

OECD REVIEWS OF REGULATORY REFORM

REGULATORY REFORM IN GREECE

**REGULATORY REFORM IN THE
TELECOMMUNICATIONS SECTOR**



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

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

This report on *Regulatory Reform in the Telecommunications Industry* analyses the institutional set-up and use of policy instruments in Greece. 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 Greece* 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 Natasha Constantelou of the National Technical University of Athens 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 Greece. The report was peer-reviewed by the 30 member countries of the OECD. It is published under the authority of the OECD Secretary-General.

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Executive Summary

Background Report on Regulatory Reform in the Telecommunications Industry

The telecommunications sector in OECD countries has seen significant regulatory reform in recent years. Twenty-seven OECD countries had, in 2001, unrestricted market access to all forms of telecommunications, including voice telephony, infrastructure investment and investment by foreign enterprises, compared to only a handful just a few years ago. The success of the liberalisation process depends on the presence of a transparent and effective regulatory regime that enables the development of full competition, while effectively protecting other public interests. There is a need to promote entry in markets where formerly regulated monopolists remain dominant and to consider elimination of traditionally separate regulatory frameworks applicable to telecommunications infrastructure and services and to broadcasting infrastructures and services.

Greece has committed to open its market to full competition on 1 January 2001. Since 1990 Greece has been making progress, albeit slowly, in adopting pro-competitive regulatory principles. Greece's programme for regulatory reform in telecommunications has been steered and reinforced by the principles prescribed by European Union (EU) directives and the 1997 WTO agreement on basic telecommunications. In 1996, Greece initiated the first phase of the privatisation of the Hellenic Telecommunication Organisation (OTE), the state-owned, incumbent monopoly. The privatisation is expected to continue during 2001 and the government has stated that they are looking for a foreign strategic partner for OTE.

Greece's market liberalisation is occurring several years after most EU countries have fully opened their markets (on 1 January 1998) and established new regulatory frameworks. This relatively late start could have provided Greece with a unique opportunity to draw on the experience of these countries so as to be able to apply best practice methods of regulatory reform. Unfortunately this window of opportunity has not been used. As of the beginning of the third quarter of 2000 a number of key pieces of legislation and regulation had yet to be implemented, including the new draft law and the licensing framework. Although it is clear from the EU's 1999 Communication Review that during 2000-2003 there will be a new emphasis on streamlining regulations, including the licensing procedures, insufficient foresight has been given to implementing new best-practice regulations. The licensing regime needs to be streamlined to facilitate quick market entry at the expiry of the exclusive provision period. Interconnection charges need to be cost-based with accounting separation introduced. From 2001 there will be a need to promote effective competition in all communication markets. The nature and extent of universal service obligations has been defined in the new Law, however, a method of funding and delivering them in a cost-effective, technologically neutral, way needs to be established. The new telecommunications law, that has recently been adopted by the Greek Parliament (published in the Official Journal of the Hellenic Republic on 19 December 2000) and came into force in January 2001, offers a timely opportunity to install such pro-competitive regulatory principles. But while appropriate pro-competitive legislation is an important step, it is only *one* necessary step. The regulatory rules must then be promptly and effectively implemented by a well-empowered independent regulator to develop a fair, transparent and stable competitive environment for all market players. The new draft law provides a framework for this to occur. Unfortunately there are signs that in some areas like price regulation and licensing conditions, the rhetoric of reform has not been backed up by decisions made by government. This must change.

Technological change and 'convergence' are also further complicating regulatory reform. Greece has not yet recognised that, like other OECD countries, it must now address the challenge of not only completing the move to an effectively competitive telecommunications market, but also of preparing for the 'next generation' regulatory regime which convergence will necessitate.

This report examines Greece's regulatory reform effort thus far and its impact on the performance of telecommunications markets. The report concludes that there needs to be an accelerated effort to ensure that Greece's framework for regulation in telecommunications is at best practice levels and provides the dynamism necessary to support network based services necessary for an electronic commerce environment. The adjustments that have been made in anticipation of the opening of the market to competition, such as in the area of price rebalancing, have had positive benefits.

1. THE TELECOMMUNICATIONS SECTOR IN GREECE

1.1. Development of telecommunications in Greece

The Hellenic Telecommunications Organisation was founded in 1949 and given exclusive rights for the operation of telecommunication service in the country. Table 1 presents a brief account of major events in the history of Greek telecommunications.

Table 1. Major events in Greek telecommunications (1930-2000)

Date / Event	Comments
1930	Establishment of the Greek Telephone Company S.A. (GTC) with Siemens-Halske as its main shareholder. GTC developed local networks in 23 Greek towns. In 1946, 75% of GTC's foreign shares were handed over to the Greek State as compensation for war reparations.
1949: Law 1049/1949: Foundation of OTE	OTE was founded as a merger of GTC and Cable & Wireless and had exclusive rights over the operation of telecommunication services in the country.
1973: Presidential Decree 165/1973	The Decree extended Law 1049/1949 and specified OTE's relationship with the State. In particular: <ul style="list-style-type: none"> • The State should not interfere in OTE's management; • OTE's investment programmes should conform to the annual and five-year government investment programmes; • International agreements, contracts, and tariffs should be approved by the Ministry of National Economy and the Ministry of Transport and Communications.
1982: Presidential Decree 1256/1982	OTE and its subsidiaries became parts of the public sector.
1985: Presidential Decree 58/1985	The Decree provided for the 'socialisation' of OTE as a public utility company allowing employee representatives to participate in OTE's Board of Directors.
1990: Law 1892/90	Liberalisation of value-added services and of mobile telephony.
1992: Law 2075/92	Opening of market to mobile services – OTE excluded from mobile market.
1994: Law 2246/94	Liberalisation of all telecommunication services, except public voice telecommunication, and full liberalisation of mobile market allowing OTE to participate.
2000: New Law on Telecommunications	The law has five basic aims: protect the consumer; safeguard free and healthy competition; safeguard personal information; the provision of universal service; and the growth of telecommunications. The law was passed by the Greek Parliament in early December 2000.

In Greece, as in most OECD countries until the late 1980s, the traditional organisational structure of the telecommunication sector has been a monopoly market. Since the early 1990s, however, this structure has gradually come into question for a number of reasons. First, the poor performance of the public network was inhibiting the recovery of the domestic economy, the attraction of foreign capital, and the expansion of new production activities. Second, Greece's membership in the European Union required it to comply with European telecommunication policy Directives and shift to a more liberalised market environment. In this context, as well, unless the country was willing to show some progress towards telecommunication market liberalisation, the flow of Commission funds to the increasingly troubled Greek economy would be seriously delayed. Last, but not least, the emergence of advanced communication networks and services called into question the prevailing formal institutional set-up of the sector. These technological innovations offered 'windows of opportunity' for entry into new service areas, which had started to become increasingly appealing to both Greek and international investors.

