

Regulatory Reform in the Czech Republic

Regulatory Reform in the Telecommunications
Industry



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996), Korea (12th December 1996) and the Slovak Republic (14th December 2000). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

Publié en français sous le titre :

LA RÉFORME DE LA RÉGLEMENTATION DANS L'INDUSTRIE DES TÉLÉCOMMUNICATIONS

© OECD 2001

Permission to reproduce a portion of this work for non-commercial purposes or classroom use should be obtained through the Centre français d'exploitation du droit de copie (CFC), 20, rue des Grands-Augustins, 75006 Paris, France, tel. (33-1) 44 07 47 70, fax (33-1) 46 34 67 19, for every country except the United States. In the United States permission should be obtained through the Copyright Clearance Center, Customer Service, (508)750-8400, 222 Rosewood Drive, Danvers, MA 01923 USA, or CCC Online: www.copyright.com. All other applications for permission to reproduce or translate all or part of this book should be made to OECD Publications, 2, rue André-Pascal, 75775 Paris Cedex 16, France.

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 the Czech Republic. 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 the Czech Republic* published in 2001. 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, with the participation of Dimitri Ypsilanti of the Directorate on Science, Technology, and Industry in the OECD. 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 The Czech Republic. The report was peer-reviewed by the 30 member countries of the OECD. It is published under the authority of the OECD Secretary-General.

TABLE OF CONTENTS

1. THE TELECOMMUNICATIONS SECTOR IN THE CZECH REPUBLIC	6
1.1. The national context for telecommunications policies	7
Incomplete privatisation	8
1.2. Key legislation installing the Czech Republic regulatory regime	1
1.3. Telecommunications sector liberalisation, 1990-2001	2
1.4. Market participants	3
The major new players.....	3
Local operators	4
Mobile operators	4
Fixed Wireless Access (FWA).....	4
Internet service providers.....	5
2. REGULATORY REFORM IN THE TELECOMMUNICATIONS SECTOR.....	5
2.1. Regulatory institutions and processes.....	5
The Ministry of Transport and Communications (MTC CR)	5
The Czech Telecommunications Office (CTU).....	6
Office for the Protection of Economic Competition.....	7
Ministry of Finance.....	8
3. TELECOMMUNICATION REGULATION AND RELATED POLICY INSTRUMENTS	8
3.1. Regulation of entry and licensing.....	8
Requirement to submit a business plan.....	9
UMTS	10
3.2. Interconnection and regulation of interconnection prices.....	11
Regulation of retail prices.....	13
Incomplete price re-balancing	13
Price cap regulation	15
Accounting separation	16
Alternative infrastructure	16
Satellites.....	17
Carrier selection, pre-selection and number portability.....	17
Rights of way.....	18
Unbundling	18
3.3. Streamlining regulation	19
Consumer protection and information	20
3.4. Quality of service.....	21
3.5. Universal service	22
3.6. Application of competition principles	23
3.7. Internet access.....	24
3.8. The impact of convergence on regulation.....	25
4. PERFORMANCE OF THE TELECOMMUNICATIONS INDUSTRY	26
4.1. Introduction	26

4.2.	Network development and modernisation	26
	Digitalisation.....	27
4.3.	Market and revenue growth.....	28
	Cellular mobile services.....	28
4.4.	Development of competition	28
4.5.	Price performance.....	29
	Accounting rates.....	31
4.6.	Mobile price.....	32
	Leased lines	33
4.7.	Internet pricing performance	33
4.8.	Quality of service indicators.....	35
4.9.	Productivity	36
4.10.	Benefits to community and employment.....	36
5.	CONCLUSIONS AND RECOMMENDATIONS	37
5.1.	General assessment of current strengths and weaknesses.....	37
5.2.	Potential benefits and costs of further regulatory reform	38
5.3.	Policy recommendations.....	39
	NOTES.....	43

List of Tables

1. Key legislative measures
2. Telecommunications sector liberalisation, 1990-2001
3. Number of licensed carriers in each market segment, January 2001
4. Number of CTU employees, 1993-2000
5. Price Decision No. 02/PROP/2001 setting the maximum prices for interconnection of public telecommunications networks
6. Český Telecom's prices(a) for domestic calls
7. Český Telecom's Prices(a) per minute for International calls
8. Network penetration rate
9. Fixed line network development indicators
10. Český Telecom's rate of digitalisation
11. OECD basket of international telephone charges, August 2000
12. Accounting rates with the United States (USD)
13. OECD Internet Access Basket for 30 hours at peak times using discounted PSTN rates
14. Employment and labour productivity

List of Figures

1. Industry and ownership structure
2. OECD composite basket of business telephone charges
3. OECD composite basket of residential telephone charges
4. OECD basket of consumer mobile telephone charges
5. Comparison of OECD leased line tariff baskets
6. OECD Internet access basket for 20 hours at off-peak times using discounted PSTN rates

Executive Summary

Background Report on Regulatory Reform in the Telecommunications Industry

In recent years, the Czech Republic's programme for pro-competitive regulatory reform has been driven by the principles prescribed by European Union (EU) directives and the 1997 WTO agreement on basic telecommunications. The Czech Republic's market liberalisation is occurring three years after most EU countries have fully opened their markets (on 1 January 1998) and established new regulatory frameworks. This later start can be turned to advantage since it presents the Czech Republic with an opportunity to draw on the experience of these countries to apply best practice methods of regulatory reform.

While important progress has been achieved, further action is necessary. Despite an active privatisation programme, the Czech government still controls two of the major telecommunications companies with shareholdings in several others and this is raising concern. The government officials on the board of these companies should be withdrawn immediately since this presents scope for conflicts of interest. Rather than wait for the December 2002 deadline mandated by the new Telecommunications Act 2000, Český Telecom should be required to provide carrier selection, pre-selection and number portability immediately, as this becomes technically possible. Interconnection charges should not be based on fully allocated costs (FAC) as they are at present but on the long run average incremental cost methodology (LRAIC). Fair and effective competition must be vigorously promoted especially in local markets, including local loop 'unbundling'. Universal service obligations must be costed and, if necessary, a universal service fund established.

While the Telecommunications Act 2000, which installed pro-competitive legislation, was an important step in regulatory reform, it is only *one* necessary step. The regulatory rules must be promptly, vigorously and effectively implemented by an independent regulator with appropriate skills to develop a fair, transparent and stable competitive environment for all market players. Unfortunately there are signs that in some areas, the rhetoric of reform has not always been backed up by decisions made by the government and the regulator. This must change.

This report examines the Czech Republic'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 fixed line and mobile markets. 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 THE CZECH REPUBLIC

The pro-competitive regulatory reform in the Czech Republic's telecommunications sector has been driven by the desire to accelerate network development reinforced by the need to prepare for EU membership.¹ In essence this has required that regulatory frameworks for telecommunications be brought into line with EU Directives.

The reforms were also designed to meet commitments to the February 1997 WTO agreement on basic telecommunications. The Czech Republic signed and ratified the WTO agreement to open all its telecommunications markets by 1 January 1998, except for voice telephony which was to be opened by 1 January 2001. Within the framework of this agreement it undertook to allow foreigners access to markets with certain restrictions specified in the appendices to the Fourth Protocol.

The Czech Republic has legislated modern pro-competitive regulatory principles in the new telecommunications law (Act No.151/2000 Coll., on Telecommunications and Amendments to Other Acts) that came into effect in July 2000. However, there are signs that in some areas, the pro-competitive rhetoric and legislation has not been backed up by prompt and vigorous decisions made by government and the independent regulator, the Czech Telecommunications Office (CTU).

1.1. The national context for telecommunications policies

Prior to 1989, all telecommunications operators in the Czech Republic were state-owned and state-controlled. In 1989, the Czech government created SPT (Správa post a telekomunikaci) as a state-owned monopoly supplier of postal and telecommunications services. On 1 January 1993, telecommunications services were separated from postal services with the creation of SPT Telecom in the form of a state-owned monopoly. On 1 January 1994, SPT Telecom was transformed into a joint-stock company, and on 1 January 2000, was renamed Český Telecom (or Czech Telecom).

In August 1994, a National Telecommunications Policy was approved to create the environment for a gradual opening of the telecommunications market in the Czech Republic. The goals of the policy reform, included:

- More than doubling the number of main telephone lines between 1994 and 2000.
- Partial privatisation of SPT Telecom with a strategic partner but retaining its voice monopoly for long-distance and international service until the year 2001.
- Maintaining the integrity of SPT Telecom, including keeping a minimum 51% state share of the company.
- Introduction of competition by licensing local telephony operators in 18 localities.
- Licensing two GSM mobile telephone networks.
- Creating a liberal regulatory environment.

These goals were partially achieved and the government recognised the need to initiate further reforms. In April 1999, the Czech government introduced the new National Telecommunications Policy to implement further reforms in the telecommunications sector. A major objective of these reforms was liberalisation of the market of public voice telephony service, open network provision, universal service obligation, privatisation and creation of the independent regulatory authority. On 1 July 2000, the new Czech Telecommunications Act came into force, installing a modernised legislative framework for pro-competitive legislation.

Until the end of 2000, Český Telecom had been the exclusive provider of public telephone service, with the exception of 16 selected local networks and 2 pilot projects. The state, through the National Property Fund, owns a 51% share in Český Telecom and also 51% of České Radiokomunikace the leading operator of networks for radio and television broadcasting and an important provider of leased lines for provision of data services. Both companies were converted from state enterprises into stock holding companies in 1994. The privatisation of 49% of the shares of SPT Telecom occurred in 1994 and 1995 and of 49% of České Radiokomunikace in 1995 and 1998. The government now anticipates the completion of privatisation of the latter by mid 2001 and of Český Telecom by the end of 2001. However, recent developments have eroded market valuation and appeal of telecommunications operators and raised questions as to whether Český Telecom's privatisation can be finalised by the end of 2001.² Indeed, one of the Telsource partners (KPN) has indicated that it would like to sell its shareholding in Český Telecom.

Incomplete privatisation

The incomplete privatisation programme is particularly noteworthy because at present (April 2001), the Czech government still has shareholdings in four of the major public telecommunications operators active in the Czech market. As Figure 1 indicates, not only Český Telecom and České Radiokomunikace are under government majority holding, but through these companies, they control also the new entrants (including fixed line operators Contactel, Aliatel, and mobile operators EuroTel and Radio Mobil). The shares in Český Telecom and České Radiokomunikace are legally held by the National Property Fund which is responsible for appointing directors of these companies. However, despite this apparent separation, senior government officials sit on the companies' boards either because the National Property Fund appointed them or because the Fund had invited the Minister of Transport and Communications to nominate members to the boards, who were then appointed by the Fund. (To be precise, two officials are on the Supervisory Board of České Radiokomunikace, and in regard to Český Telecom, one official is on the Board of Directors and one on its Supervisory Board).

The continuing presence of a senior government official on the management board of Český Telecom has raised particular concern. Indeed, there is widespread speculation that this accounts for the tolerance regulators have displayed towards the anti-competitive and "delaying tactics" exhibited by Český Telecom, and for the lack of pro-competitive interpretation and vigorous implementation of the legislated pro-competitive rules. There is a widely held belief that the government is anxious to maintain, if not boost, the commercial attractiveness of Český Telecom in order that a suitable strategic partner can be found before the end of 2001 to purchase the remaining 51% of shares in the company still owned by the government.³ Government procurement of telecommunications services is also perceived to have favoured Český Telecom.⁴ At any rate, the presence of senior government officials on the companies' boards appears to contravene EU directives concerning the required separation of ownership and regulatory functions and is not compatible with the EU *acquis* requirements. To assure new entrants of a fair regulatory regime (indeed, one that is asymmetric in favour of new entrants where they face a dominant incumbent operator), the government officials should have resigned at the onset of competition in January 2001. There should be no further delay in removing the government officials from the boards of operating companies. While this issue is likely to be resolved once full privatisation occurs, in view of uncertainty about precisely when Český Telecom's full privatisation will/can be finalised this reasoning should not be used to delay a prompt decision on this matter.

1.2. Key legislation installing the Czech Republic regulatory regime

Table 1 sets out key legislation pertaining to the market liberalisation of the Czech Republic's telecommunications sector since 1964. The most important legislation installing the new pro-competitive regulatory regime comprises the Telecommunications Act 151/2000, together with a series of secondary legislation that details key provisions of the Act.

The new Telecommunications Act that came into force in July 2000 was intended to be the basis for transposing the current package of EC telecommunications directives. The new law reorganises the Czech Telecommunications Office (CTU) as a separate legal entity with wider powers and greater independence to regulate the telecommunications sector. It also relaxed, as of 1 January 2001, the exclusive rights to provide international and long distance fixed line service enjoyed by Český Telecom and set up a new transparent regime to accord with the EC's Licensing Directive and for interconnection pursuant to the EC's Interconnection directive. There are also major changes in the way (wholesale) interconnection and (retail) end-user prices are to be regulated and new provisions for securing and funding universal service in a competitive environment.

Table 1. Key legislative measures

Key measures	Objective	Date
Act No. 253/1994 Coll.	Amendment of the 1992 Telecommunications Act, concerned mainly with TV and radio broadcasting	1 April 1994
Government decree No. 486/94.	Sets out main principles of the state's telecommunications policy	10 August 1994
Governmental decree No. 324/99.	National Telecommunications Policy (declaration of the main objectives, goals, etc in the field of telecommunications)	14 April 1999
Telecommunications Act No. 151/2000 Coll.	Major Act modernising the telecommunications law and amending other acts	July 2000
Government Order No. 181/2000 Coll.	Sets down charges for assigned frequencies and for numbers	2000
Decree No. 182/2000.	Approval of telecommunications terminal equipment and radio equipment	2000
Decree No. 195/200 Coll.	On defining the types and characteristics of the terminal points and the interfaces of the public telecommunication network	2000
Decree No. 196/200 Coll.	Defines the characteristics, parameters and criteria for quality of services provided within the framework of universal service	2000
Decree 197/2000 Coll.	On leasing of telecommunications circuits	2000
Decree 198/2000 Coll.	On the requirements of a proposal for concluding a contract on interconnection and access to a network, and on technical and operational requirements of access to a network	2000
Decree No. 199/2000.	On the means of proving financial competence to undertake telecommunications activities	2000
Decree No. 200/200 Coll.	Regarding the method of generation of calling signals, their use and on types of telecommunication services, for which they are required	2000
Decree No. 203/200 Coll.	On the cancellation of some legal regulations issued within the competency of the Ministry of Transport and communication	2001

Source: Czech Ministry of Transport and Communications.

1.3. Telecommunications sector liberalisation, 1990-2001

Table 2 summarises the status of market liberalisation in the Czech Republic from 1990 to 2001. As of January 2001, new market players can enter all market segments.

