matav announces 1999 first half results”, *Reuters Business Briefing*, 10 August 1999.
64. OECD, *Communications Outlook 1999*, Table 4.5, p. 72, Paris.
65. Novacom’s website at http://www.novacom.hu/htm/cikk21_e.htm.
66. “Vivendi LTO Unit Lifts Market Share in Hungary via Acquisition”, *Dow Jones International News* 11/10/1999.
67. “Pannon GSM expects to post profit this year” *Napi Gazdasag* 24/03/1999, p. 5.
68. “Vodafone’s acquisition of AirTouch wins FCC approval”, *Bloomberg News*, 23 June 1999.
69. Lisa Levenson (1999), “Equant expands services & increases network capacity”, *Bloomberg News*, in *Totaltele.com*, 27 April.
70. OECD (1999), *Communications Outlook 1999*, Paris, Table 8.5, p. 210.

71. “Matav announces 1998 full year results – strong product demand and productivity gains power growth.” *Business Wire*, 12/02/1999.
72. “*Consumers First*”, Remarks of U.S. Federal Communications Commissioner, Susan Ness, before the Consumer Federation of America Utility Conference, Washington, D.C. 1 October 1998.
73. “Hungary seeks mobile phone tenders” *Financial Times*, 25/02/1999, p. 9.