Three phases in the history of Greek telecommunication policy-making can be identified.¹ The first phase (1949-1980) was characterised by massive investment in network infrastructure in an attempt to provide universal telephone service across the country. Given the economic euphoria the country enjoyed in the 1960s and 1970s, financing network expansion was not particularly problematic. However, the Hellenic Telecommunications Organisation (OTE) was covering its needs for switching and transmission equipment through imports, primarily from East European countries. Thus, the 1980s found OTE with an amalgamation of 12 types of increasingly obsolete analogue switches from different vendors, a situation that started to cause problems in the operation and maintenance of the network.

The second phase (1981-1990), marked by a radical shift in the national political scene, resulted in OTE becoming a 'socialised' enterprise, which essentially meant an increased representation of employees on the Board of Directors (BoD). Its performance indicators, however, were deteriorating. Not only was investment in infrastructure modernisation less than the OECD average, but also traditional ties with the government left no room for autonomy in OTE's day-to-day operations and management.

The third phase began in 1991 and has been characterised by a continuous improvement in network infrastructure and a slow shift towards a more liberalised regulatory environment. In 1990, the deregulation of value-added services and mobile telephony services was enacted by Law 1892/90, according to which, apart from the Hellenic Telecommunications Organisation, other public and private operators could provide the aforementioned services.

In 1992, the legislative framework for the partial opening of the telecommunications market was enacted by the framework – Law 2075/92, which *inter alia* provided that mobile telephony services could only be provided by private operators, excluding OTE from the mobile telephony market. Following a public tender, two mobile telephony licenses were granted to "STET Hellas SA" and "PANAFON S.A".

In 1994, Law 2075/92 was replaced by the framework-Law 2246/94, which enacted *inter alia* the liberalisation of all telecommunications services, with the exception of voice services and the provision of public switched telecommunication networks. Additionally, this law provided for the full liberalisation of the mobile telephony market, allowing OTE to enter this market segment. The law also defined the responsibilities of the Ministry of Transport and Communications (MTC, hereafter called 'the Ministry') and provided for the establishment of an independent regulatory authority for the sector, the National Telecommunications and Post Commission (EETT).² A new telecommunications Law, submitted to Parliament in September 2000 and approved in early December 2000 replaced Law 2246 in the light of full liberalisation on 1 January 2001.

1.1.1. *Derogation from EU market opening*

In June 1996, the Greek State (currently the majority shareholder of OTE) and OTE itself applied for an extension of the EU's 1 January 1998 deadline for full liberalisation in the provision of voice telephony and the associated network infrastructure until 1 January 2003. The request was made on the grounds that OTE needed further time and revenues for the digitalisation and modernisation of its public network infrastructure. Thus:

The authorities of the Hellenic Republic maintain that due to constraints on national financial resources, the high cost and the size of OTE's modernisation programme, aggravated by the burden of delivering telecommunications services throughout the Hellenic Republic, full digitalisation by the year 2003 can only be achieved if OTE is further guaranteed sufficient revenues via the continuation until that date of its current exclusive rights.³

The European Commission, in rejecting most of the arguments used by the Government to justify an extended derogation, granted the Greek State an extension until 31 December 2000 to remove all restrictions on the provision of voice telephony and the underlying public network infrastructure (Decision 97/607). The Commission agreed to this derogation solely on the basis of a single justification, that is to allow OTE sufficient time to rebalance its tariffs. However, this derogation was conditional on the Greek government following a timetable and implementing the following provisions:

- Notification to the European Commission by 1 October 1997, instead of 1 July 1996, of all measures necessary to liberalise the provision of services on (a) networks established by the provider of the telecommunication service, (b) infrastructures provided by third parties, and (c) the sharing of networks, and other facilities and sites;
- Notification to the European Commission by 18 March 1998, instead of 11 January 1997, of all legislative changes necessary to implement full competition by 31 December 2000, including proposals for the funding of universal service;
- Notification to the European Commission by 31 December 1999, instead of 1 January 1997, of draft licenses for voice telephony and/or the underlying network providers;
- Publication by 30 June 2000, instead of 1 July 1997, of the licensing conditions applicable to public voice telephony and of interconnection charges, as appropriate and in both cases in accordance with applicable EU directives; and
- Award of new licenses and amendment of existing licenses by 31 December 2000 to enable the competitive provision of public voice telephony services.

In most cases the deadlines set by this timetable were met. Several of these conditions had either not fully been met by the third quarter of 2000 or had been considerably delayed. This applies in particular to the requirement to award licenses before 31 December 2000, which only materialised in late December, and to the requirement to make any necessary modifications in OTE's license by 31 December 2000. In addition, although a new operating licence for OTE had been drafted and was sent to the Commission for approval, no new licence for the incumbent has yet been published providing for the abolition of its exclusive rights.⁴ These delays have serious implications for the rapid development of competition in the Greek market since, as new entrants claimed the late publication of licensing terms and conditions would not allow them to be fully operational by 1 January 2001. The delay in implementing these requirements is symptomatic of the period 1995-1999 in Greece as concerns telecommunications policy. This period was characterised by significant delay in adopting and formulating required policies and taking decisions to help the process of liberalisation.

This refusal of the prolongation of the derogation until 2003 by the EC can be justified. However, given the extent of the external investments by OTE in recent years, one can question whether a derogation was necessary at all. Secondly, external investments have implication for domestic universal service since domestic revenues are being leveraged to finance such investment. OTE seems to be well positioned to bear the cost of universal service in Greece given spare resources for external investment and its profitability (its net income margin⁵ ranged from 24.3% to 16.4% during the period 1995-99). The diversion of investment effort, while possibly undertaken for longer-term strategic reasons, nevertheless had implications for domestic investment. In particular, it slowed down the upgrading of the network towards best-practice technology. In turn this will have longer-term impacts on consumers, using industries and the Greek government's plans to develop the information society in Greece. If OTE were operating in a competitive environment there would be no reason to question external investments.