Table 2. Telecommunications sector liberalisation, 1990-2001

Services/equipment	1990	1995	2000	2001
International and long distance	Monopoly	Exclusivity of Český Telecom	Exclusivity of Český Telecom	Competition
Local telephone service	Monopoly	Exclusivity of Český Telecom (except 16 selected local network and 2 pilot projects)	Exclusivity of Český Telecom (except 16 selected local network and 2 pilot projects)	Competition
Leased circuits	Duopoly	Duopoly of Český Telecom and České Radiokomunikace	Competition (without interconnection to the public switched network)	Competition
Public Radiotelephone services: a) NMT 450 b) GSM 900 c) GSM 1800 d) UMTS	a) Exclusivity of EuroTel b) – c) – d) –	a) Exclusivity of EuroTel b) – c) – d) –	a) Exclusivity of EuroTel b) Duopoly: EuroTel (licence 1996) c) Cesky Mobil (licence 1999) d) Public discussion	a) Exclusivity of EuroTel b) = c) GSM 900 + 1 800 MHz Competition d) Tender
Nation-wide Public Paging a) RDS system b) ERMES system	a) Competition– b) -Competition	a) Monopoly Radiokontakt Operator	a) Monopoly Radiokontakt Operator b) Duopoly: Multitone CZ c) Radiokontakt Operator	
Public data services	Exclusivity of EuroTel	Exclusivity of EuroTel	Competition	Competition
Private data services		Competition	Competition	Competition
Multimedia		Under consideration	Under discussion	Competition
Public telex and telegraph	Monopoly	Competition	Competition	Competition
Facsimile services	Monopoly	Competition	Competition	Competition
Value-added services	Monopoly	Competition	Competition	Competition
Private networks (incl. Microwave, optical, metallic circuits and VSAT)	Competition (VSAT without interconnection to the public switched telephone network)	Competition (VSAT without interconnection to the public switched telephone network)	Competition (VSAT without interconnection to the public switched telephone network)	Competition
CATV services	Competition	Competition	Competition	Competition
Regional radio-based trunked networks		Competition in each region without interconnection to the public switched network except emergency calls	Competition in each region	Competition
Public nationwide radio system (TETRA)			Competition	Competition
Terminal equipment	Monopoly	Competition	Competition	Competition

Source: Ministry of Transport and Communications (2000), Czech Telecommunications Office, *Telecommunications in the Czech Republic 2000*, Prague.

1.4. Market participants

Český Telecom is the incumbent operator and holds a 20-year licence (dated July 1995) that grants it a monopoly over long-distance and international telecommunications services until 1 January 2001. It is the exclusive operator in 144 out of 160 local areas, covering about 93% of the population. The licence includes universal service obligations and sets specific operational targets for line installation, pay phone installation, waiting list reduction and achievement of network performance indicators. Český Telecom, and other fixed-line voice telephony operators, have to apply for a new licence by 30 June 2001.

The transformation of Český Telecom into a joint-stock company started in 1994, when Telsource, a joint venture between Swiss PTT Telecom (now Swisscom) and PTT Netherlands (now KPN Royal Dutch Telecom), with technical support from AT&T, acquired a 27% stake in SPT Telecom (later renamed Český Telecom). In December 1998, KPN (one of the participants in TelSource) increased its interest in SPT Telecom (renamed Český Telecom) by 6.5% and, together with TelSource, now controls 33.5%.

The Czech Government is seeking a strategic partner for Český Telecom in order to complete the company's privatisation by the end of 2001.

České Radiokomunikace is, as noted earlier, the leading operator of networks for radio and television broadcasting and is also an important provider of leased lines for provision of data services. The company owns 50% of Contactel and also 39.2% of Radiomobil.

České Radiokomunikace is 51% owned by the state with TeleDanmark owning a 20.8% stake. The Czech government has scheduled the sale of its stake to be completed during 2001 with bidding for this sale closing in February/March 2001. However, the bidding evidently fell short of the 20 billion Czech Crowns sought by the government and a new deadline of 15 May 2001 has been set for negotiations on the sale to be completed.

The major new players

In September 2000, the first individual licences were issued to *Aliatel* and *Contactel*, for the provision of a public telephone service via the public fixed network and for the establishment and operation of a public telecommunications network. The start-up date for service provision was not to precede 1 January 2001.

Aliatel was founded in May 1996 as a joint telecommunications project of Czech regional distribution power companies REAS. In April 1998, a German based international partner — RWE Telliance — joined the company. RWE holds 40% of the company's shares and the remaining 60% are equally divided between 7 regional distribution power companies. Aliatel offers data and leased lines services and since 1 January 2001 also public voice services.

Contactel was founded in 1999 as a joint venture between České Radiokomunikace (50%) and TeleDanmark (50%). The company offers Internet and data services and, since 1 January 2001, also provides public voice services.

GTS (a subsidiary of the US-based Pan-European operator, Global TeleSystems) was created in 1999 by a merger of three telecommunications companies: Dattel, GTS CzechNet and GTS INEC. The company offers broadband voice, data and Internet services.

Local operators

In 1995, the government took the first step towards limited competition in local voice telephony, with the licensing of 8 telecommunications operators to service 16 regions of the Czech Republic.

Mobile operators

The mobile market has been exposed to competition well before the fixed line market and by April 2001 was successful in attracting some 5 million subscribers.

In 1991, a 20 year licence to operate a NMT-450 mobile telephone service was issued to **EuroTel**, which is 51% owned by Český Telecom and 49% by Atlantic West (a US consortium comprised of US West, now Media One International, and Bell Atlantic, AT&T). EuroTel started as a public data network provider, with an exclusive license to provide public data services. This exclusivity ended in 1995 when Český Telecom acquired a majority shareholding in EuroTel and had to obtain a new licence (which was then issued as non-exclusive). In March 1996, EuroTel was awarded one of two GSM (digital) licenses in the 900 MHz band. By December 1999, EuroTel had acquired over 1 million customers, and by April 2001, it had attracted about 2.5 million customers.

A second GSM license in the 900 MHz band was awarded to **Radiomobil** in 1996. Radiomobil, which operates under the trade name “Paegas”, is 39.2% owned by České Radiokomunikace and 60.8% by a consortium known as C-Mobil. This consortium consists of T-Mobil-Deutsche Telecom MobilNet (84.55%), TIM- Telecom Italia (STET) Mobile (12%), Telekomunikační Montáže (1%), PVT (0.7%) and Sportovní Kapitalová Společnost (1.75%). In July 1996, one year after starting its GSM service, Radiomobil was covering 84% of the population thus fulfilling its licensing conditions. By February 2001, Radiomobil had attracted over 2 million customers. A notable development is that on 11 April 2001, Radiomobil received a license to build and operate public telephony on a fixed network thereby allowing it to provide a fuller array of services to its customers.⁵

In 1999, GSM licences in the frequency band 1800 MHz were granted to the existing operators, EuroTel and Radiomobil, and to a third operator, **Cesky Mobil**, on the basis of a public tender. Cesky Mobil is 93% owned by Canada’s TIW. The rest is in the hands of the CSOB bank and Priority Telecom. Cesky Mobil commenced operations in March 2000 under the trade name “Oskar” and already covers over 98% of the population. By March 2001, Cesky Mobil had attracted over 400 000 customers.

Fixed Wireless Access (FWA)

In September 2000, through a tender process (beauty contest), three companies, **BroadNet Czech**, **GiTy/StarOne**, and **Nextra Wireless** were each awarded a 20 year license to operate FWA mobile networks of 26 GHz (including provision of Internet services) for a fixed fee of CZK 150 million each.⁶ Two of the FWA operators started operations in 2000, the third will commence operations in 2001. FWA wireless access networks allow for high capacity (of at least two megabits per second) data transmission to end-users, making Internet connection much faster than via standard telephone lines.

Nextra Wireless is a subsidiary of Telenor (a Norwegian based provider of telecommunications, data and media communication services, with a particularly strong focus on mobile, Internet and broadband services). Nextra Wireless offers “last mile” access infrastructure to Internet service providers and alternative telecommunications operators. The company has started commercial operations in the nine largest cities of the Czech Republic. By the end of 2001, Nextra Wireless intends to offer services in all towns and cities in the Czech Republic with over 50 000 inhabitants.

In February 2001, CTU announced⁷ that in order to accelerate the development of competition for Český Telecom, CTU is planning to call for tenders for another three FWA wireless network licenses to be built and operated in the 3.5GHz band.

Internet service providers

Provision of public Internet services in the Czech Republic is subject only to the issuance of a Trade Licence and is not regulated by the CTU. Under General Licence GL 28/S/2000, it is sufficient for the provider to be registered.

The Internet can be accessed through a variety of ways, through dial-up access via use of a modem, through ISDN lines, cable TV, and wireless FWA in the 26 GHz band. In December 2000, there were over 200 ISPs serving about 500 000 subscribers and 1 500 000 users.

It is notable that commendably CTU ruled that Český Telecom's monopoly over voice until 1 January 2001 was not considered to extend to data services and voice over Internet.⁸ Thus, Internet Service Providers (ISPs) were allowed to provide voice over IP service in August 1999, and several ISPs were quick to commence competition with Český Telecom in long distance and international call segments. This led to significant falls in the price of international calls.

Table 3 indicates the number of carriers in each market segment.

Table 3. **Number of licensed carriers in each market segment, January 2001**

Market segment	Number of carriers
Local, long distance and international networks	20*
Cellular (GSM) nation-wide	3
Standard TETRA	3
Television and cable distribution systems	185

* All 20 providers have licences for local, long distance and international fixed telephone services.

Source: Ministry of Transport and Communications.

2. REGULATORY REFORM IN THE TELECOMMUNICATIONS SECTOR

2.1. *Regulatory institutions and processes*

The Ministry of Transport and Communications (MTC CR)

The Ministry of Transport and Communications (MTC CR) became the authority responsible for telecommunications in November 1996, when the function was transferred from the Ministry of Economy (subsequently abolished). MTC CR was made responsible for all aspects of telecommunications policy and regulation, except for the regulation of tariffs for inland services, which was regulated by the Ministry of Finance. Within MTC CR, the responsibility for telecommunications was divided between the Department of Telecommunications Policy and the Czech Telecommunications Office. With the enactment of the new Telecommunications Act, the MTC CR became responsible for strategic functions, including:

- The formulation of national telecommunications policy and main principles of telecommunications regulation, including legislation activities.
- Ensuring international obligations pertaining to telecommunications are met.

- Co-ordination of EU integration activities in the area of telecommunications.
- Approval of frequency allocation plans.

A total of 14 persons deal with telecommunications issues at the MTC CR.

The Czech Telecommunications Office (CTU)

The CTU was initially established within the Ministry of Economy in December 1992. In November 1996, all responsibility for telecommunications regulation was delegated to the MTC CR and the CTU was re-located within this ministry. In November 1996, the CTU was put directly under the Minister of Transport and Communications.

In July 2000, the new telecommunications law separated CTU from the Ministry of Transport and Communications and established it as an independent agency. The main task of the CTU is "...to accomplish and maintain a competitive environment for the telecommunications market and to provide for the protection of the telecommunications market, including the protection of telecommunications service users." More specifically, the CTU is responsible for:

Licensing telecommunications operators.

- Price regulation of telecommunications services.
- Co-operating with operators in concluding interconnection agreements and agreements on access to public telecommunications networks.
- Administration of frequency spectrum and numbering.
- Approval of telecommunications equipment.
- Supervision over the terms and conditions for the provision of telecommunications services (including arrangements for universal service).
- Other functions in the state administration and regulation of the telecommunications industry (preparation of legislation proposals, etc).

The CTU is headed by a President who is appointed for four years up to a maximum of two successive periods of office. The President can be dismissed by the government at the recommendation of the Minister of Transport and Communications. Notably, the person appointed as President of CTU must be a citizen of the Czech Republic "who is of good character and has completed university education in the fields of telecommunications, law or economics, and has five years' management experience in the telecommunications sector." These are unusual requirements that narrow the field undesirably (in effect limiting the range of candidates to a Ministry official or a company official), and, indeed, that can unnecessarily preclude some who might otherwise be well qualified for the job.

The President is required to submit to the government CTU's views on major problems in the telecommunications area and an annual activity report of the CTU via the Minister of Transport and Communications. Although this is regarded as a formal procedure (necessary because the CTU President is not a member of the government), there should be vigilance that this means of reporting through the Minister does not diminish CTU's independence from the administration. Reporting directly to the Czech Parliament could well be more effective in sustaining the independence of the industry regulator.

CTU can impose fines on operators for default of licence conditions such as the failure to meet infrastructure development and coverage targets or quality of service standards. Fines can range from 100 000 to 5 000 000 Czech Crowns (100 Czech crowns=USD2.56) and are a revenue item of the state budget. For repeated violation of obligations, the CTU can impose a fine of up to double these amounts. However, there are concerns that the level of fines that can be imposed are inadequate to serve as a deterrent.

The CTU is a separate and independent budgetary unit and funding for CTU is through a budget appropriation. The total number of CTU staff appears adequate (by comparison with counterparts in other OECD countries). Specifically, in June 2000, CTU staff totalled 480 positions, as indicated in Table 4.

Table 4. **Number of CTU employees, 1993-2000**

Year	1993	1994	1995	1996	1997	1998	1999	2000
Number of employees	505	499	510	500	490	484	484	480

Source: Czech Telecommunications Office, Annual Reports.

230 of these staff members are located in Prague and 250 in seven regional branches (responsible for issuing various permits and for quality of service inspection). However, the present CTU staff profile reflects the need of past circumstances of monopoly provision rather than the requirements of the quickly emerging competitive environment. There is therefore an urgent need to re-profile staff so that skills are more appropriate to the new competitive circumstances. Many of these staff deal with issues of inspection and monitoring of spectrum interference. There is considerable scope for increasing the number of staff dealing with substantive issues of regulation, such as price control, interconnection and other details of policy implementation.

The lack of requisite skills must be addressed. CTU 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 also important. CTU 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

To preserve transparency, CTU should engage in more consultation, where possible by issuing public consultation documents. This will enable new entrants (and other interested parties) to contribute information and expertise via submissions to CTU. Transparency would also be enhanced by CTU explaining publicly the rationale for its decisions.

Office for the Protection of Economic Competition

The Office for Economic Co-operation was established in 1991. In 1992, the office was upgraded and located in the Ministry for the Protection of Economic Competition. However, following the June 1996 parliamentary elections, it was transformed back, into an “office” — the Office for the Protection of Economic Competition (OEC) in November 1996. The OEC’s task is to “supervise mergers and to ensure that agreements restraining competition or that lead to abuse of a monopoly or dominant position do not exist”.

The OEC's headquarters is in Brno, rather than Prague. This geographic separation from the rest of the government ministries was intended to represent and re-enforce the competition agency's independence.⁹

Within the OECD, there are six staff responsible for work on "natural monopolies", with only one staff member assigned to deal solely with telecommunications issues. Already, there are signs that this staff allocation to deal with anti-competitive issues in the telecommunications sector is seriously inadequate. As noted below, long delays (of up to six months) have been experienced before the OEC has responded to complaints about anti-competitive conduct. With the expected increase in anti-competitive conduct issues that will be brought before OEC as competition intensifies, there is urgent need to review the resources allocated to this area with a view to increasing them.

Another concern is that relations between CTU and the Competition Office were "not defined and ... based on informal collaboration."¹⁰ This situation may improve as a result of the Memorandum of Co-operation to establish clearer guidelines for co-operative action signed by the two agencies in January 2001. The Competition Office and CTU should build on the Memorandum of Co-operation they signed in January 2001 to articulate clear procedures to ensure sustained co-operation in pro-competition regulation

Ministry of Finance

The Ministry of Finance was responsible for regulating the price of domestic calls on fixed networks until July 2000 when the new Telecommunications Act came into force. Since then, the CTU assumed responsibility for regulating the price of all telecommunications services. However, the CTU is required to "discuss" with the Ministry of Finance proposals in regard to price regulation decisions relating to domestic service. This leaves scope for concern that decisions will be unduly and overly influenced by 'political' rather than concerns for price re-balancing, efficiency-oriented prices and the development of effective competition. To allay such concerns, the precise role the Ministry of Finance is to play in decision-making should be specified.

3. TELECOMMUNICATION REGULATION AND RELATED POLICY INSTRUMENTS

3.1. Regulation of entry and licensing

In the Czech Republic, the Telecommunications Act 2000 specifies that a telecommunications licence is required to:

1. Establish and operate a public telecommunications network.
2. Provide public telephone services via a public fixed telecommunications network.
3. Provide public telephone services via a public mobile telecommunications network.

Under the new act, licensing procedures have been simplified and made more transparent in broad accord with EC directives on licensing. However, some initial concerns arose. These had to do with delays in obtaining approval for several licences. The Act stipulates that the CTU must decide on the award of a telecommunications licence within 40 days of the licence application. In exceptionally complicated cases, the decision must be made within 120 days at the latest. If a telecommunications licence is to be awarded on the basis of selection proceedings, the CTU is obliged to decide within 240 days. However, the initial licence awards undertaken after July 2000 were delayed. Improvements have been introduced so that licence approval has become more rapid. Vigilance must be maintained to ensure that the deadlines for issuing licences are strictly adhered to by CTU.

Requirement to submit a business plan

Another concern is the detailed information applicants are required to submit within a business plan (covering the first 5-year period of operation) to prove financial competence to undertake the telecommunications activities being applied for. The information required includes:

- Expected total revenue.
- Expected total expenditure.
- Expected financial resources.
- Total assets as at 31 December of each year.
- Total liabilities as at 31 December of each year.
- Total cash flow as at 31 December of each year.
- Expected prices.
- Expected interconnection prices.
- Expected number of users.
- Expected average number of employees.
- Expected telecommunications traffic in minutes, impulses etc.
- Other related data necessary for estimation of the reality of the business plan (the number of points of interconnection, the expected inflation rate, the income tax, the average capital expenditure for equipment per 1 main telephone line, the expected number of tariff impulses or minutes per 1 main telephone line, etc).
- Expected new services, including how they were reflected in the expected values.

The holder of a telecommunications licence is obliged to present the CTU with an annual report showing the development of costs, revenues and returns and profitability, including the capital input, separated according to a specified method.

Such detailed requirements are unnecessary for new market entrants, especially when they do not have market power. Neither do the information requirements provide necessary information to the regulator to facilitate the regulatory process. In the context of streamlining licensing procedures it is important that new entrants are only required to provide information necessary for effective regulation.

A restriction that is now being included in licences (or in accompanying contracts) issued on the basis of a tender (that is those using spectrum) is an obligation on the licence holder not to merge with other operators of similar telecommunications activities for a certain time period (approximately 1-3 years).

As noted earlier, the number of operators has been increasing with the first individual licences for the provision of a fixed line public telephone service issued to Aliatel and Contactel in September 2000 (although service could not commence until after 1 January 2001).

EU directives (and WTO commitments) require that market entry must be unhindered except where objective resource constraints impose limits. With the exception of the incumbent, which is subject to asymmetric regulation, and of mobile companies using scarce spectrum resources, there is little justification in maintaining an individual licensing regime. The use of individual licenses encourages the inclusion of many detailed conditions that can delay entry. General licenses also ensure greater transparency and reduce the administrative burden on market participants. The responsibilities of telecommunication operators offering public telecommunications networks and services can be specified through regulation rather than via an individual license.

Licensing is one area where the Czech Republic can take advantage of the delay in opening the market to competition by implementing streamlined procedures that meet best practice regulation. In this context, a number of OECD countries have introduced simple authorisation schemes that do not require explicit approval by the regulator for market entry. These market entry procedures have worked well and have facilitated the development of competition. The European Union is a strong advocate of streamlined market entry procedures based on general authorisation.¹¹

UMTS

In mid-February 2001, the government reiterated its plans to sell third-generation mobile telecommunications licenses to the country's three existing mobile GSM operators (EuroTel, RadioMobil and Cesky Mobil) between July and September 2001 at a fixed price of 5 billion crowns (USD 110 million) each. The fourth license is to be auctioned off at an unspecified date, with a minimum bid of 5 billion crowns.¹² The new entrant would be given roaming rights.

The existing mobile operators have confirmed they are interested in obtaining a UMTS licence but have argued that the government's expectation that it will receive five billion crowns per licence is unrealistic in the light of recent UMTS tender results in other European countries and the current negative sentiment in the market towards wireless operators and to the funding of UMTS in particular. EuroTel has suggested that a price of 2.8 billion crowns might be more appropriate, based on average European prices.¹³ Cesky Mobil has declared that a reasonable price for the UMTS license would be between 1.5 billion to 2 billion Czech Crowns.¹⁴ Cesky Mobil also argued that the issuance of the fourth licence should be delayed until 2004. The use of two different mechanisms to allocate scarce spectrum resources is not good regulatory practice and will likely result in an unfair disadvantage to the 4th licensee who will have to pay a higher amount than the first three licensees with the added disadvantage that the three incumbents will have had a head start in the market. Roaming rights may be insufficient to overcome this disadvantage. All four licences should be provided at the same time and using the same allocation method.

The problem with reducing the price of the UMTS licenses is that the Czech government has already included a revenue item of CZK 20 billion (about US\$535 million) in the budget 2001 to be collected in fees from the telecommunication service sector. The most obvious source of such funds would be from 3G licences, forcing the CTU to focus on the need to raise the 20 billion Czech crowns rather than the effective allocation of UMTS licences. The government should not use the telecommunication sector to raise general revenues. This is incompatible with policies for creating conditions of competition and creating a telecommunication market which can be treated on the same basis as other industry markets. If the government wants to obtain economic rent from a scarce resource then it should let the market decide, through auctions what the appropriate value for this resource should be.

3.2. *Interconnection and regulation of interconnection prices*

Under Section 8 of the Czech Republic's Telecommunications Act 2000, telecommunications providers with significant market share are obliged to publish "reference offers on interconnection" (RIOs) including price conditions. As noted later in this report CTU has designated as telecommunications providers with significant market share Český Telecom, EuroTel (mobile) and České Radiokomunikace (leased lines). However, only the RIO of Český Telecom is available to all operators. The Act also requires that the contracting parties must endeavour to make arrangements for interconnection prices and conditions through commercial negotiation. The Act requires that the terms should not discriminate against any of the contracting parties nor other operators of interconnected public telecommunications networks, and that the method of their calculation is verifiable. If the contracting parties fail to agree on interconnection prices, they are obliged to use a method of price calculation set by CTU. The Act stipulates that: "The CTU will set the method of price calculation for interconnection by a price decision... In stipulated cases, the price of interconnection must arise from the costs of interconnection inclusive of a reasonable profit ... The method of price calculation for interconnection will be published by the CTU in the Telecommunications Bulletin. The CTU will use a method of price calculation set by the price decision of the CTU every time it is approached by any party to the contract with a request to resolve a dispute."

The EU requirement that prices charged for interconnection and leased lines provided by operators having significant market power (SMP) must be cost-oriented does not appear to be clearly mandated by the 2000 Telecommunications Act 151/2000.¹⁵

The Czech authorities have explained that, in matters of price regulation, the new Telecommunications Act has to be read in conjunction with the Price Act 526/1990 (as amended). It has not been made clear, however, precisely how the working of Act 151/2000 taken together with the relevant parts of the Price Act (and any secondary instruments) would secure the cost orientation requirement. In essence, the Act fails to unambiguously apply the obligation for cost orientation. To dispel uncertainty, the CTU should explain in a public document precisely how the Price Act¹⁶ is to be applied in conjunction with the Telecommunications Act.

The provision (in Article 78) on interconnection appears to leave it to the discretion of the CTU to apply cost orientation in unspecified cases, and the Law makes no provision for cost orientation of leased lines charges.¹⁷ This is an important omission because the level of leased lines charges in the Czech Republic are among the highest in the OECD.¹⁸

Most OECD countries, along with the EC, have realised that it is inappropriate to use the fully allocated cost (FAC) methodology to determine interconnection prices because it is subject to manipulation in the allocation of joint and common costs across different services. Moreover, the FAC approach does not discount for inefficiencies of former monopolies. Accordingly, the best practice methodology preferred by regulators is that of long-run average incremental cost (LRAIC), based on forward-looking costs, including a sufficient return on investment for the incumbent.

In fact, the CTU does advocate use of the forward-looking LRAIC approach but the historical cost based FAC approach is evidently still being used because of Český Telecom's inability or unwillingness to provide the required data for service costs to be estimated. To provide a strong incentive for the requisite costs to be estimated, interconnection prices should be based on benchmarking "best practice" interconnection prices.

The Czech Law states that the CTO should apply a “methodology” to determine interconnection prices. There is a view that the term “methodology” does not permit the use of benchmarking since benchmarking is seen to apply a “number” rather than a “method” as stated in the Act. The issue of whether best practice benchmarking can be applied needs to be resolved urgently. If permitted under the law it should be applied without delay. If not, the law should be amended to allow benchmarking. Indeed, an increasing number of OECD countries are adopting this approach. Further, Český Telecom should be required to provide appropriate data as requested by the CTU. Non-compliance with requests for information should result in the imposition of penalties.

Another disappointing feature of the new regulatory regime has been the delay in concluding the crucial interconnection agreements between the new entrants and Český Telecom. The new entrants, Aliatel, Contactel, GTS, Etel and UPC (United Pan-Europe Communications), negotiated between themselves and with Český Telecom to determine interconnection charges. The five new entrants successfully reached agreement to charge each other about 0.31 Czech Crowns (about US 1 cent) a minute for interconnected calls.¹⁹ They claim this price was about five times less than what Český Telecom had asked them to pay. Each company must also reach its own deal with Český Telecom. The new entrants complained that Český Telecom had stalled interconnection agreements because this gives the company more time to prepare for competition.

The interconnection negotiations between Český Telecom and Aliatel were not successfully concluded within a 90-day time limit and CTU was asked to step in. The CTU set a price ceiling in early January 2001, ranging from 0.33 Czech Crowns a minute for off-peak local calls and 1.59 Czech Crowns per minute for 2nd transit peak calls. These charges were about midway between what the two sides wanted.²⁰ The CTU decision is final and cannot be appealed.

On 28 February 2001, some two months later, an interconnection agreement was signed between Český Telecom and Contactel. The contract sets prices for interconnection during the peak period at 0.66 Czech Crowns per minute for local calls (about US1.5 cents). This interconnection price was considerably less than what Český Telecom had initially asked for. The next day (1 March 2001) an interconnection agreement was also signed between Český Telecom and Aliatel. Notably, the price set for interconnection was based on the fully allocated cost (FAC) approach. Thus there is progress in putting in place an interconnection framework. Some interconnection agreements have been signed, including one negotiated in March 2001 between the three mobile operators., but other agreements between Český Telecom and some new entrants are yet to be concluded.²¹ To give CTU its due, the regulator did demonstrate its ability to rule against Český Telecom’s earlier interconnection price offer and was instrumental in achieving the significantly lower prices that were subsequently agreed to. But Český Telecom’s interconnection prices (set out below) are still high by comparison with most other EU countries.

Table 5. Price Decision No. 02/PROP/2001 setting the maximum prices for interconnection of public telecommunications networks

	Price per 1 minute (VAT 5% not included)
1. Price for interconnection – 1 transit within one telephone area (local)	
in peak hours	CZK 0.66
in off-peak hours	CZK 0.33
2. Price for interconnection – 1 transit to other telephone area (single)	
in peak hours	CZK 1.08
in off-peak hours	CZK 0.54
3. Price for interconnection – 2 transits (double)	
in peak hours	CZK 1.59
in off-peak hours	CZK 0.79

And some fundamental problems remain. One is that a fully allocated cost (FAC) approach is still being used. Moreover, there remains an inability to verify that the incumbent's prices are cost-oriented since appropriate cost accounting systems are not yet in place. Thus the transparency and reporting required under the regulatory framework is lacking. In addition, new entrants continue to experience difficulty in obtaining interconnection expeditiously and on equitable terms.

CTU should require Český Telecom to publish a Reference Interconnection Offer (RIO) that is available to all new entrants based on LRAIC (or best practice benchmarking). Such an RIO is required by EU directives on interconnection for operators with SMP. Also Český Telecom should be required to enter into Service Level Agreements (SLAs) with new entrants to ensure timely delivery of leased line capacity, and quality of service requirements. Non-performance with respect to SLAs should be subject to fines.

Regulation of retail prices

Since January 2001, only Český Telecom's prices are regulated (according to Tariff Decision No. 01/2001). The services subject to price regulation by way of maximum prices (price caps) include:

- Charges for establishing subscriber connection to telephone service.
- Prices of telecommunications use, including local, interurban and international telephone calls.
- Leased lines.

Until the Telecommunications Act took effect in July 2000, regulation of domestic telecommunications prices for fixed network service was the responsibility of the Ministry of Finance. However, the new Act makes the CTU solely responsible for regulating all telecommunications prices although it is required to "discuss" pricing decisions in regard to domestic service. The role of the Ministry of Finance in relation to the regulation of telecommunications prices therefore continues but is now said to be 'consultative'. The Czech authorities consider that this does not therefore compromise the separation of functions, despite the fact that the Minister of Finance also has management functions in relation to the National Property Fund, which is a shareholder in several telecommunications companies. (Since 1 May 2001, the National Property Fund is a majority shareholder in only two telecommunications companies). The CTU should not be required to consult with the Ministry of Finance with respect to the regulation of prices. Experience from other OECD countries has shown that such an approach tends to delay rebalancing and the creation of effective competition to the detriment of the performance of the telecommunications sector as well as the economy as a whole.

Incomplete price re-balancing

The Ministry of Transport and Communications (MTC CR) recognises that re-balancing and eliminating cross-subsidisation is crucial as the main condition for the liberalisation of the public telephone service in the Czech Republic.²² However, the new Telecommunications Act does not specify a deadline for the completion of re-balancing.

The gradual re-balancing of telecommunications prices was scheduled to take place over 1995-2000, covering monthly usage, local, long distance and international calls. The government and CTU claim that re-balancing was conducted and is "almost complete".²³ As Tables 6 and 7 indicate, considerable price re-balancing has occurred. The monthly subscription charge has increased steadily from 52.5 Czech Crowns in 1993 to 175 Czech Crowns (about USD 4.50) in the year 2000. Off peak domestic prices have dropped significantly, as have the price of international calls, both peak and off-peak.

However, Český Telecom claims that the required price re-balancing is far from complete and, in particular, that the monthly subscription rate should be further increased from the current 175 Czech crowns to 400 Czech crowns (about USD 11).

Full price re-balancing and elimination of cross-subsidies is an imperative for the development of effective competition and there is an urgent need to ascertain the nature and extent of re-balancing still necessary and for a time schedule to be established for full re-balancing to be completed without delay. The price cap regime implemented (as noted below) should be wary of unnecessarily constricting the price re-structuring that is needed to effect full price re-balancing.