1.2. *The national context for telecommunication policies*

Unlike most other OECD PTOs that had long ago shifted their strategies from the 1980s model of achieving high teledensity to the 1990s model of establishing sophisticated intelligent networks, OTE throughout the 1990s put more emphasis on the expansion of basic network infrastructure and the satisfaction of pending demand than on the modernisation of public network. As a result, the provision of all advanced network features was considerably delayed and started to materialise only after 1997. The strategic focus on expansion of the fixed network has achieved considerable success. Teledensity for fixed-line connections has steadily increased and, digitalisation of the public network has reached 90.6% in December 1999 compared to 37.1% at the end of 1995 (see Section 3).

In the mobile sector a duopoly regime was introduced in 1993 for the provision of digital mobile telephony. OTE, with its subsidiary company COSMOTE, entered the market as the third player in April 1998, despite the contention by Panafon and Stet Hellas who challenged the validity of COSMOTE's mobile license before the Council of State as being contrary to the Greek constitution and EU Law. Since 1998, the take up of mobile services in Greece has increased dramatically reaching 41% penetration rate in mid-2000, a figure comparable to the OECD average.

Value-added networks and services began to be offered in Greece in the early 1990s. These were either national networks built on leased lines for the provision of data and other value-added services to closed user groups, or international value-added networks which had established local points of presence in Greece to serve their international clientele. Moreover, unlike the situation in other OECD markets where data and satellite communication markets have been opened to competition as early as 1994, OTE was given special permission by the European Commission to maintain its exclusive rights over public data networks and services until 1997.

The use of alternative network infrastructure was liberalised in October 1997, but only for the provision of liberalised services. Although Greek utility companies, such as the National Railways and the Public Electricity Company started fairly early to investigate the possibility of utilising their infrastructures to enter the telecommunication market, none of them took the initiative at that early stage to enter as a network provider. In the satellite segment, independent suppliers expressed an early interest in market entry soon after the pending legislation set the environment for competition.

On the institutional side, the National Telecommunications Commission was established in 1995 as the independent regulatory authority for the sector. The Commission's tasks included the enforcement of sector-specific regulations, the monitoring of the telecommunication market, the provision of consultation to the Ministry, and the resolution of disputes arising out of the provision of telecommunications services. In 1999, the Commission undertook under its jurisdiction the supervision of Posts and has thus been renamed National Commission for Telecommunications and Posts (hereafter EETT). Since its establishment, however, EETT has remained severely understaffed due to the lengthy bureaucratic procedures required for the recruitment of personnel in the wider public sector. In addition, there has not been a clear division of responsibilities between EETT and the Ministry as EETT's advisory role to the Ministry has often been tangled up with regulatory duties.

On the regulatory side, over the last several years the transposition of key EC Directives proceeded under pressure from the EC at a relatively fast pace after long delays in adopting national measures. Currently, all major EC Directives have been transposed into National Law. However, this transposition has remained to a large extent inactive as secondary legislation and other necessary pre-conditions (*e.g.* licensing frameworks, interconnection frameworks and prices, an appropriate accounting system and a costing model for OTE) are still pending. Since the EC Directives are relatively general, transposition needs to be accompanied by more detailed regulatory decisions to flesh out how a Directive will be implemented.

EETT has begun to take an open approach in decision-making by initiating public consultation processes on telecommunication development matters, such as the unbundling of the local loop, the allocation of fixed-wireless access licences, etc. Such an approach, however, has been criticised by some market participants as cumbersome and time-consuming at a time when speedier decision-making procedures need to be established in the light of the forthcoming market liberalisation. While there is an urgent need to catch-up on the years of indecision and delay, it is also necessary to have and maintain an open and effective consultative procedure.

The new government that was formed after the April 2000 parliamentary elections appears to have the political will to promote the necessary structural changes in the Greek economy and to put an end to the administrative difficulties that have burdened competition in the telecommunication sector. For example, it rapidly drafted a new Telecommunication Law and submitted it to Parliament in September 2000. The law, is a major step in the right direction. However, as is noted below, other decisions, such as that pertaining to the allocation of fixed wireless licences to the incumbent, indicate the need for further efforts to create open and non-discriminatory regulatory frameworks.

In the light of the upcoming full liberalisation in the telecommunication market and the emergence of an information society, Greece should take any action necessary to speed up the *practical* implementation of the institutional framework for the sector. In addition, experience from other OECD countries shows that reliance on market forces accelerates the building of modern communication infrastructures and the diffusion of new technologies. In this respect, Greece should limit government intervention and allow more room for market mechanisms in order to create a more vigorous environment for competition and the development of information society.

The delay in implementing key measures is also having repercussions in other key economic policy areas. For example, the government has placed high priority in its policy agenda on the Information Society, as outlined in the 1998 ‘Green Paper on the development of the Greek Information Society’.⁶ If adequate measures are not in place to enhance public access to broadband communication infrastructures and thus allow Greece to participate in the emerging Information Society, these goals will not be attained.

1.3. General features of the regulatory regime

Since 1995, observed progress has been made in delivering secondary legislation for the sector (*i.e.* Presidential Decrees and Ministerial Decisions). The main Laws and Presidential Decrees issued include:

Box 1. Developments in the Greek telecommunications regulatory regime

1. 1992: Law 2075/92 (A129): Constituted the regulatory framework of the telecommunications sector, transposing Directives 90/387/EEC and 90/388/EEC.
2. 1994: Law 2246/94 (A 272): Replaced Law 2075/92 and constitutes the Framework Law for the sector. It has been replaced by Law 2867/00 (A 273) on the Organisation and Operation of the Telecommunication Sector in Greece.
3. 1997: Law 2465/97 (A 28): Amended, partially, Law 2246/94 as regards the granting of licenses and declarations.
4. 1998: Law 2578/98 (A 30): Partial transposition of Directive 96/19/EC, in accordance with the derogation period granted to Greece for full competition in the telecommunication sector.
5. 1997: Law 2472/97 (A 50): Transposition of Directive 95/46/EC with regard to the processing of personal data.

6. 1999: Law 2774/99 (A 287): Transposition of Directive 97/66/EC with regard to the protection of personal data and privacy in the telecommunications sector.
7. 2000: Law 2840/00 provides EETT with regulatory powers over the award of both general and individual licences as well as over the relevant criteria for their award.
8. 2000: Law 2867/00 (A 273) on the Organisation and Operation of the Telecommunication Sector in Greece, replaced Law 2246/94.