In this context, there is another aspect of the system of price regulation that should receive attention. The Ministry of Transportation and Communications has declared in a written response to an OECD questionnaire (November 2000) that: “Another form of price regulation is a factual directing of prices consisting in setting the conditions by price authorities for price arrangements, namely a binding procedure in price setting or for its calculation for the purposes of pricing in the telecommunication sector”. And in answer to another question also that: “With regard to the fact that the selected telephone services are regulated through maximum prices (price cap) or in the form of a factual directing, individual providers of public telecommunication services have an option to provide discounts to wholesale customers in compliance with their marketing policy”.

It is not clear how the “factual directing” of prices fits into the price cap scheme. Whether it can inhibit price re-structuring, etc? This matter requires urgent clarification.

Table 6. Český Telecom’s prices(a) for domestic calls

	1993	1994	1995	1996	1997	1998	1999	2000	2001*
Monthly subscription charge	52.5	52.5	70.0	80.0	90.0	100	135	175	175
Call prices									
Peak hour Price per 3 minutes	1.05	1.60	1.90	2.00	2.25	2.40	2.60	5.20	4.35
Off-peak price per 3 minutes	1.05	1.60	1.90	2.00	2.25	2.40	2.60	2.60	2.40
Long distance									
Tariff zone 1									
Peak period per 3 mins	3.15	4.80	5.70	6.00	2.25	2.40	5.20	5.20	4.35
Off-peak per 3 mins	3.15	3.20	3.80	4.00	2.25	2.40	2.60	2.60	2.40
Tariff zone 2									
Peak period per 3 mins	6.30	9.60	11.40	12.00	11.25	12.00	13.00	13.00	11.10
Off-peak per 3 mins	6.30	4.80	5.70	6.00	6.75	7.20	5.20	10.40	5.10
Tariff zone 3									
Peak period per 3 mins	9.45	14.40	17.10	18.00	18.00	14.40	13.00		11.10
Off-peak per 3 mins	9.45	8.00	9.50	10.00	11.25	12.00	5.20		5.10

*For Standard (Tariffs Choice) residential telephone lines. Prices are in Czech Crowns (approximately 39 Czech Crowns = USD1).
Source: Ministry of Transport and Communications.

Table 7. **Český Telecom's Prices(a) per minute for International calls (to countries with the greatest volume of traffic)**

	1993	1994	1995	1996	1997	1998	1999	2000	2001*
Slovakia:									
Peak	12.00	6.40	7.60	10.40	10.30	13.80	13.20	9.50	8.80
Off-peak						11.10	7.90	8.50	7.60
Austria:									
Peak	12.00	6.40	21.00	17.00	16.85	15.80	14.50	9.50	8.80
Off-peak						12.70	8.50	8.50	7.60
Germany:									
Peak	12.00	6.40	21.00	17.00	16.85	15.80	14.50	9.50	8.80
Off-peak						12.70	8.50	8.50	7.60
UK:									
Peak	12.00	6.40	31.50	25.20	25.00	21.50	15.10	9.50	9.50
Off-peak						17.20	8.90	8.90	8.80
US									
Peak	60.00	31.50	50.00	42.00	41.60	35.20	23.00	12.00	10.00
Off-peak						28.10	14.20	9.50	8.80

* For Standard - Tariff Choice Packet - residential telephone lines. Prices are in Czech Crowns (approximately 40 Czech Crowns = USD 1).

Source: Ministry of Transport and Communications.

Price cap regulation

The Czech Republic's approach to price regulation is unclear and has not been spelt out in detail. Article 77, Section 10 of the Telecommunications Act 2000 stipulates that the CTU "will establish prices for a universal service by a price decision according to a special legal regulation" The prices are to be established "in a manner in which the prices of these services cover the justified costs including reasonable profit."

CTU has explained that the actual approach to regulating price is to be based on price cap regulation. But the Czech price cap regulation methodology is not entirely clear and seems unduly complicated. The method will limit increases in the price of regulated telecommunications services to on average no more than the increase "in the price index of industrial manufacturers reduced by value X and Z. These values are determined on the basis of expenses and yields and by the fluctuation of the outer economic environment."²⁴

The approach seems unnecessarily complex by comparison with the price cap schemes adopted in other OECD countries. Most OECD price cap schemes are based on a 'CPI-X' formula, where CPI is the movement in a 'consumer' price index, and the 'X' factor is based primarily on expected productivity improvement.

The fundamental rationale of a price cap approach is to deliver real price decreases to consumers as well as provide an incentive to increase efficiency. By contrast, the price cap formula to be applied to Český Telecom seems to be of the form "PI - X + Z", where:

- i) PI is the price index of industrial manufacturers.
- ii) Z represents cost increases unavoidably incurred by Český Telecom.

In OECD countries, the desirability of selecting a price index other than the consumer price index has been considered with the conclusion that, for all its deficiencies, the consumer price index is the most objective and appropriate index for regulating end user prices paid by consumers.

In OECD countries, the desirability of including a cost flow through a 'Z' factor was also considered with the conclusion drawn being that this introduces scope for protracted debate about the nature and extent of cost increases that should legitimately be passed through. Indeed, it was such protracted debates in the US over the nature and extent of unavoidably incurred costs in rate-of-return regulation hearings that led to the adoption of a price cap system wherein the focus is on a more transparent variable (price) and away from variables such as 'unavoidable cost increases' that are far more subject to the problems of 'information asymmetry (where, as in the case of unavoidable costs, the regulated firm has access to far more information than the regulator).

To be effective the price cap formula should be streamlined into a more simple, transparent and the more administratively sound formula 'CPI - X'. The CTU is considering doing this.

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.

Accounting separation

The 2000 Telecommunications Act stipulates that, within 3 months of commencing provision of service, a provider of public telecommunications services is obliged to present to the CTU for approval, a method for separate recording of costs, revenues and returns, including the input of capital. The CTU would approve the method within 3 months of receiving it. The Act stipulates that: "Providers of public telecommunications services are obliged to have separate records of costs, revenues and returns, including the input of capital even in cases when the prices of concerned public telecommunications services are not regulated." Accounting separation should only be necessary for those operators that have significant market power. It is an unnecessary burden on new entrants that need to focus on building up their customer base and competing with the incumbent.

Alternative infrastructure

Alternative infrastructure and technologies can provide an increasingly important source of local competition.

Cable service is available to over 70% of all households in the Czech Republic in terms of the number of homes passed and 35% of these households are subscribers. In total, 25% of television households subscribe to cable services.

Although there are a large number of registered cable companies (over ninety), most operate in small towns and villages, and the Czech cable market is in effect controlled by three major companies. These are UPC (United Pan-Europe Communications), Intercable and TES Media which between them control more than 80% of the market.

Providers of cable TV require a license to provide telephony service. Since Český Telecom had a monopoly on telephone services until January 2001, as at the end of 2000, the only 'cable' telephony customers in the country were 3 200 homes connected to an experimental antenna-based telephony system operated under special licence in the city of Liberec by Kabel Plus.

A class license and certification of registration are also required to operate Internet services. The three large cable companies offer cable Internet services, although on a relatively modest scale. The Czech Association of Cable Communications estimates that by the third quarter of 2000, there were over 10 000 cable Internet subscribers in the country. The MTC CR has declared that, in its view, under the terms of the new Telecommunications Act, cable operators with SMP may be required to open their networks to other operators.

Satellites

The Czech Republic's satellite communications market has been growing by about 10% annually since the early 1990s. A major reason for this growth was that large international companies (such as Morris, Ford, and Siemens) opening offices in the Czech Republic, needed to build their own private satellite communication systems to overcome problems relating to poor telecommunications infrastructure.²⁵ For instance, between 1990 and 1994, more than 15 local and foreign companies were granted a license to build networks and provide satellite services. The most demanded services included telephony, data communications, and video conferencing.

A registration on the basis of issued class license is required to build and operate a satellite telecommunications network. To provide Internet services, the holder of a satellite license must simply register with the CTU.

Carrier selection, pre-selection and number portability

New entrant operators regard fully-implemented carrier selection, carrier pre-selection and number portability as being indispensable to the achievement of full market liberalisation and the development of effective competition. Carrier pre-selection in particular allows new entrants the easiest form of access to the end-user for voice telephony services. In this context it is essential that national legislation allow the full range of carrier pre-selection services to be offered by new entrants, in particular local, long distance and international calls and calls to mobile.²⁶ Indeed, EU directives require carrier selection in some convenient form to be available as soon as competitive entry was permitted.

The delay in provision for call-by-call carrier selection, carrier pre-selection, and number portability in the Czech Republic is of major concern. Indeed, the EU *acquis* requires carrier selection in some convenient form to be available as soon as competitive entry is permitted and carrier selection facilities should have been available for new entrants in the Czech Republic right from the commencement of competitive entry on 1 January 2001.

Evidently vigorous lobbying had led to the present provision in the Telecommunications Act which — while not preventing carrier selection facilities being made available earlier — makes it mandatory only from 30 June 2002 (for call by call) and from 31 December 2002 (for pre-selection and number portability). The government claims that the specified deadlines comply with the EU's requirement that carrier selection and number portability be introduced within 2 years as of the date of full liberalisation. Dates are given by the new Telecommunications Act 151/2000 Coll.

Český Telecom claims that carrier pre-selection and number portability are not 'technically feasible' at present. The new entrants disagree. Indeed, Contactel offered to pay for an independent feasibility study but Český Telecom rejected the offer and the regulator evidently failed to take the matter further. At any rate, the fact that the facility might be temporarily impracticable in some parts of the network need not delay its availability elsewhere, where it is technically feasible. In other words, it should not be necessary to wait for complete digitalisation of the network before introducing pre-selection. CTO is trying to promote the change of the existing telecommunication act and accelerate the introduction of carrier selection.

A further concern in the area of carrier selection and pre-selection is that if Český Telecom fails to provide these services as required, the penalties that can be imposed by the regulator are small – up to CZK 5.0 million — hardly likely to be a significant deterrent. The law should be allowed to bite deeper. If Český Telecom fails to concur, penalty should be up to 10% of its previous year's annual revenue (which is the maximum fine the Competition Office can impose) and competitors affected should be compensated out of the fine.

Rights of way

Impediments to obtaining rights of way, including long delays or excessive requirements, can pose a problem for new entrants.²⁷ The Telecommunications Act 2000 recognises such potential problems and stipulates that where it is not possible to place another overground or underground telecommunications line or equipment for a public telecommunications network, cable duct or antenna tower or if it is possible only with unreasonably high costs, the operators of the existing telecommunications lines or equipment are obliged, if it is technically possible, at the price stated by the special law²⁸ to allow use of these facilities by other operators.²⁹

The Act stipulates that disputes about shared use would be adjudicated by the Construction Office with the CTU participating in the proceedings. Thus far, with competition and infrastructure deployment still at an early stage, problems in obtaining rights-of-way have not been a major issue. But if experience demonstrates that the present arrangements prescribed under the Act are inadequate, an arbitration procedure should be established for use when carriers and local governments cannot reach agreement on the use of public land.

Unbundling

An important deficiency in the Czech Telecommunications Act 2000 is that there is no specific provision in the Act to mandate unbundling of the local loop by an operator with significant market power (SMP). The reason for this omission is said to be that the EU regulation came into effect after the new Czech Telecommunications Act was drafted. The obvious solution is to amend the Act to address this omission. Indeed, the Minister for Transport and Communications has disclosed³⁰ that the Ministry “has already started working on an amendment of the Act on Telecommunications, due to the necessity to regulate the Unbundled Access to the local loop according to the Regulation of the European Commission”.

But a quicker way is for the regulator, CTU, to take action to require unbundling according to EU guidelines. Certainly, its counterparts in an increasing number of OECD countries have taken action in this regard without the need for special legislation. This is because regulators in OECD countries have realised the importance of implementing policies to ensure that new entrants have access to unbundled local loops both as a means of stimulating competition for access, but also as a means of stimulating the roll-out of new technologies and stimulating the availability of broadband Internet access.³¹ For instance in Greece the new law includes a condition that obliges operators with SMP to provide competitors unbundled access to their local network at cost-based prices.

It is important that the Czech Republic ensure that unbundling policies, including the determination of prices for unbundled local loops, are in place. In regard to local loop unbundling, policy frameworks are in now in place for the majority of OECD countries to implement unbundling so as to allow operators to install their own equipment enabling them to provide services in direct competition to the incumbent's ADSL products. In some countries, the declaration of unconditioned local loop services into regional markets is considered to have been a major factor in the rapid overall growth in numbers of new carrier licences issued.

Support for unbundling local loops has the advantage of accelerating the competitive provision of local access service. At the same time, policies that mandate favourable interconnection rates, and that encourage innovation in retail tariffs, can also be important. Some countries view as a potential drawback of such action the fact that it may discourage investment in alternative infrastructure. For this reason, a number of OECD governments are tackling this issue by offering phased withdrawal of incentives to enter the market while new entrants build their own infrastructure. Other countries believe there will not be any drawback as long as unbundled elements of networks or interconnection are correctly priced.

To be effective unbundling will depend on the price charged for wholesale access to unbundled local loops. If price re-balancing has not yet been completed, unbundling could well be ineffective so that the period during which unbundling provisions apply may need to be longer. In addition, it is important that policies for local loop unbundling (LLU) include provision for co-location in the incumbent's facilities and the prices and conditions for such physical co-location.

In recent years, regulators have realised the importance of implementing policies to ensure that new entrants have access to unbundled local loops as a means of stimulating the availability of broadband Internet access.

Recent work by the OECD found that the level, and structure, of pricing for Internet access is one of the major constraints facing users and potential users. This analysis concluded that the key to greater tariff innovation to support electronic commerce is to increase competition. Where competition is most advanced, at the local level, the benefits of pricing innovation are increasingly evident.³² Whereas at the beginning of 2000 users in only five OECD countries had the option of unmetered dial-up Internet access from the incumbent telecommunication carrier, by the beginning of 2001 this number had been extended to 12 countries.

3.3. *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 the Czech Republic is still in the process of installing a new regulatory system, it will need 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.

Some regulations need to be imposed only on operators with market dominance (with recent EC deliberations tending to tighten the definition of significant market power to make it equivalent with dominance³³). In this context, the requirement in the Telecommunications Act 2000 (art 79) obliging all holders of a telecommunications licence to maintain accounting separation and to present the CTU with an "annual report showing the development of costs, revenues and returns and profitability, including the capital input of capital", separated according to method prescribed by CTU, appears to be unnecessarily onerous. Such provisions need only apply to those companies that have been designated as having SMP.

As competition intensifies and becomes more effective, the scope, indeed the need, for regulatory streamlining will also increase. But 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 CTU to conduct a systematic regular review of all regulations (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.

Consumer protection and information

Consumer interests are best enhanced through effective competition that will deliver lower prices, improved choice and better quality. However, there is a continuing role for the government to ensure that consumer interests are protected. The government and the CTU should ensure that consumers benefit from increased competition, including by inexpensive switching from one service provider to another, and from encouraging the issue of ‘charters’ of customer rights (as available *e.g.* in Britain, Australia, and other OECD countries), improved performance of operators, a formal and clearer mechanism to handle consumer complaints, etc.