Presidential Decrees (P.D):

- a) 1995: P.D 424/95 (• 243): Transposition of Directive 91/263/EEC concerning telecommunications terminal equipment, including the mutual recognition of their conformity.
- b) 1995: P.D 437/95 (A250): OTE's license according to Law 2246/94 and 2257/92.
- c) 1996: P.D 40/96 (A 27): Transposition of Directive 92/44/EEC on the application of ONP to leased lines.
- d) 1997: P.D 212/97 (A 166) Transposition of Directive 94/46/EEC with regard to the liberalization of satellite communications.
- e) 1998: P.D 122/98 (A 103): Transposition of Directive 93/97/EEC with regard to satellite earth station equipment.
- f) 1998: P.D 123/98 (A 103): Transposition of Directive 95/51/EC as regards the use of cable networks for the provision of liberalized telecommunications services.
- g) 1998: P.D 124/98 (A103): Transposition of Directive 96/2/EC with regard to the liberalization of mobile and personal communications.
- h) 1999: P.D 9/99 (A5): Transposition of Directive 95/47/EC on the use of standards for the transmission of television signals.
- i) 1999: P.D 156/99 (A 153): Transposition of Directive 97/51/EC as regards the implementation of ONP to a competitive environment in telecommunications.
- j) 1999: P.D 157/99 (A153): Transposition of Directive 97/13/EC as regards the common framework for general authorizations and individual licenses.
- k) 1999: P.D 165/99 (A 159): Transposition of Directive 97/33/EC on interconnection.
- l) 1999: P.D 181/99 (A 170): Transposition of Directive 98/10/EC with regard to liberalization of voice telephony, universal service with the application of ONP.

The regulatory framework has been supplemented by a number of Ministerial Decisions which define, for example, the terms and conditions for the granting of Licenses and Declarations, the fees associated with their granting, etc. All this secondary legislation stems from Law 2246/94, which remained for a long time the primary source of regulation for the sector. Notwithstanding, the content of all legislative acts, and by implication their policy objectives, are borrowed from the EC and essentially represent translations of the text of the EC Directives.

The main driving force behind the fast compliance of the Greek regulatory framework with the EU Directives has in fact been the financial pressure exercised by the EC upon the Greek government. More specifically, in one of its routine reviews in the telecommunications regulatory and licensing regime in EU member states, the European Commission has found that Greece is seriously behind in its compliance with key EC directives. In this context, the Commission suspended subsidies in 1997 to OTE of approximately ECU 49.9 million for network modernisation and personnel training, pending harmonisation of Greek law with EC Directives. This decision put extra pressure on the Ministry to harmonise the Greek regulatory framework at a faster pace than originally envisaged.

This effort, however, was not always followed by the practical implementation of provisions included in these Directives. For example, despite its full transposition, Directive 96/2/EC with regard to the liberalisation of mobile and personal communications remained inactive in that the Greek State did not consider the option to issue additional licenses for mobile services. Two infringement proceedings against the Greek State for failure to implement Directive 96/2/EC are currently pending before the European Court of Justice in connection with the granting of licenses for DCS 1800 and DECT systems.⁷ However, the Ministry has recently declared its intention to award a fourth mobile license by the end of 2000. In July 2000, the EETT initiated a consultation process seeking the views of new and existing market participants regarding the number, conditions of award, and duration of potentially new mobile licenses.

Similarly, there is a Ministerial Decision based on Law 2246 that specifies the procedure to be followed by an applicant for the provision of services that require the use of frequency spectrum. This remains to a large extent inactive due to the fact that neither the Ministry nor EETT have taken any decisions regarding the most suitable method for the allocation of available frequency spectrum.⁸

In the experience of the OECD, a bold shift in policy to ensure that telecommunication competition develops rapidly has yielded important economic benefits to industry and users. The telecommunications laws and regulations of a country are thus crucial in providing the future framework for the Information society and electronic commerce, which will require an adequate infrastructure.

In this context, the Ministry prepared a new Framework Law to replace Law 2246/94 with the aim to provide the legal and regulatory framework for the development of competition. In late-1999, a draft text of the law was put on the Ministry's Web site to allow interested parties to submit their comments and suggestions. The consultation showed that many potential market participants believed that the draft Greek law, although covering the main issues necessary to transform the telecommunication sector from a monopoly to a competitive market following the general requirements of the European Union, did not sufficiently provide for the means to create such a market. In particular, there were several major weaknesses in the draft 1999 Law:

- a) The draft law did not clearly clarify the responsibilities of the different government bodies with a role in the sector. In this respect, it did not provide the regulator (EETT) with sufficient independence or power to meet its proclaimed objectives, that is to 'establish a regulatory framework for the development of telecommunications in an open and competitive environment'.
- b) It foresaw a number of bodies for the organisation and supervision of the sector that would complicate rather than simplify decision-making.
- c) It included restrictions in the organisation of EETT that would limit its flexibility to meet changing market structures.
- d) It contained too much detail on regulations, which would be better addressed in secondary legislation implementing the law.

The second draft of the Law, which was submitted by the newly appointed Minister in early July 2000, incorporates most of the comments and suggestions received during the consultation process and, to a certain extent, has addressed the aforementioned inadequacies. The new law is more precise and does not enter into practical details that are more appropriately dealt with in regulations. Its most distinct feature is that it reinforces EETT by transferring powers to it from the Ministry, as mandated by the EC regulatory provisions regarding national regulatory authorities (NRAs), in relation to licensing, supervision of interconnection, universal service, the implementation of cost-accounting systems, numbering, frequencies, and rights of way. Details of the main provisions of the new draft law in some of these key areas are included in respective sections below.

1.4. Telecommunications market and participants

Several companies have sought to enter the liberalised segments of the Greek market to provide advanced communications and services. Overall, although the number of service providers in the liberalised segments has increased, the structure of the market has not undergone major changes as the public voice segment of the market is still under OTE's monopoly.

Currently, apart from the major market players (*i.e.* OTE and the 3 mobile operators), there are over 200 telecommunication service providers operating in the Greek market. Most of them are active in the market for Internet services, while a significant number of companies offer value-added and voice services to closed user groups. The changing structure of the Greek telecommunication market is summarised in Table 2.

Table 2. **Structure of the Greek telecommunication market**

Services	Number of providers
Voice services to closed user groups, pre-paid telephone cards	30
Audiotex	9
Data services	17
Fax services	17
Resale of mobile services	6
Internet access	143

Source: EETT Annual Report 1999.

In mid-July 2000 the Ministry announced its plans to award 9 licenses for Fixed-Wireless-Access. This resulted out of a public consultation process initiated by EETT among interested parties. By late November 2000, EETT had already started preparing the auction procedure for the award of licenses among the list of seven prospective bidders, including the Greek cellular market operator Panafon, the Public Power Corporation (DEH) and a consortium between STET International Netherlands NV, a holding company owned by Telecom Italia, and Forthnet. Five licenses were awarded to successful bidders in early December 2000.

1.4.1. Mobile

A duopoly had been established in the market for digital mobile services since 1993, when GSM services were first introduced into Greece. Prior to that, there was no analogue mobile system in operation. The two companies with licenses to operate in the market were Panafon S.A. and STET Hellas S.A., a subsidiary of the Italian STET International. Each company paid a license fee of GRD 32 billion (USD 102 million) to the Greek State. According to their licenses, the mobile operators had to construct their own wireless networks and were allowed to resell any excess capacity. Today, both companies offer wireless leased lines for the set up of virtual private networks (VPNs) for corporate customers and closed user groups. Table 3 presents the current ownership structure and market share of mobile operators in Greece.

Panafon was established in 1991 as a joint venture between Vodafone (45%), France Telecom Mobile International (35%), Intracom S.A. (10%) – the largest IT company in Greece – and Databank (10%) – the leading Greek information services provider, which is 50% part of the Intracom Group. The strategy pursued by the company has been one of rapid expansion of mobile network infrastructure in order to meet the required service targets and be ahead of its competitors. The company maintains a group of 5 service providers for its GSM services. In 1998 a minority stake of the company was floated on the Athens Stock Exchange. In late 1999, France Telecom withdrew the majority of its shares and Vodafone became the main shareholder.⁹

STET Hellas (known as Telestet) started off as a subsidiary company of the Italian STET Mobile Holding. At a later stage, NYNEX Network Systems and the Greek Insurance group of companies, Interamerican acquired a 20% and 5.2% stakes respectively. Italian managers head the company. The strategy pursued by STET Hellas has been one of slower network expansion in favour of better service quality. Initially, STET Hellas had only one service provider/distribution partner, Mobitel, a company established for this purpose. At end of 1998, Mobitel joined the Panafon group. STET Hellas changed its retail strategy and gradually established a network of 7 service providers and 14 direct retail points. In June 1998 a minority percentage of Stet Hellas floated into the NASDAQ and Amsterdam Stock Exchanges.

During the first three years of operation, the duopoly regime resulted in very similar tariff structures being offered by both companies. It was only after 1995 that companies started to promote service ‘packages’ of customer tailored solutions as well as value-added services in collaboration with local service providers.

OTE was granted the right to provide mobile telephony services pursuant to the Telecommunications Law and its operating license. However, it did not pay for the license an amount equal to the one paid by the other mobile operators. Instead, it paid GRD 15.5 billion to the State as an ‘investment in kind’ for the use of frequency spectrum in order to launch the DCS 1800 technology and transferred this right to its subsidiary COSMOTE during 1997. In May 1997, a subsidiary of Telenor AS, the Norwegian Telecommunications Company, acquired a 30% interest in COSMOTE. COSMOTE began commercial operation in April 1998. COSMOTE currently markets its services through exclusive COSMOTE sales points, OTE sales points, and five other non-affiliated service providers.

An initial public offering of COSMOTE took place in late September 2000 offering 15% of its share capital in its IPO. COSMOTE began trading on the Athens and London exchanges in early October with a market capitalisation of between GRD1.029 and 1.15 trillion (USD 2.6 billion – USD 2.97 billion).¹⁰

OTE’s attempt to break the duopoly in the mobile market was considered by the two other GSM operators as a violation in the terms of their licenses, which guaranteed a duopoly regime until the year 2000. To justify the uneven cost of license between COSMOTE and the other two operators, COSMOTE argued that a number of factors were taken into account by the State, such as (a) that GSM companies in a

duopoly regime kept prices (and profits) too high; (b) that the level of investment for GSM was much lower than for DCS, and (c) that GSM companies had significant revenues from roaming services whereas COSMOTE could not offer roaming from the start. Both Panafon and STET Hellas challenged the validity of COSMOTE's mobile license before the Council of State and the European Commission but have since withdrawn their complaint.

In 1999, both Panafon and STET Hellas were designated by EETT as organisations with significant market power (SMP) in the mobile services market.¹¹ This allows the regulator to mandate access to the network of these operators. However, no specific obligations have been imposed on them legally. It is expected that COSMOTE will also be designated as having significant market power in 2000.

In mid-July 2000, the Ministry announced that a fourth mobile license will be awarded by the end of 2000 for the development of a DCS 1 800 system, following a public consultation led by EETT. No final decisions have yet been made regarding the award of UMTS licenses. According to State officials, any decision on this matter will be a co-decision between the Ministry of National Economy, the Ministry of Communications and Transport and EETT.¹² In late September 2000, EETT made a provision call for tender for the selection of an experienced consultant organisation to advise it on this matter.

Table 3. **Mobile operators and their current ownership status**

Operator and market share (as in March 2000)	Ownership status (as in September 2000)
Panafon (41%)	Vodafone Europe Holdings (55%), France Telecom Mobile International (3%), Intracom (10%), public investors (32%).
Stet Hellas (30%)	Stet Mobile Holding NV (Telecom Italia) (58.1%), Bell Atlantic-NYNEX (Verizon) (20%), public investors (16.7%), Interamerican Group (5.2%).
COSMOTE (29%)	OTE (70%), Telenor B-Invest AS (22%), W.R. Com Enterprises 8%.

Source: Company Web sites and MTC (2000).

1.4.2. *Privatisation of OTE*

In April 1996 the Government began the privatisation of OTE through public subscription and private placement of a minority 7.5% of the company's share capital. Discussions on the privatisation of OTE had started as early as 1992, but were blocked due to political discord and the opposition of OTE trade unions. Table 4 summarises milestones in OTE's privatisation process.