CTU should strengthen its focus towards enhancement of consumer interests (as required by its statute). Concrete procedures with a standard time frame for handling consumer complaints should be established. The procedure should be speedy, simple, and inexpensive for ordinary consumers. It should also ensure under relevant legal provisions to come into place that telecommunications operators implement and make public an appropriate code of practice for consumers. It is preferable that an industry wide code is available to ensure consistency in the market. Operators should be required to provide a published report on their handling of the complaints.

Customer complaints about billing are already common in the Czech Republic. 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 industry code of conduct should not be difficult to achieve since there are already early signs of industry co-operation and progress towards self-regulation.

There is an absence of user groups to protect the interests of the consumer. The Association of Consumer Organisations, established in January 2001, will go some way towards addressing this deficiency. But CTU could follow the example of regulators in other OECD countries and actively encourage, indeed actively assist the formation of a telecommunications user group. After all, there exist several associations in the Czech Republic, that represent and articulate the interests of telecommunications (and cable) operators.

The regulator should determine – after broad consultation with consumers – information to be made publicly available that will enable consumers to make comparisons (such as of quality of service) delivered by operators. Consumers — 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 consumers 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.

3.4. *Quality of service*

Under Czech telecommunications law, the provider of universal service is obliged to establish systems for monitoring and recording quality of services designated under the universal service obligation. The CTU is empowered to and has extended this obligation to other providers of fixed line and mobile telecommunications services. Details of the monitoring systems used must be presented to the CTU by the provider of a service on request.

The Telecommunications Act 200 requires that quality of service continue to be monitored with a Decree of the Ministry of Transportation and Communication providing more specific details about the quality of service indicators to be used. These include:

- Waiting time for connection to a fixed line.
- Call failure rate.
- Fault removal period.
- Time required to establish a call connection.
- Billing accuracy ratio.
- Operator response time.
- Ratio of the number of operating card and coin operated payphones to total number available.
- Time required for a mobile call connection to be established.
- Call failure rate of a mobile connection.
- Ratio of the number of incomplete mobile call connections for calls lasting 5 minutes during the peak period at any location.

The provider of a service, or an operator of a public fixed telephone network is obliged to present an independent audit in fulfilment of this obligation to the CTU, at its request CTU has declared its intention to request that such an independent audit be undertaken by Český Telecom. To ensure that the results of such an audit are credible, it should not be Český Telecom that conducts the audit but an independent auditor selected by the CTU. Moreover, the results should be published.

The point about publication of quality of service information is important because while the CTU requires operators to monitor and provide quality of service data, it does not publish the data. CTU should publish the data at regular intervals (as is done in several OECD countries, including the US, Australia and the UK) since quality of service information will assist consumers in choosing effectively between operators. After all, a major benefit of competition is the expanded choice it provides consumers. Improved

information enhances effective consumer choice that increases their welfare. The publication of quality of service information will also expose operators to 'benchmark competition'. That is, as part of its competitive effort, a company will be under pressure to evidence its superior quality of service ranking against its competitors on the basis of the published quality of service benchmarks.

3.5. *Universal service*

In the Czech Republic, universal service has been defined as:

1. A public telephone service, including fax and data transmission, offered via a public telecommunications network.
2. Operator services.
3. Free and uninterrupted user access, without using coins or cards, to emergency numbers.
4. An information service for telephone numbers.
5. Regular publication of telephone directories and access to these directories.
6. Public telephone automatic services.
7. Price discounts/reductions for the physically handicapped.

The CTU is empowered, in the public interest, to impose universal service obligations upon one or more fixed line telecommunications licensees who have a significant share of the market, such that accessibility to services is secured throughout the whole of the Czech Republic. The CTU can also designate any holder of a telecommunications licence, fixed line or mobile, as the universal service provider, if it applies to provide universal service.

Universal service providers have the right to compensation for "demonstrable loss". Such demonstrable loss is "the difference between economically-justified expenditure, including reasonable profits, paid out by telecommunications licence holders in order to fulfil the obligation of providing universal service, which would not have risen had the universal service providers not had this obligation, and earnings and revenues achieved by telecommunications licence holders from fulfilling the obligation to provide universal service".

If a telecommunications licence holder provides other telecommunications services on top of the universal service or carries out other activities, it is required to keep separate records of expenditure and income from services provided within the framework of universal service.

Demonstrable loss is to be compensated from a 'universal service account' to which telecommunications licence holders are required to make a financial contribution. The account is to be established and administered by the CTU "if the requirement arises of paying compensation for demonstrable loss". The method for determining the amount of the financial contribution and the rules for allocating funds from the account are to be specified by a separate regulation.³⁴

In the Czech Republic, Český Telecom has been designated the universal service provider. But to date the cost estimates to establish the level of Český Telecom's "demonstrable loss" has not been completed. EC directives require that in considering the need for a universal service fund, it must first be determined whether the burden of being the universal service provider constitutes an unfair competitive

disadvantage. This task too has not yet been completed. This has generated considerable uncertainty among market players particularly since there has been speculation that the ‘demonstrable loss’ Český Telecom will claim it should be compensated for will be substantial. To clear up this uncertainty, the matter needs to be resolved quickly.

Competition would also be enhanced if a system is designed that provides incentives for potential suppliers to reveal their true costs of supply and that rewards the lower cost suppliers. Some OECD countries are considering installing schemes involving periodic “contestable tenders” designed to provide such incentives. Indeed, Australia has already installed such a scheme.

3.6. Application of competition principles

The Telecommunications Act 2000 defines a licence holder who has a share of at least 25% of the market (on the basis of revenue share) in a particular geographical area as possessing significant market power (SMP). The CTU is required to designate each year in its annual report which operators possess significant market share.

In September 2000, the CTU submitted such a designation of operators with significant market share on the basis of data that holders of the authorisations and permits are obliged to submit. CTU’s designation indicated in Box 3 is on the basis of data submitted for 1999.

Box 1. Operators with significant market share

1. Český Telecom (99.74%), as the operator of a public fixed telephone network
2. EuroTel (64.23% share), RadioMobil (35.77%) as the operators of a public mobile telephone network via the public mobile network
3. Český Telecom (60.46% share) and EuroTel (29.73% share) as operators of a public telephone network
4. Český Telecom (60.75% share) and České Radiokomunikace (30.43% share) as operators with a significant market share in leased telecommunications lines service
5. Český Telecom (99.82% share) as the provider of ISDN public telecommunications service
6. Český Telecom (95.12% share) as provider of public telecommunications services via the public data network.

Source: Czech Telecommunications Office, OU-7/S/2000, 1.11.2000.

One concern about the focus on the size of market share CTU is obliged to provide under its statute is that there is widespread dispute about how appropriate a market share measure is as an indicator of market power or dominance. However, the Czech Telecommunications Act also provides that the CTU “can set other percentage shares on the basis of a licence holder’s ability to influence market conditions, its volume of earnings and ability to secure financial resources, or its experience in operating public telephone networks, or in providing public telephone services or leasing out telecommunications circuits for public telephone services”.

The delays in regulatory decisions over allegations of anti-competitive conduct are causing concern. As a notable example, the CTU and the Competition Office have been investigating complaints made between August 2000³⁵ and October 2000³⁶ about EuroTel and RadioMobil charging discriminatingly higher connection prices to Cesky Mobil clients.³⁷ By mid February 2001, CTU and the Competition Office had still not ruled on the complaint.

The essence of the complaint made by Cesky Mobil was that the prices EuroTel (the mobile subsidiary of the state majority-owned Český Telecom) and RadioMobil (the mobile subsidiary of the state majority-owned Radiokomunikace) customers pay for calls to Cesky Mobil's network are far higher than prices of calls made between the networks of EuroTel and RadioMobil.

It was not until late March 2001 that RadioMobil — following an announcement that the Competition Office in co-operation with CTU had launched a formal investigation into the alleged discriminatory pricing — announced that from 1 April 2001 call prices to Cesky Mobil's network would be lowered to the same level as prices for calls to EuroTel's network.³⁸

Why did it take so long to decide on the complaint? As noted earlier, the Competition Office has grossly inadequate resources that it can devote to resolving anti-competitive conduct issues in the telecommunications sector. The CTU has been experiencing its own staff shortage problems explaining that it had been losing staff to new entrant operators who were able to pay salaries some three to four times the salaries CTU could pay. Evidently, as of January 2001, there were only two CTU staff working on tariffs (including interconnection tariffs).

Under the Telecommunications Act, CTU is required to rule on complaints within 30 days of them being filed, although this can be extended to 90 days for exceptionally complex cases. These deadlines must be adhered to.

Another example relates to a complaint over Český Telecom's ability to offer off-peak service at a discounted price using VoIP, known as 'Xcall', with users needing only to dial a 052 prefix, while other operators were denied the same opportunity. Specifically, Contactel's application to Český Telecom for facilities to enable it to do so was denied. This led Contactel to complain to CTU and the Competition Office. The Competition Office's response, after a long delay, was that it was not illegal for Český Telecom to have acted as it did since this action occurred prior to 1 July 2002. This is because, under the Telecommunications Act 2000, facilities for carrier selection have to be provided by Český Telecom only after this date. Český Telecom continues to offer the Xcall service.

To avoid repetition of the unduly long delays in decisions being made, the Competition Office and CTU should be required to act and make decisions within a specified period. Explicit guidelines, including time-lines, regarding the process for CTU and the Competition Office to consult and co-operate, and make decisions should go some way towards reducing delays.

3.7. Internet access

The Internet service provider market in the Czech Republic is competitive with the largest ISPs, including Český Telecom subsidiary Internet OnLine (IOL), Contactel and Czech On Line offering free Internet access. However, as discussed later, Internet usage prices are high.

In many countries, there are rising concerns about the so-called "digital divide". These concern are also present in the Czech Republic. For instance, the Czech government has budgeted for an expenditure of US \$180 million over a five year period for connecting all schools to the Internet and for training teachers. But more concrete initiatives are required, including special tariffs for Internet use, as is being done in an increasing number of OECD countries.

Český Telecom introduced a package of special Internet tariffs in 1999 known as *Internet 99*. Subsequently, as part of its *Internet 2000* tariff, Český Telecom extended the hours of its off-peak tariff by two hours - starting the discounted rate at 7pm instead of 9pm during weekdays. However, tariffs remained high when compared with those prevailing in most OECD countries (as evidenced later).

Český Telecom has announced it would consider but has not yet introduced flat rate Internet pricing. It is notable that some regulators and governments in OECD countries have initiated regulations that would put in place flat-rate Internet access. For instance, in Spain a Royal Decree has mandated flat-rate off-peak Internet access. In May 2000, Oftel made a direction requiring BT to make available an unmetered wholesale Internet access product called "FRIACO,"³⁹ to enable other operators to offer their own unmetered Internet access products in competition with BT, by collecting traffic from BT's local exchanges. The regulator in the Netherlands has made a similar decision. In France, the Minister responsible has announced that the incumbent will be required to offer an unmetered interconnection rate in its reference offer. The telecommunications regulator in Germany, RegTP, also concluded that the incumbent be required to offer wholesale flat-rate access to Internet Service Providers by 1 February 2001.

In view of the importance of developing electronic commerce and Internet access call applications, the CTU should also give consideration to developing a flat rate Internet access call origination product (FRIACO) that would facilitate the offer of unmetered Internet connections.

3.8. *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.

Even though specific policies to liberalise the Czech Republic's telecommunication markets are still being established, the Czech government must already focus attention on the regulatory implications of convergence. A key need is to ensure effective co-operation and co-ordination between regulators in the various communications sectors. Co-ordination between the CTU and the Czech Council for Radio and TV Broadcasting (which is responsible for regulation of broadcasting) is particularly important.

It is also 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 the Czech Republic. As noted earlier, ISPs were allowed to offer VoIP since August 1999 well before expiry of Český Telecom's monopoly over voice service. The Act on Electronic Signature was passed by the Czech Parliament in 2000. This was the first law of its kind in the Central and East European region and endeavoured to remove a major obstacle to growth of Internet-based business.

4. PERFORMANCE OF THE TELECOMMUNICATIONS INDUSTRY

4.1. Introduction

The rationale for regulation is the desired effects it is expected to deliver. Thus regulatory impacts should be regularly and systematically reviewed to ensure that promised benefits are being delivered. In assessing regulatory impacts, the focus should go well beyond the number of new entrants to include:

- The nature and extent of accelerated network development and modernisation.
- Market and revenue growth.
- Lower prices.
- Increased range of services based on leading edge technology and infrastructure.
- Improved quality of service.
- Expanded customer choice.
- Enhanced productivity.
- Increased net benefits to the community.

4.2. Network development and modernisation

Network development and modernisation is important to the Czech Republic because of the present relatively low tele-density. As Table 8 indicates, the penetration rate in the Czech Republic has been improving steadily since 1990. However, the penetration rate of about 38 per 100 inhabitants in the year 2000, was among the lowest in the OECD. Moreover, because telecommunications infrastructure is crucial to the development of the Information Economy, accelerating the expansion and modernisation of network development has become even more important.

Table 8. Network penetration rate

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Number of fixed lines per 100 inhabitants	15.7	16.5	17.7	19.0	20.9	23.3	27.3	31.8	36.2	37.4	37.6

Source: Czech Ministry of Transport and Communications.

Table 9 indicates that while the increase in new lines installed was strong between 1996 and 1998, this fell away sharply in 1999. This slowing in the rate of expansion occurred despite a waiting list of some 74 000. Český Telecom acknowledges that by the end of the year 2000, there were still about 50 000 on the waiting list for a fixed line telephone connection, but explained that 90% of these had been waiting for less than 3 months. This situation compares poorly against the circumstances in most OECD countries where waiting lists have declined to negligible levels. Český Telecom cannot rest on its achievements and should be sustaining rather than winding down effort towards network development and modernisation.

Table 9. Fixed line network development indicators

	1996	1997	1998	1999	2000
Number of lines installed ('000)	2 815	3 274	3 734	3 839	3 853
Increase in new lines installed ('000)	417	459	460	105	14
Waiting list ('000)	577	406	141	74	35
CAPEX as % of revenue	93	88	72	35	30
Gearing ratio	20	31	43	38	32

Source: Český Telecom, Annual Report 2000.

The reduction in Český Telecom's fixed line network expansion programme is reflected in its capital expenditure. As Table 9 indicates, capital expenditure as a percentage of revenue declined from 93% in 1996 to 88% in 1997 to 72% in 1998 and then dropped sharply to 35% in 1999 and further to 30% in 2000. This is disappointing for a telecommunications operator in a high growth sector and in a country wherein there is a pressing need for rapid network development and modernisation and, indeed, where rapid network development is part of the licence requirement. A company operating in such circumstances might be expected to not only be drawing more significantly on its internal resources for capital expenditure, but also to be supplementing internal funds with loans and equity injections. The relative decline of investment by Český Telecom also has negative impacts on new entrants since carrier selection and number portability and local loop unbundling will depend on an upgraded network.

If Český Telecom claims that the rate of increase of network expansion has slowed because there has not been the demand to warrant a higher increase, there would be need to consider the extent to which it is excessively high fixed line tariffs (and poor marketing and customer care) that are restraining the strong growth in demand evident in most countries.

Digitalisation

A similar concern applies to network modernisation. While as Table 10 indicates, Český Telecom's network digitalisation has improved between 1993 to 2000 to cover 81% of the network, it has a digital coverage considerably behind that of many other OECD countries that have already achieved 100% coverage. It is important that Český Telecom carry out its intention is to achieve full digitalisation by the year 2002.

The Czech government should conduct and publish its assessment of Český Telecom's performance in network development and modernisation including the extent to which the company has met license provisions including those with respect to quality of service performance.

Table 10. Český Telecom's rate of digitalisation

	1993	1995	1997	1998	1999	2000
Czech Republic	10.0	17.0	54.6	64.1	74.4*	81
Greece	22.0	37.1	47.1	74.5	90.6	
Ireland	71.0	79.0	92.0	100.0	100.0	
Poland	9.5	48.0	58.0	62.0	68.0	
Portugal	59.0	70.0	88.3	98.0	100.0	
OECD avg.	58.8	74.8	87.5	92.1	94.2	

* Český Telecom's Annual Report for 1999 declares the level of digitalisation as at 1999 to be 77%. Český Telecom advised that the level of digitalisation as at January 2001 was 85%.

Source: OECD, *Communications Outlook 1999*, and *Communications Outlook 2001*.

4.3. Market and revenue growth

Since financial performance of the incumbent influences its capacity for network expansion and modernisation, and that of the new entrants their continued operations in the market, it is important to identify how regulatory reform is impacting on the revenue and profits of telecommunications operators.

Český Telecom's revenue rose by 10% (net profit rose by 3%) to 57.2 billion Czech Crowns, driven by fast growing sales at mobile phone unit EuroTel, data-related services, and fixed-line subscription revenue.

České Radiokomunikace's overall revenue including television, radio and data transmission, grew 5.4% to 1.16 billion crowns. However, consolidated profit dropped in the first half on fixed-line losses. The company said net profit dropped to 341 million crowns (US\$8.6 million) from 523 million in 1999. Part of the loss was due to a one-off charge of 132 million Czech Crowns.

In the first half of the financial year 2000/2001, a fixed line operating loss of 108 million Czech Crowns (compared with a profit of 81 million in 1999), was incurred, resulting from losses experienced by its 168 million Crown share of the losses incurred by Contactel (a 50-50 venture with TeleDanmark). However, earnings from its mobile phone arm, Radiomobil (profitable since 1998) increased sharply with the mobile company contributing 511 million Crowns resulting in a profitable overall financial result.

Cellular mobile services

The relatively low fixed line penetration and waiting lists for connection provided an opportunity for mobile operators. As noted earlier, Český Telecom's EuroTel commenced providing mobile service in 1991. RadioMobil was awarded the second license in 1996 and Cesky Mobile the third license in 1999 (launching operations in March 2000).

Both EuroTel and RadioMobil began offering pre-paid cards in November 1997, resulting in a substantial boost in subscribership and usage of mobile service. EuroTel's total subscribers doubled in one year from 1.07 million at the end of 1999 to 2.2 million at the end of 2000. By December 2000, the three Czech mobile carriers together registered more than 4.32 million active subscribers, which was a year-on-year increase of 122%.

The number of mobile phone users now exceeds that of fixed line subscribers which totalled 3.85 million at the end of 2000. Mobile customers are expected to total about 5.5 million by the end of 2001, to constitute a penetration rate of about 55 per 100, well ahead of fixed line.

4.4. Development of competition

Since competition has been permitted only from 1 January 2001, only a short time has elapsed since the commencement of competition in fixed line service for assessing performance on this basis. Český Telecom continues to dominate PSTN voice service but is facing growing competition from the alternative suppliers particularly for business customers. Now that the interconnection agreements are being concluded, the competition can be expected to intensify. In the liberalised data market, where some strong players have developed, prices have fallen significantly, and Český Telecom's market share has fallen from 100% (in 1992) to less than 25% in early 2001. This is far more than has occurred in many countries where the incumbent has frequently continued to dominate the data market.

As noted earlier, mobile competition is strong⁴⁰ and has driven down prices and improved quality of service and customer care to such an extent that mobile subscribership now exceeds fixed line service.

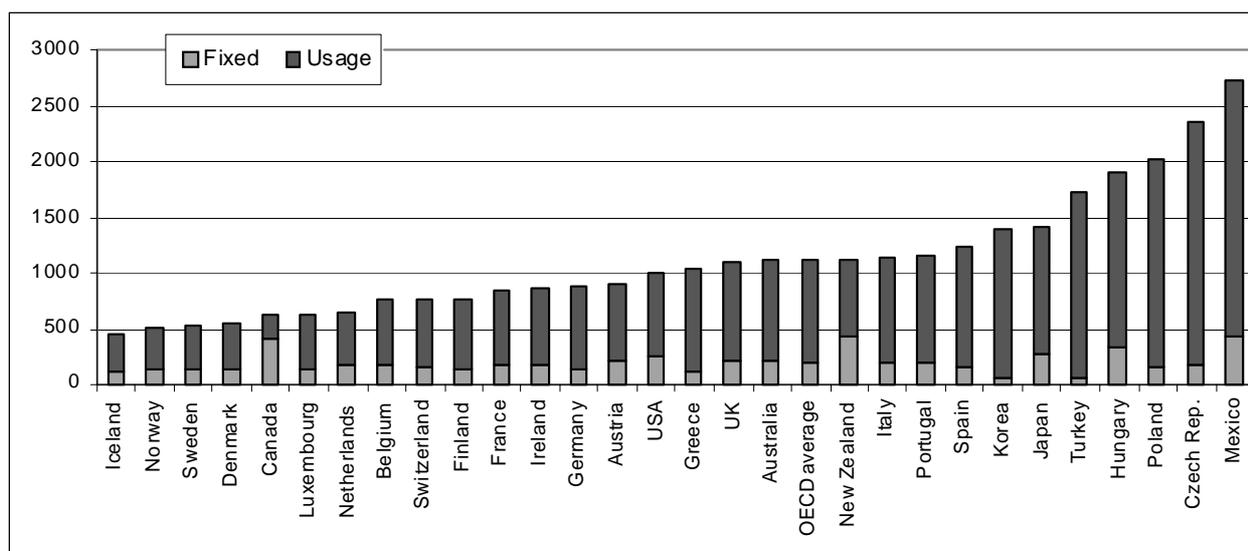
In both mobile and fixed line service, the entry of new operators with new technology, products and services is expanding the range of customer choice.

4.5. Price performance

As Figure 2 indicates, prices (of a composite basket of calls) for business users in the Czech Republic were second highest among OECD countries for business users. Moreover, as Figure 3 indicates, prices for residential users were fourth highest in the OECD.

These price comparisons are those of the incumbent and do not take into account recent special discount prices or prices of new entrants. For instance, in January 2001, Contactel announced a price decrease for its Voice Plus service that would allow its customers to make calls, based on ISDN technology, that are on average 20% cheaper than Český Telecom's prices.

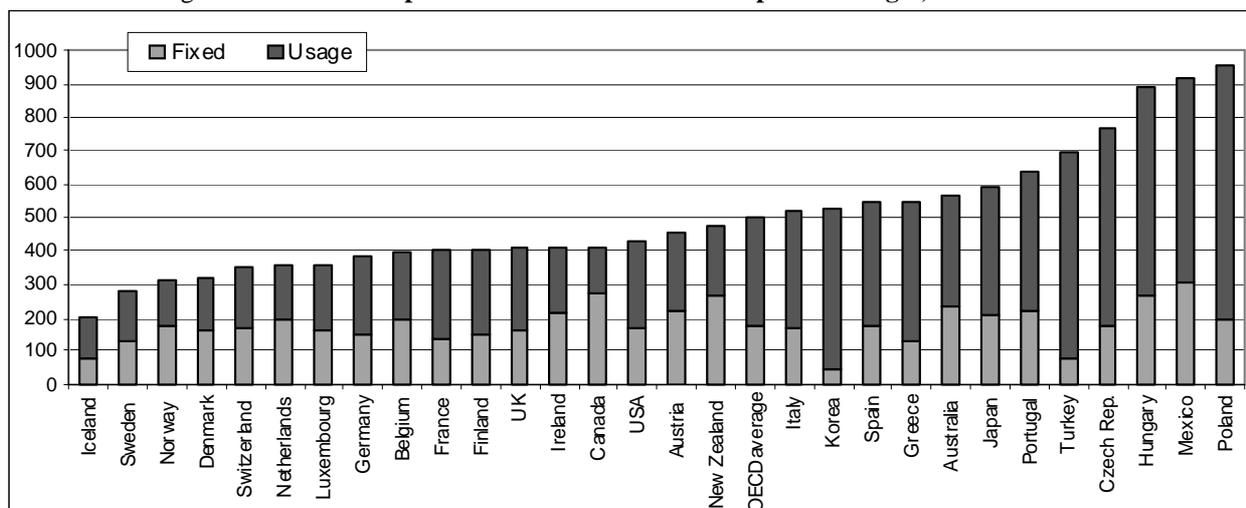
Figure 2. OECD composite basket of business telephone charges, November 2000
(in US\$/PPP)



Note: VAT is excluded; Calls to mobiles are excluded.

Source: OECD.

Figure 3. OECD composite basket of residential telephone charges, November 2000



Note: VAT is excluded; Calls to mobiles are excluded.

Source: OECD.

In March 2001, tariffs offered by Aliatel, which launched an increased range of telecommunications services on March 5, included charges of 1.37 Czech Crowns per minute for local calls during the peak period and 0.74 Crowns for off-peak local calls, compared with Český Telecom's 1.45 Crowns and 0.80 Crowns respectively. Following the trend initiated by Cesky Mobil in the mobile market, Contactel and Aliatel are offering a per-second charging rather than the per-minute charging used by Český Telecom.

Český Telecom is beginning to respond vigorously to the challenge of new competitors with its own new services and price discounts. The tariff on long distance calls during off-peak periods (22.00 — 5.00) has been reduced to 1 Kc per minute. As of 1 April 2001, customers have the choice of three price programmes with differing prices for the monthly standing charge and call prices.⁴¹ The "Home Standard" programme is the standard option customers are automatically included in.⁴²

The "Home Mini" must be specifically ordered and is expected to be attractive for low users who make only a few calls, and have a telephone primarily to enable others to call. Under the scheme, ninety crowns of free credit are provided each month, which can be used for local, long-distance and international calls. But the price for calls is twice as much as it is with the "Home Standard" programme.

With the "Home Standard" programme, ninety crowns worth of calls are provided free for certain type of calls. This allows up to 56 minutes of local calling off peak or up to 31 minutes during the peak period, up to 26 minutes of long-distance calling off peak, or up to 12 minutes during the peak period

The "Home Maxi" scheme must also be specifically requested by a subscriber. Český Telecom considers that this programme is likely to be attractive to a household with a heavy volume of long-distance and international traffic, especially during the peak period. It is distinguished from the "Home Standard" through: reduced price for long-distance calls during the peak period (CZK 3.50/min) and a reduced price for international calls during the peak period (the discount is from CZK 0.50 to CZK 11.40 per minute). However, the monthly subscribership charge is increased (225 crowns per month and 130 crowns per month for a party line).

As Table 11 indicates, for international calls too, Český Telecom's prices for both business as well as residential users were amongst the highest in the OECD. For business users, prices were higher only in Mexico. For residential users, prices were higher only in Mexico, Poland, Hungary and Turkey.

Table 11. OECD basket of international telephone charges, August 2000

	Business Excluding tax		Residential Including tax	
	<i>USD</i>	<i>USD PPP</i>	<i>USD</i>	<i>USD PPP</i>
Australia	0.80	1.03	1.12	1.44
Austria	0.80	0.87	1.21	1.32
Belgium	1.17	1.34	1.56	1.79
Canada	0.21	0.26	0.74	0.92
Czech Republic	1.18	3.11	1.26	3.31
Denmark	0.50	0.44	0.81	0.71
Finland	0.77	0.74	1.08	1.04
France	0.60	0.65	0.75	0.81
Germany	0.79	0.86	1.16	1.26

Greece	0.89	1.26	1.35	1.90
Hungary	1.11	2.77	1.77	4.43
Iceland	0.79	0.63	1.25	1.00
Ireland	0.55	0.65	0.76	0.89
Italy	0.93	1.18	1.35	1.71
Japan	2.90	1.78	3.25	1.99
Korea	2.38	3.83	2.77	4.46
Luxembourg	0.52	0.58	0.66	0.74
Mexico	3.25	4.51	3.94	5.47
Netherlands	0.33	0.38	0.48	0.55
New Zealand	0.77	1.09	1.06	1.50
Norway	0.46	0.40	0.71	0.62
Poland	1.49	2.87	2.35	4.51
Portugal	0.97	1.49	1.38	2.12
Spain	1.09	1.49	1.52	2.08
Sweden	0.39	0.35	0.61	0.56
Switzerland	0.30	0.25	0.37	0.31
Turkey	1.67	3.10	2.07	3.84
United Kingdom	0.87	0.80	0.94	0.87
United States	0.55	0.55	0.87	0.87
OECD average	1.00	1.35	1.35	1.38

Source: OECD and Teligen.

Accounting rates

Adjustments have also been made in accounting rates, which in 1996 were considerably out of line with best practice (Table 12). Significant efforts have been made to reduce these rates, although there is still scope for further reductions.

Table 12. Accounting rates with the United States (USD)

	1996	1997	1998	1999	2000
Czech Republic	0.72	0.67	0.55	0.37	0.35
Greece	1.01	0.86	0.55	0.30	0.26
France	0.35	0.26	0.21	0.20	0.20
Ireland	0.35	0.33	0.19	0.19	0.20
Italy	0.52	0.33	0.22	0.22	0.21
Portugal	0.83	0.60	0.43	0.30	0.29
Spain	0.64	0.48	0.26	0.27	0.27
United Kingdom (BT)	0.36	0.20	0.21	0.21	0.20

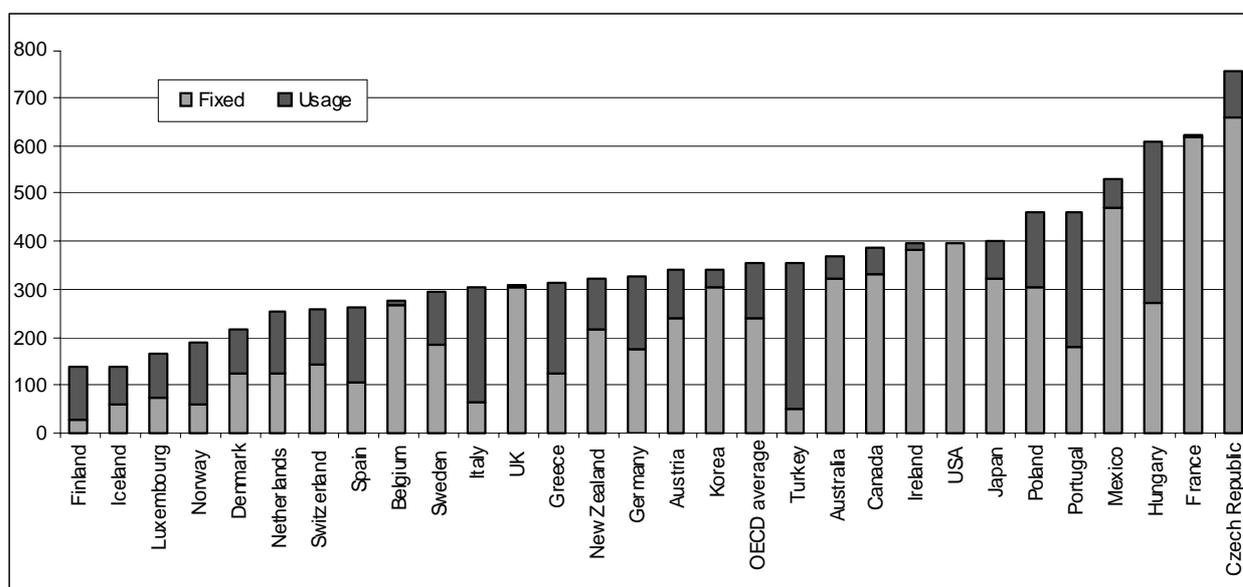
Source: International Bureau, Federal Communications Commission, US.