Table 4. Milestones in OTE's privatisation

Date	Event	Comments
November 1992	First privatisation attempt announced	<p><i>The plan</i></p> <p>The Conservative Government introduced the 'strategic investor initiative'. This involved the sale of up to 49% of OTE shares as follows:</p> <ul style="list-style-type: none"> • 35% shares plus management responsibilities for a decade to an experienced foreign strategic investor. • 7% shares floated in international stock markets. • 7% shares floated in the Athens Stock Exchange. <p><i>The motives</i></p> <ul style="list-style-type: none"> • 'Shock therapy' as remedy for OTE's increased managerial and organisational inefficiencies. • Exclusive financing of OTE's modernisation programme by foreign investors without the Commission's support. • Privatisation revenues expected to alleviate State budget deficit and raise international interest in the domestic stock market. <p><i>The timetable</i></p> <p>Completion by September 1993</p>
September 1993	Freezing of privatisation negotiations	The Conservative Government lost its marginal majority of one vote when an MP decided to withdraw his support. The affiliated press related the event with an earlier Government decision to halt procurement negotiations with local suppliers so that the strategic investor could take the decision. The country was led to premature elections and the Socialists returned to power.
November 1994	Second privatisation attempt cancelled	The Minister of National Economy found no interest from international investors.
January 1996	New Socialist Prime Minister	As soon as the new Prime Minister was elected he gave immediate priority to State restructuring, including OTE privatisation.
April 1996	OTE's initial public offering (IPO) took place	The primary offer involved the issue of 31.6 million shares representing 7.5% of the company's share capital. State's share in the company was reduced to 92%.
June 1997	2 nd Public offering	The Government sold 12.6% through private placement to institutional investors in Greece and abroad and through public subscription in Greece only. The company was also listed in the London Stock Exchange.
April 1998	Block Trade	The Government sold another 3.3% of its stake. through block trading to institutional investors.
November 1998	3 rd Public offering and entry into the NYS	Another 10% of state-owned shares were offered through public subscription and private placement reducing the State's participation in OTE to 65%. At the same time, OTE became the first Greek company to be listed on the NYS.
July 1999	4 th public offering	Another 14% of state-owned shares were offered through public subscription and private placement reducing the State's participation to 51%.

Source: Greek press (various) and OTE (2000).

Presently the State through the Ministry of National Economy holds 51% of OTE. The Government has announced its intention to seek a strategic partner for OTE in exchange for a significant number of OTE shares. The Ministry intends to maintain some control in key areas where co-decisions will be required but does not envisage maintaining a golden share. However, key control of OTE through the company's charter is equivalent to a golden share and would likely lack transparency. There are provisions in the new law which provide the State with sufficient powers in the case of national emergencies – there

should be no need for any further control over OTE. It appears that the Minister is determined to proceed fast with the process of finding strategic partners so that they are in place by spring 2001. The first step was made in late September 2000 when the Greek parliament voted overwhelmingly in favour of allowing the government to sell its controlling stake in OTE.

2. REGULATORY STRUCTURES AND THEIR REFORM

2.1. *Regulatory institutions and processes*

Under the provisions of the early Law 2246/94, the Ministry of Transport and Communications, and more specifically its General Secretariat for Communications, and EETT shared regulatory tasks for the sector. According to the Law, the Ministry was responsible for exercising policy and regulatory functions and for initiating proposals for legislation (*i.e.* Presidential and Ministerial Decisions) in the field of telecommunications. In particular, the Ministry was responsible for:

- Designing appropriate policy measures for the sector;
- Enacting primary and secondary legislation;
- Managing the radio frequencies and eliminating harmful interference;
- Promoting standardization in the sector;
- Granting individual licenses, and
- Granting recognition of conformity assessments.

The same law established EETT, which came under the responsibility of the Ministry. EETT was entrusted with the task to monitor the telecommunications market and to implement the legislative and regulatory framework, with a view to promoting the development of the market, ensuring fair competition and protecting consumers' interests. In addition, according to the law, EETT had an advisory role in that it could provide opinions to the Minister on Ministerial Decisions to be issued and make proposals to the Minister with regard to the granting, renewing, suspending or withdrawing of individual licenses, universal service, and other policy issues. However, it was the Ministry that awarded licenses to telecommunication operators. EETT was also responsible for the resolution of disputes arising out of the provision of telecommunications services and had the power to impose fines for violations.

Apart from the Ministry and EETT, the law provided for additional institutions to be involved in the regulation of the Greek telecommunication sector. These included:

- The Authority for the Protection of Personal Data;
- The Ministry of National Defence, and
- The Ministry of National Economy.

2.1.1. *The National Commission for Telecommunications and Posts (EETT)*

Article 2 of Law 2246/94 contained basic provisions for the set-up and organisation of EETT. The organisational structure and financial resources of EETT were further defined in subsequent secondary legislation issued in 1995 and 1997. In 1998, Law 2668 allocated EETT additional responsibilities over the monitoring and regulatory supervision of the Greek postal market.

According to Law 2246/94, EETT was an independent authority supervised by the Ministry, with functions of consultative, supervisory, and enforcement nature. If during its normal supervisory duties a case arose which fell within the jurisdiction of other administrative or legal entities, EETT was required to pass the case on to them.

EETT was structured around a Commission with a total of nine members, consisting of one President and eight Commissioners. Two of the Commissioners were appointed as Vice-Presidents, one responsible for telecommunications and the other for posts. The Minister through a Ministerial Decision appointed the President and the Commissioners for a period of five years.¹³ Any Commissioner, unjustifiably absent from more than three subsequent assemblies was *de jure* discharged. EETT was supposed to be staffed with a total of 70 employees, of whom 50 were required to be qualified scientists and engineers with expertise in particular areas described in the Law. Their appointment had to be approved by the Ministry.

During the period of service, all members of EETT have the status of civil servants and report to the Minister on the results of industry developments and the achievement of policy objectives. EETT was given the obligation to submit to the Minister an annual report of activities and a financial report of accounts every six months.

The legal framework also determined that EETT's financial resources should come from the revenues it obtained from license and frequency fees, fines, fees for equipment type approvals, etc., imposed on telecommunication operators and service providers operating in the market. However, the Minister of Finance and the Minister of Transport and Communications was given the authority to decide upon the way EETT administers its financial resources. However, according to the Law, the Minister of National Economy, the Minister of Finance and the Minister of Transport and Communications, could determine through a joint Decision that any unspent funds held by EETT should pass on to the General Secretariat of Communications of the MTC to fund its operations, as well as to fund universal service objectives, or relevant studies for the sector.

2.1.2. *Deficiencies of Law 2246/94 with regard to conflict of responsibilities and the role of EETT*

The EC, although with considerable delay, noted in its December 1999 report on Greece's progress on the Implementation of the Telecommunication Regulatory Package, that the boundaries between EETT's powers and those of the Ministry had not always been clearly defined and called the Ministry to address issues of division of power through the new Framework Law. Most market participants have raised similar concerns. They attributed this phenomenon to (a) the large number of provisions (mainly secondary legislation) that have created considerable confusion for market participants, and (b) to EETT's weakness stemming from its insufficient human resources and lack of relevant expertise.