4.6. Mobile price

Figure 4 indicates that the price of a basket of mobile service as at November 2000 was the highest in the OECD in PPP (purchasing power parity) terms. However, usage charges were relatively low, and customers using prepaid cards could in fact have been facing relatively low usage charges.

Moreover, prices of mobile calls have been falling and prices for mobile to mobile calls are lower than for fixed to mobile calls. As well, consumers for mobile service are being offered an expanded choice of “pricing packages” including connection price, monthly usage, prices for individual categories of calls (including free minutes) and other services. These expanded pricing options offered by all three mobile operators enable the subscriber to select the price package according to expected use. For instance, subscribers with a small number of calls could opt for a package with a low monthly flat rate and a higher price for calls.

Figure 4. OECD basket of consumer mobile telephone charges, November 2000
(in US\$/PPP)



Note: The basket includes 50 minutes per month and excludes international calls. VAT is included.

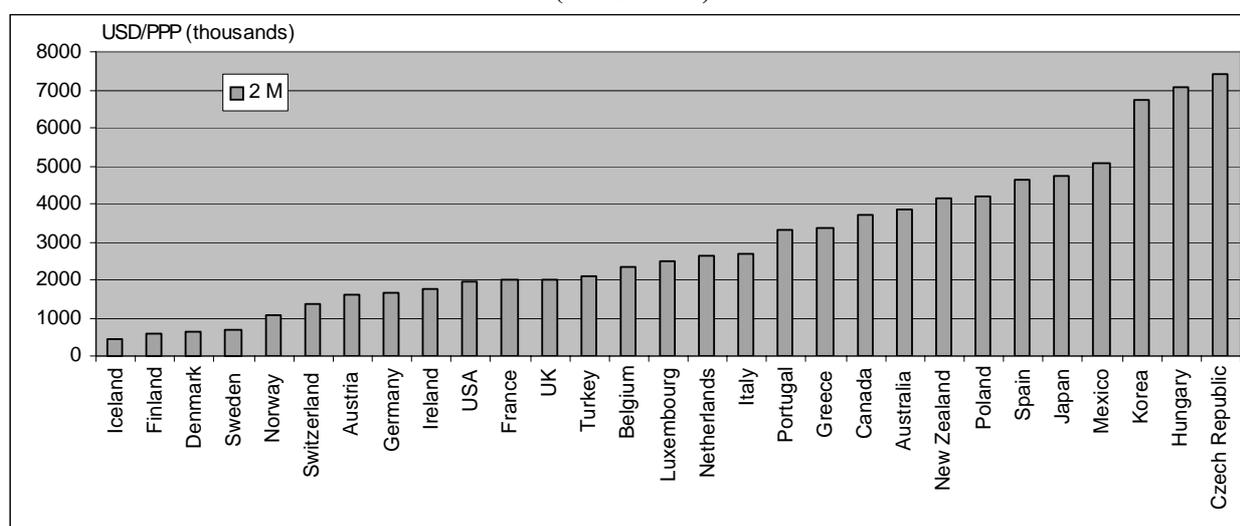
Source: OECD and Teligen

Leased lines

The rapid availability of leased lines at cost-oriented prices is important, not least for the provision of cheaper Internet services and the development of e-commerce services. As Figure 5 indicates, an OECD comparison of leased line tariff baskets as at November 2000 (adjusted for purchasing power) ranked prices in the Czech Republic the highest among all OECD countries.

The high prices of leased lines in the Czech Republic makes it especially important that the EC directive on cost based prices for leased lines is applied. In this context, the absence of any provision to this effect is a serious omission that should be addressed urgently. CTU should also consider the use of a price cap regulation of leased line charges.⁴³

Figure 5. Comparison of OECD leased line tariff baskets, November 2000
(in USD/PPP)



Note: VAT is excluded.

Source: OECD.

4.7. Internet pricing performance

As elsewhere, the Internet is a growing presence in the Czech Republic. But the high price of Internet access in the Czech Republic could retard developments.

An OECD survey of prices in 29 countries for a basket of Internet-access hours in September 2000 found that the Czech Republic ranked fourth most expensive (in purchasing power parity terms) behind Hungary, Poland and Portugal.

For twenty hours of Internet access at peak time using discounted Public Switched Telecommunication Network (PSTN) rates, including Value Added Tax, users in the Czech Republic would pay US\$109.93 (in purchasing power adjusted terms). The only country where Internet access was more expensive was Hungary (where users would pay US\$131.60 in adjusted dollar terms).

Table 13 indicates that despite a relatively low PSTN fixed charge, for 30 hours of Internet access at peak time, users in the Czech Republic paid about US\$145 (in purchasing power parity terms) which was second highest in the OECD (after Hungary).

For forty hours of peak usage, the Czech Republic was the second most expensive behind Hungary and would cost users about US\$180. This compared poorly against the US\$35.40 users would pay in the United States.

As Figure 6 indicates, for a basket of 20 hours for off-peak use (essentially when Internet 2000 tariffs would be in force), the Czech Republic ranked third (at \$53.94 PPP adjusted), *was the second most expensive country in the OECD*.

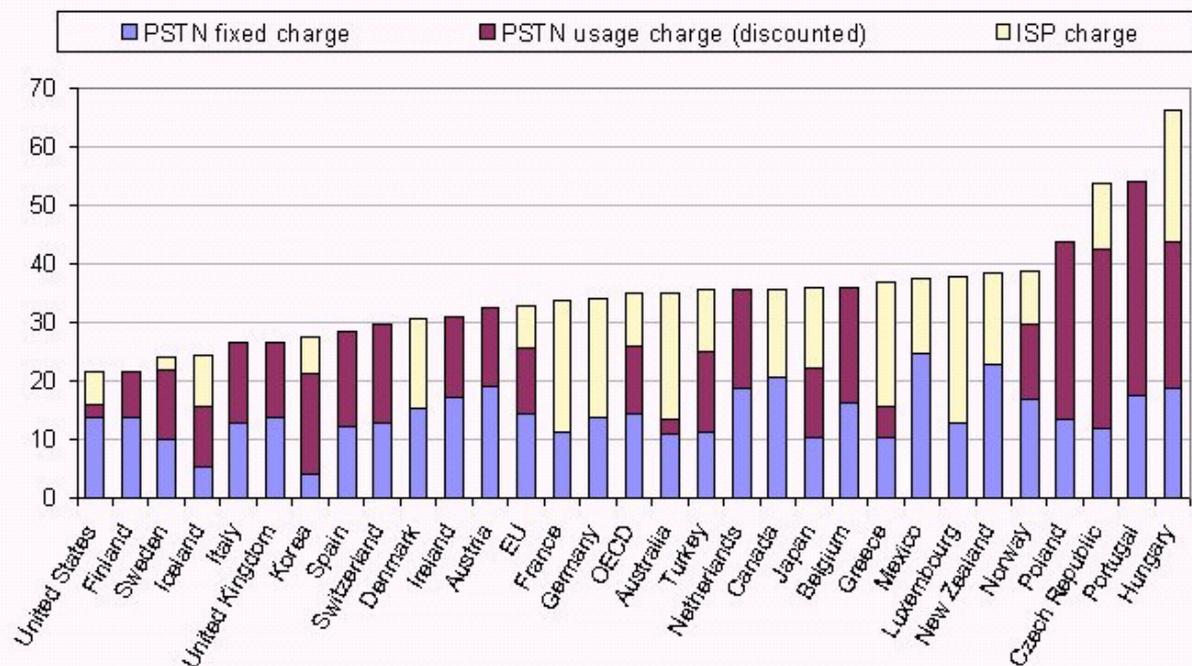
Table 13. **OECD Internet Access Basket for 30 hours at peak times using discounted PSTN rates, including VAT, September 2000**

	PSTN fixed charge		PSTN usage charge		ISP charge		Total	
	USD	USD PPP	USD	USD PPP	USD	USD PPP	USD	USD PPP
France	11.64	11.19	0.00	0.00	23.72	22.81	35.36	34.00
United States	14.29	14.29	3.50	3.50	16.45	16.45	34.23	34.23
Italy	12.43	13.97	18.52	20.81	0.00	0.00	30.96	34.79
Korea	2.42	3.90	15.70	25.32	3.77	6.09	21.89	35.31
Finland	11.55	11.41	17.15	16.95	7.26	7.17	35.97	35.53
Canada	17.11	20.61	0.00	0.00	12.63	15.22	29.74	35.83
Mexico	17.01	23.62	0.00	0.00	8.88	12.34	25.89	35.96
Australia	8.55	9.71	2.78	3.16	21.60	24.55	32.92	37.41
Turkey	2.11	3.83	6.58	11.96	12.28	22.33	20.96	38.12
Japan	18.45	10.61	34.07	19.58	21.77	12.51	74.29	42.70
New Zealand	17.73	22.73	0.00	0.00	17.07	21.89	34.80	44.61
Iceland	7.30	5.57	39.72	30.32	12.32	9.41	59.35	45.30
Greece	7.95	9.82	12.44	15.36	17.28	21.34	37.68	46.52
Germany	12.42	11.94	27.02	25.98	9.96	9.58	49.40	47.50
Sweden	12.07	10.14	41.84	35.16	2.76	2.32	56.67	47.62
Norway	19.17	14.52	37.71	28.57	11.82	8.95	68.70	52.05
Spain	11.55	14.08	38.95	47.51	0.00	0.00	50.50	61.58
OECD average	13.63	15.84	30.27	32.94	11.63	13.78	55.53	62.57
Netherlands	15.37	15.84	46.10	47.53	0.00	0.00	61.47	63.37
Ireland	15.40	16.56	30.94	33.26	15.04	16.17	61.37	65.99
Denmark	15.81	12.35	69.09	53.98	0.00	0.00	84.91	66.33
Switzerland	15.36	11.72	72.98	55.71	0.00	0.00	88.34	67.44
United Kingdom	19.12	16.48	65.94	56.84	0.00	0.00	85.06	73.32
Austria	17.07	16.41	67.86	65.25	0.00	0.00	84.93	81.66
Luxembourg	13.39	13.39	0.00	0.00	70.24	70.24	83.64	83.64
Portugal	12.79	17.53	34.96	47.89	18.93	25.94	66.69	91.35
Poland	5.88	10.89	47.65	88.25	0.00	0.00	53.54	99.14
Belgium	15.85	16.18	87.19	88.97	0.00	0.00	103.05	105.15
Czech Republic	4.82	11.22	45.14	104.98	12.35	28.73	62.32	144.93
Hungary	39.12	88.91	13.20	30.01	20.19	45.90	72.52	164.81

Note: PSTN fixed charges include monthly rental fee and additional monthly charges related to discount plans, if applicable. The basket includes 30 one hour calls. In France and Luxembourg, ISP and PSTN usage charges are bundled and included under the ISP charge.

Source: OECD, <http://www.oecd.org/dsti/sti/it/cm/>.

Figure 6. OECD Internet access basket for 20 hours at off-peak times using discounted PSTN rates, September 2000 (US\$/PPP, including VAT)



Note: PSTN fixed charges include monthly rental fee. The basket includes 20 one-hour calls. Off peak is taken at 20h00. In some countries, ISP and PSTN usage charges are bundled and included under either the ISP or the PSTN charge.

Source: OECD, <http://www.oecd.org/dsti/sti/it/cw/>

4.8. Quality of service indicators

Quality of service can be expected to show significant improvements as a result of improvements in telecommunications technology that has significantly improved quality of service worldwide. But competition will also exert pressure for improvement in quality of service. Indeed, quality of service is a key element of competitive strategy for a number of operators.

As noted earlier, the telecommunications operators in the Czech Republic are required to provide service quality data to CTU. CTU 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 CTU a levy for the assessment service. However, CTU'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, CTU 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.

4.9. Productivity

Total factor productivity estimates for the Czech Republic are not available. A simple measure of labour productivity is the number of access lines per employee. Although this measure has some deficiencies,⁴⁴ it is useful as a point of comparison. Labour productivity in telecommunications has increased rapidly in the Czech Republic as a result of the growth in infrastructure combined with a reduction of Český Telecom's workforce (Table 14). Český Telecom's workforce was reduced by 14% to 17 322 in 2000, increasing the number of lines per employee by 16% to 222. The reduction in Český Telecom's workforce is being compensated through new employment creation in new entrants, for example, the mobile companies.

Table 14. **Employment and labour productivity**

Year	1996	1997	1998	1999	2000
Total number of employees (Český Telecom only)	26 314	22 938	21 815	20 115	17 322
Český Telecom lines per employee	107	143	171	191	222

Source: Český Telecom, Annual Reports.

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). CTU should require Český Telecom to publish productivity estimates to enable improved monitoring and to assist in setting the "X" factor in the price cap formula. CTU should also take steps to improve its own expertise in undertaking productivity studies.

4.10. 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 the Czech Republic to accelerate deployment of the infrastructure requirements of the information economy. This will help position the Czech Republic 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, Český Telecom's employees fell from about 21 815 in 1998 to 20 115 in 1999 and 17 311 in the year 2000. There is a strong likelihood that this number will need to be reduced further.

The data do not allow jobs recently created by new entrants to be detailed. 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.

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.

5. CONCLUSIONS AND RECOMMENDATIONS

While a good start to regulatory reform has been made, much more needs to be done. The Czech Republic has the opportunity of applying 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.

This concluding section draws on the preceding discussion to assess the strengths and weaknesses of regulatory reform in the Czech Republic and makes recommendations that would help address these weaknesses.

5.1. *General assessment of current strengths and weaknesses*

Box 2. **Strengths**

The regulatory reform in the Czech Republic displays some distinct strengths, including:

- Acceptance by the Czech government of the need for effective pro-competitive regulation;
- Pro-competitive telecommunications legislation installed in July 2000 that is broadly consistent with EU and WTO regulatory principles;
- A more simplified and transparent licensing procedure and conditions;
- Establishment of an independent regulator;
- Interconnection agreement with the major new fixed line operators (Contactel and Aliatel) signed in March 2001 (although with more delay than necessary);
- Early development of industry self-regulation; and
- Encouraging signs that a strongly competitive mobile sector is developing.