In fact, both EETT and the General Secretariat of Communications (GST) suffered because of the lack of personnel. Under the early Framework Law, GST should have had 62 employees but existing staff is about 50. The EETT should have had 70 employees, but after 5 years of operation it remains severely understaffed. Recently, it appointed 10 new employees with limited expertise whereas the initial target was to appoint 28. It appears that the majority of candidates decided not to join EETT due to the low salaries offered. Almost all experienced people at EETT have been seconded from OTE but have recently been

recalled to that Organisation. Due to personnel shortages, external experts and advisors have often assisted EETT in its duties. The fact that EETT has been severely understaffed, however, resulted in slow decision-making in certain areas, such as dispute resolutions and licensing. The use of OTE personnel by the EETT did not serve to enhance the reputation of EETT's independence among market participants.

The sharing of responsibilities between the Ministry and the regulator has created problems in a number of OECD countries (including a number of European Union countries). It has been recognised that while the Ministry obviously needs to be responsible for overall policy and areas such as the determination of a radio spectrum plan, the regulator needs to have overall responsibility for the implementation of the Law, especially where this has implications for improving the competitive situation in the industry. The experience from telecommunication market liberalisation has shown that a key to successful creation of competitive conditions has been the establishment of an independent telecommunication regulatory body, separate not only from the telecommunication operators but also from line-ministries, which maintain responsibility for policy-making and separate from the incumbent. An important requirement to achieve independence is clear clarification of responsibilities of the different government bodies with a role in the sector. In this context, the provisions of Law 2246/94 and of subsequent secondary legislation have been inadequate since they gave insufficient powers to EETT and reduced its role to an advisory body. In addition, without the ability to make and implement binding decisions the regulator remains in a weak position.

The regulator cannot be responsible for the sector when a number of important areas are left outside of its control. According to the regulatory framework in existence in Greece prior to the adoption of the new Law, responsibility for action was left to the Ministry, while the regulator provided only advice to the Ministry. This effectively resulted in the regulator becoming a tool of the Ministry. It limited its responsibilities and more importantly its independence of action as stipulated by the regulatory framework. This placed the regulator in a difficult position since it was not be able to effectively carry out its tasks if, for example, the Ministry does not fully take its advice into account.

For example, starting in 1998 EETT took the initiative to undertake the necessary preparatory work on important policy matters, such as the preparation of a new draft Telecommunication Law, the drafting of a new operating license for OTE and for new entrants, as well as a study on the costs and financing of Universal Service. However, the Ministry did not fully endorse EETT's pro-active approach. On the contrary, on certain occasions, the Ministry took parallel initiatives, such as the launch of a separate study on the costs of Universal Service in early 2000, and the formation of a separate group of experts to undertake the preparation of a new Telecommunication Law, thus causing further delays and confusion to market participants.¹⁴

EETT needs sufficient powers to manage the transition of the sector from monopoly to competition. It must actively contribute to promoting competition in the telecommunication sector with the aim of giving consumers, enterprises, etc. access to a wide and varied range of telecommunication services, at low prices and of high quality, while ensuring the necessary consumer protection. So far, EETT could not fulfil these objectives since it did not control important areas such as the provision of licences, or the capacity to decide when to abolish individual licensing and allow entry on the basis of general licensing. If EETT is responsible to review and comment on individual license applications, for example, then it should also have the responsibility of granting these licenses. To impose a split jurisdiction in the individual licensing regime is inefficient, and can lead to delays and reduce transparency.

Furthermore, not only is it important for EETT to be provided with the power and independence to effectively carry out its tasks, but also with the flexibility to meet the changing market structure and requirements. For example, the regulator may need to expand activities because of market developments and the licensing of new service providers (*e.g.* in Wireless Local Loop, UMTS, etc.) and should have some flexibility in its recruitment policy. The skills that the EETT's staff requires to possess to regulate effectively in a competitive environment may change over time due to the globalisation of telecommunication markets. The mixture of skills should be decided by EETT and should not be pre-

defined in the Law. In this respect, EETT should be allowed to design its own recruitment policy, and training programmes, as well as have a certain freedom in setting salary scales outside of civil service constraints.

Last, but not least, the independence of EETT is also jeopardised through its resource dependency. This is evident not only in the provisions of the law imposing limits on EETT in terms of human resources but also in not allowing EETT to retain and administer any unspent funds. The General Secretariat for Communications is subject to funding through the central government budget, therefore it should not seek indirect funding via EETT. Rather, EETT should have the right to retain any unspent funds and use them for training purposes, universal service objectives, etc. If EETT has a continuous surplus, then it should review the level of administrative charges it imposes on operators in the market and consider reducing these charges as appropriate.

The set up of EETT has been an important step in the organisation of the institutional structure for the sector. Yet, further steps are required in order to create appropriate conditions for effective competition and the maximisation of consumer welfare. A clear separation of responsibilities between EETT and the Ministry should be the first policy objective in this direction. In line with the experience of most OECD countries and the main provisions of the European Commission Directives, EETT should have the authority to exercise its powers to the full: in terms of budget and staff, in relation to licensing, interconnection, price controls, universal service, numbering, the taking of binding decisions, and the implementation of other regulatory safeguards.

2.1.3. The new Framework Law

The new Framework Law announced by the Minister in early July 2000, and adopted by Parliament in early December 2000, is a significant improvement over drafts that had been under consideration over the last several years. The law has five basic aims: protect the consumer; safeguard free and healthy competition; safeguard personal information; provide for universal service; and encourage the growth of telecommunications.

The concerns expressed above about the present framework have, to a large extent been addressed in the law, which reinforces EETT by transferring powers to it from the Ministry. It is the intention of the law to safeguard the independence of EETT and to provide a clear demarcation of responsibilities between EETT and the Ministry. To this end, the overall policy-making for the sector rests with the Ministry while EETT, apart from monitoring the operation of the telecommunications market and safeguarding consumers' best interests, is entrusted with full responsibilities over

- Licensing, including the award, amendment, withdrawal, and transfer of individual and general licenses;
- Management and allocation of frequency spectrum;
- Interconnection negotiations and resolution of disputes, in particular following the provisions of a forthcoming Presidential Decree that will specify the arbitration procedure to be followed in each case;
- Telecommunication tariffs, and in particular their cost-orientation in relation to interconnection, local loop unbundling, and leased lines, as well as the implementation of proper cost accounting systems;
- Leased lines and their availability in accordance to Community regulations;
- The definition, costing, and financing of universal service;

- The administration of National Numbering Plan and the allocation of numbers;
- Administrative procedures regarding the installation of antennae; and
- Administrative procedures that facilitate ‘one-stop-shopping’ to new entrants, in order to safeguard timely access to rights of way to public and private land for the parties concerned.