Box 3. Weaknesses

However, there are some significant weaknesses in the Czech Republic's regulatory regime, including:

- Delay in installing essential prerequisites for competition by the regulatory regime, such as carrier selection and pre-selection, and number portability;
- Difficulties faced by new entrants in obtaining interconnection expeditiously remain;
- High interconnection charges are based on contentious fully allocated costs (FAC) and not (as should be) on long-run incremental costs;
- Lack of adequate consultation and transparency in regulatory rule-making and decision-making by the independent regulator, CTU;
- Perception of heavy bias in Český Telecom's favour (to boost its privatisation prospects) including presence of government officials on the board of Český Telecom and České Radiokomunikace and the incompleting privatisation of Český Telecom.
- Lack of costing analysis to resolve:(i) the nature and extent of price re-balancing still necessary; (ii) interconnection charges based on LRAIC; and (iii) nature, extent and significance of universal service burdens (and the necessity for a universal service fund);
- No provision in the new telecommunications Act for mandatory unbundling of the local loop and inadequate signs of recognition on the part of the regulator that this is necessary to increase competition in the local market as well as the Internet service supply market;
- Inadequate CTU staff (within the current staff profile) with the expertise necessary to regulate effectively in a competitive environment and a Competition Office that is lacking in resources and requisite skills.

5.2. *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, experience of OECD countries testify to the benefits that can be delivered by market liberalisation. Indeed, section 4 of this document pointed to some early evidence that some benefits are already identifiable in the Czech Republic. The onset of competition and the entry of new operators backed by international companies is yielding benefits by way of:

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

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.

On the costs side, as noted earlier, problems with billing could increase. Český Telecom's move to reduce staff numbers due to competitive pressure could result in some job losses. However, job opportunities appearing as a result of new entrant activity will help offset job losses at Český Telecom.

The regulatory challenge to ensure delivery of the potential benefits of competition and minimise its costs in the Czech Republic is a formidable one. But the potential benefits are substantial.

5.3. *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).

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

The allocation of a number of important responsibilities to the independent regulator as established in the new law should improve the effectiveness of regulation and help eliminate any potential conflict between the regulator, CTU, and the Ministry (MTC CR).

However, the presence of senior officials from the MTC CR on the supervisory boards of operating companies compromises the separation of regulatory and operating functions. The government has reiterated its intention of disposing of the state's remaining shareholding and it is true that when this happens, the question of separation will diminish in importance. But since, until this happens, the issue will continue to raise serious concern, it should be addressed without delay. In this context, there is also need to ensure full regulatory separation (at Ministry level) for as long as there is state shareholding in any operator. A specific issue that illustrates the broader concern is the requirement in the Act that CTU "discuss" pricing regulation decisions with the Ministry of Finance (Prices Board). This requirement raises concerns about the undefined involvement of the ministry in pricing decisions and should be removed.

- *Allow government officials on the boards of Český Telecom and České Radiokomunikace to resign their positions immediately and ensure full regulatory separation (at Ministry level) for as long as there is state shareholding in any operator.*

Transparency in regulation applies also to licensing procedures. Licensing reform to facilitate market entry would best occur through implementing a general class licensing framework rather than be based on individual licences. The Czech Republic's reforms in licensing goes some way towards simplification. However, delays in being awarded a license well beyond the 40-day limit have been experienced and some onerous license conditions (such as those relating to a business plan and network development) remain. The Czech Republic should be trying to catch up from its late start in market liberalisation by making market entry as easy as possible.

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

But pro-competitive legislation and licensing reform while necessary are not sufficient. Vigorous application of the regulatory framework to ensure post-entry competition is also necessary. To help ensure effective regulation, CTU should be re-profiled with staff possessing the requisite skills. CTU 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. CTU 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 provide measures of the regulator's own performance.

- *Re-profile CTU staff resources to ensure that expertise is appropriate to a competitive environment.*

The implications of the need for CTU to “discuss” with the Ministry of Finance in decisions concerning the regulation of domestic telecommunications prices is unclear. It is pertinent to sound the warning that the regulation of prices by government decision-making 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 be on the basis of an ‘arm’s length’ price cap regulation scheme designed and applied by CTU without susceptibility to government influence that can overrule the scheme.

- *Ensure that prices are re-balanced as rapidly as possible with a specified transparent time schedule for achieving this goal.*

As noted earlier, the price cap system to be used in the Czech Republic is too complicated and should be simplified. Moreover, 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. The price cap regime should also be structured to achieve rebalancing as rapidly as possible.

- *Streamline and simplify the price cap system.*

Assuring interconnection to the incumbent's public switched telephone network is a key competitive safeguard. Such safeguards are particularly important where the incumbent carrier is vertically integrated into local, long distance and other services and therefore with strong incentives to hinder equal access. Progress in establishing an effective interconnection regime is important to assuring that the benefits generated from competitive market structures are fully realised. The current methodology used to determine interconnection charges forces new entrants to pay high interconnection charges. 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 and the requisite data for doing so has not been provided by Český Telecom. Until this is done, interconnection prices should be related to EU best practice prices. Consideration should also be given to introducing an interconnection offer to allow for unmetered interconnection services for Internet. The development of competition and local loop unbundling require that prices are re-balanced. CTU and Český Telecom need to agree on a target date to achieve rapid re-balancing.

- *Impose EU best practice interconnect rates on Český Telecom immediately and proceed without further delay to complete cost studies for the purposes of guiding LRAIC based interconnection prices.*

Local loop competition will not be able to develop effectively unless number portability and pre-selection allows customers to reduce the ‘transactions costs’ of changing service provider and choosing the cheapest provider. A major concern is that the new law does not compel the provision of carrier selection facilities as soon as new entrants are allowed to enter the market (as required by the EC *acquis*). These carrier selection and number portability facilities are essential to achieving the objective of full liberalisation and any delay in providing them impedes the development of effective competition. Measures should now be taken to ensure that they are in fact made available as soon as possible. In effect, the full liberalisation on 1 January 2001 originally promised, has now been delayed to 1 July 2002 when carrier selection must be introduced. Indeed, arguably the delay is effectively until 31 Dec 2002 because there is no obligation on the incumbent to provide carrier pre-selection and number portability until this time. As the network is upgraded, there will be more and more areas wherein carrier selection facilities will become technically possible. At least one form of carrier selection must be introduced immediately, wherever practicable. There is no need to wait until it is possible in *all* areas.

The delay that has been given to Český Telecom to implement these requirements effectively strengthens its market power and slows down competition. Český Telecom has had a sufficient lead-time to prepare for competition so that no further delays are warranted. This is important in the fixed telecommunications service market but should also be implemented for the mobile market.

- *Implement number portability and full carrier selection and pre-selection as rapidly as possible and ensure that numbering allocation policies for both fixed wireline and mobile carriers are competitively neutral.*

The regulator needs to ensure that access to unbundled elements of Český Telecom’s network, including any xDSL 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 Český Telecom to provide unbundled elements of its network should be restricted to a specified period.

- *Require Český Telecom to provide unbundled access to its network by other operators on reasonable terms, including any xDSL enhanced segments.*

To date the cost estimates to establish the level of demonstrable loss has not been completed. This is generating considerable uncertainty in the market and the matter needs to be resolved quickly. European Commission directives require that before considering the need for a universal service fund, it must be determined whether the burden of being the universal service provider constitutes an unfair competitive disadvantage. This task too has not yet been completed.

- *Proceed without further delay to estimate the net cost of universal service obligation for Český Telecom and, if considered necessary, promptly establish an explicit, portable, competitively and technologically neutral universal service fund.*
- *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.*

The Czech Republic has the opportunity to draw on the regulatory experience of other OECD countries that opened their telecommunications markets to competition earlier. It can benefit through incorporating the regulatory “best practices” gleaned from these experiences. But the vigorous implementation of the provisions of the new Telecommunications Act and regulatory frameworks is also crucial if the Czech Republic’s market liberalisation is to deliver its promised benefits.

It is also crucial that regulations be abandoned or modified as competitive circumstances change and regulations once appropriate are no longer necessary and may indeed, become a constriction to market dynamics especially in fast converging technological and commercial markets.

- *Establish a mechanism to ensure that regulations in all areas of telecommunications are regularly and systematically reviewed to ensure they are achieving their intended purpose and with a view to eventual streamlining.*

Improved information will be necessary to facilitate the regular effective review of regulations. Under the terms of its mandate, CTU is responsible for collecting data, including quality of service 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.

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

- *CTU should ensure that accurate, timely information sufficient for consumers to compare the prices and service qualities of carriers is published.*
- *Review, and strengthen where necessary, the scope, effectiveness and enforcement of competition policy.*

Intensifying competition in telecommunications sector 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.

- *Use asymmetric regulation in areas where Český Telecom’s market power could obstruct the development of effective competition.*
- *Ensure that the Competition Office has adequate staff with appropriate skills to operate effectively in a competitive environment, and this should be planned for immediately.*
- *The Competition Office and CTU should build on the Memorandum of Co-operation they signed in January 2001 to articulate clear procedures to ensure sustained co-operation in pro-competition regulation.*

NOTES

1. The Czech Republic applied for EU membership on 17 January 1996.
2. KPN has suggested that in view of the drop in the share price and uncertainty in the telecommunications sector, the Czech government consider postponing privatisation of Cesky Telecom by one or two years. "KPN recommends delayed CT sale", Czech A.M., 19 October 2000.
3. 27% of the company is owned by a consortium, TelSource, 6.5% by KPN (Royal Dutch Telecom) and the remaining 15.4% is in the hands of other shareholders. KPN has indicated that it wants to divest its share in the company.
4. "Government chooses Czech Telecom for network", *Reuters*, March 2001.
5. Emir Halilovic, "Paegas joins fixed-line fray-mobile operator to offer full service after receiving fixed-line licenses", *Prague Business Journal*, 23 April 2001.
6. Thirteen companies took part in the "beauty contest" tender with strong international players among the bidding companies, including Dutch cable operator UPS, and French telecommunications operator, Vivendi.
7. *Dow Jones Newswires* 16/02/01. 16-43G
8. There were no conditions stipulated as in Hungary, where ISPs are only permitted to offer VoIP if the quality of service is worse than that of service provided by the fixed line or mobile telecommunications operators.
9. Government of the Czech Republic, Office of Economic Competition, Communication with OECD Secretariat, 2000.
10. Ministry of Transport and Communications response to OECD questionnaire.
11. See Com(2000) 386 Final, Proposal for a Directive of the European Parliament and the Council on the authorisation of electronic communications networks and services, Brussels 12.07.2000.
12. CzechRep ready to launch UMTS, Czech News Agency, 13 February 2001.
13. Czech Republic: Czech operators interested in UMTS, but at what cost? Reuters News Service 5 February 2001.
14. Czech Republic: Czech operators interested in UMTS, but at what cost? Reuters News Service 5 February 2001.
15. 2000 Regular Report From the European Commission on the Czech Republic's Progress Towards Accession, 8 November 2000, p. 77-78.
16. Section 2(3) of the Prices Act states that: "...the seller shall not abuse its economic position to gain an unreasonable economic benefit by a sale for a price that includes unjustified costs or unreasonable profit. The purchaser shall not abuse its economic position to gain an unreasonable economic benefit by a purchase for a price that is substantially below the reasonable costs..."

17. Nor is there any mention of cost orientated charges in the Decree of the Ministry of Transportation and Communication of June 30, 2000 on the scope of leased telecommunications lines, and on their technical parameters.
18. OECD, *Communications Outlook 1999 & Communications Outlook 2001*.
19. Milan Rusnak and D. Schoch (of GTS Czech Republic), Interconnection agreements as seen from an alternative operator's perspective, 31 January 2001.
20. The Prague Post, "Telecom liberalisation stalls", January 24-30, 2001, page B2.
21. Cesky Telecom has reportedly disclosed that it has signed interconnect agreements with eight more operators, including three mobile operators (EurotelTel, RadioMobil and Cesky Mobil) and four limited local network operators (Factcom, GTS, Dattel, and Kabel plus, a subsidiary of cable operator UPC, and Telecom 21. See E. Halilovic, "Convergence the watchword of telecoms market this year", Prague Business Journal, 26 March 2001.
22. "Accomplishment of rebalance and elimination of cross financing is the main condition for the liberalisation of the public telephone service in the Czech Republic", Ministry of Transport and Communications, National Telecommunications Policy of the Czech Republic, 1999.
23. Czech Government communication to the OECD.
24. Czech Ministry of Transport and Communications response to OECD questionnaire.
25. US Department of Commerce, *Telecommunications Overview*, August 1999.
26. In the EU, 69 operators use carrier pre-selection for the provision of local calls and 180 for long-distance and international calls, while 129 operators use carrier election for providing local calls and 311 for long-distance and international calls. In all, 861 access codes have been allocated to new entrant players for the provision of such calls. See Sixth Report on the Implementation of the Telecommunications Regulatory Package, Brussels, 7 December 2000. COM(2000)814.
27. An additional source of concern relates to municipalities which have in certain countries themselves entered the market and rolled out their own networks while simultaneously having powers to grant rights of way to new entrants. In France, the regulator restricts municipalities from rolling-out dark fibre to be leased to new entrants. In Germany, the regulator has taken to prevent possible conflicts of interest by shifting responsibilities for granting rights of way away from municipalities with shareholdings in network operators.
28. Law number 526/1990 coll., on prices (as amended).
29. More fully: "In the case where it is not possible to place another over ground or underground telecommunications line or equipment for a public telecommunications network, cable duct or antenna tower in the arrangement of land communications, in the extent of an underground line or in a public area, or if it is possible with unreasonably high costs and unreasonably temporary or permanently restricted normal use of this communication space, the operators of the existing ground or underground telecommunications lines or equipment of public telecommunications networks, owners of cable ducts or antenna towers are obliged, if it is technically possible, at the price stated by the special law²⁹ to allow, on the basis of a written agreement, use of these facilities by other operators of public telecommunications networks."
30. Speech to Cesky Telecoms 2001, 31 January 2001.

31. The unbundling the 'unconditioned local loop' enables competitors to use copper cable between exchange facilities and each customer. Competitors can connect their own electronic components and switching equipment to the cable in order to supply telephony and high speed services for carrying data, direct to end users. Declaration of this service provides new competitors with greater flexibility in developing and supplying new services to consumers.
32. See, OECD, *Local Access Pricing and E-Commerce*.
33. Alan Osborn, "EU telecoms ministers limit EC powers of intervention, Total Telecom, 5 April 2001.
34. Josef Otcenasek (of legal firm White & Case Feddersen), *Analytical overview of the new telecommunications law and the impact on the market model*, Paper delivered to EuroForum's Czech Telecoms 2001, Hotel Inter-Continental, Prague, 31 January 2001.
35. According to Cesky Mobil.
36. According to an article in Hospodarske Noviny, 8 February 2001.
37. Prague Business Journal, 12 February 2001.
38. Emir Halilovic, "RadioMobil adjusts tariffs as probe begins", Prague Business Journal, 2 April 2001.
39. FRIACO is short for Flat Rate Internet Access Call Origination. See Oftel, Review of the dial-up Internet access market, available at <http://www.oftel.gov.uk/competition/iamr11000.htm>
40. Lindsay Ashford, EuroTel comes out swinging; RadioMobil primping, *Prague Business Journal*, 18 January 1999.
41. Cesky Telecom website <http://www.ct.cz>.
42. The "Home Standar" tariff of Cesky Telecom does not include any free calls.
43. See for instance, Oftel, *National leased lines: Effective competition review and policy options*, Consultation document issued by the Director General of telecommunications, August 2000. Available at <http://www.oftel.gov.uk/competition/nll0800.htm>.
44. See, for example, the OECD (1997), *OECD Communications Outlook 1997*, Chapter 8, Paris.