According to the new Law, the Ministerial Council will appoint EETT’s President while the Minister of Transport and Communications will appoint the Commissioners. The period of service of all members can only be renewed once.

In addition, EETT will have the right to issue regulatory acts and publish them in the Official Gazette *i.e.* to take and implement binding decisions without prior approval of the Minister. Furthermore, its authorised staffing level will increase from 70 to 180 employees, of which 120 should be highly qualified scientists and engineers. For an initial period of four years EETT will also be allowed to employ employees from other public organisations for a maximum period of two years. The law defines the categories of personnel EETT should have, their professional qualification, and the number of employees in each category, but also includes a provision that allows EETT the right to change these categories and the number of personnel, and allows it to deviate from the salary rates of civil servants. Still, EETT will continue to be resource dependent as it is not allowed to retain and administer any unspent funds.

Although improvements in the new law regarding the structure and operation of EETT are appropriate and pro-competitive, it is doubtful whether the relevant provisions will *effectively* be in place by the time the market opens to competition in January 2001. In particular, the empowerment of EETT with qualified personnel will take time to materialise. The difficult question for EETT is twofold: First, how can it increase its staff rapidly from 13 employees to 180 and second, how soon can new employees be trained to issue regulatory acts and mandates for the development of a fair, transparent and stable competitive environment. The Vice-President of EETT expressed the view that with the relaxation of the lengthy bureaucratic procedures required for the recruitment of personnel and the shift of such responsibility to EETT,¹⁵ they are ready to proceed to the selection of 26 additional people by November 2000. When the new law is ratified, it will open the way to further recruitment. It is of utmost importance that the recruitment and training of new personnel take the minimum time possible. There is already plenty of experience Greek regulators could draw on from other countries in order to organise their Authority effectively without further delays. Any delays in this respect would be unjustifiable.

2.1.4. *The role of other institutional players*

Under Law 2246/94, apart from the Ministry and EETT there are a few other institutional players with responsibilities for the sector.

- *The Authority for the Protection of Personal Data* plays a role in the telecommunications sector in that it has the authority to inspect the records and files of all telecommunication operators, including OTE, in order to investigate whether there has been any violation of the rules on the protection of personal data, following Commission Directive 97/66. The Authority reports annually and on a case-by-case basis to the Greek Parliament and comprises members of each political party, the Vice-President of the Parliament, and one communications expert appointed by the President of the Parliament.
- *The Ministry of National Defense* plays an active role in spectrum planning.
- *The Ministry of National Economy* (MNE) remains the major shareholder of OTE and, even after the sale of shares to a strategic partner, it is expected to maintain some control in key

areas where co-decisions will be required. Up till the end of 1997, any change in OTE's tariffs had to be reviewed and approved by the MNE. It has been reported that any decision on UMTS licenses will be a co-decision between the Ministry of National Economy, the Ministry of Transport and Communications, and EETT.

The following Table summarises the responsibilities of each institutional player as defined in Law 2246/94 and as are currently envisaged in the new Law.

In contrast to other countries where industry associations, and particularly large users groups, have been actively engaged in the reform process and the design of a pro-competitive regulatory framework for the sector, the Federation of Greek Industries (SEV) has played a relatively small role in the policy process. An exception has been its involvement in the *Telecommunication Forum*, an informal body set up in 1998 comprising academics, policy-makers, users representatives and members of EETT whose purpose was to work on the design of a new Telecommunications Law. Users should be instigated to become more actively involved in policy reforms. In this respect, the new law should have included provisions that would call for the formal set up of consumer associations to represent the interests of all users, including industry and residential users, in policy formation.

Table 5. Greece: division of responsibilities among main actors (1994-2000)

Area	MTC	MNE	EETT	OTE
	94 00	94 00	94 00	94 00
Policy making	● ●		⊙	
Tariffs		⊙	⊙	● ●
Frequency management	●		⊙ ●	
Frequency allocation	●		⊙ ●	
Numbering	●		●	⊙
Interconnection (tech.)			⊙ ⊙	
Interconnection charges			⊙ ⊙	
Licensing	●		⊙ ●	
Terminal equipment type approval	●		● ●	
Industrial policy	⊙ ⊙		⊙	
Customer information			⊙ ⊙	

Notes:

⊙ = Intervention/Arbitration;

● = Overall responsibility;

MTC = Ministry of Transport and Communications;

MNE = Ministry of National Economy;

EETT = National Telecommunication Commission.

Similarly, the Competition Authority is not as actively involved in the regulation of anti-competitive conduct in the Greek telecommunication market, as is the case with similar agencies in other countries. At present, the Competition Authority does not play a role in the sector in terms of advocacy and EETT has displaced it in relation to competition issues except for mergers, which remain under the jurisdiction of the Competition Authority. Although there is no formal link between EETT and the Competition Authority, there is well-established informal co-operation between the two agencies. According to EETT officials, there is concurrent jurisdiction between them on matters of mutual interest. EETT asks the opinion of Competition Authority for nearly every matter that arises in relation to competition in the sector and, despite the lack of clarity in the division of responsibilities and the potential for overlap between them, no practical problems have arisen yet. This could be due to the fact that the two agencies are complementary to each other, as officials at the Competition Authority appear to have limited

knowledge of the telecommunication sector. The situation in respect to the role of Competition Authority is expected to change with the new Competition Law that was adopted by Parliament in August 2000. The involvement of Competition Authority in the regulation of the telecommunication sector up till now and the new role envisaged for it in the future are discussed later.

2.2. Telecommunication regulation and related policy instruments

2.2.1. Regulation of entry and licensing

Table 6 summarises the status of market liberalisation in Greece as of December 2000. At present all market segments are open to competition except the markets for public fixed switched voice telephony services and public fixed telecommunications networks.¹⁶ OTE has exclusive rights in these areas until 1/1/2001, following its official request to the EC for derogation on the basis of pending network modernisation and price re-balancing. In particular, OTE's exclusive rights in voice services involve exclusivity in the provision of local, long-distance, and international voice telephony as well as ISDN services to the public.

The wisdom or need for a two-year derogation can be questioned on the basis of experience in other EU countries that opened their markets to full competition even before full re-balancing had been achieved. Competition allowed for a more rapid re-balancing of prices, while at the same time bringing more immediate benefits to users. Although, as shown in Section 3, good progress has been made in network modernisation, competition would have also speeded-up the modernisation of OTE's network. OTE's international investment programme (especially in the Balkans) has sidetracked OTE's domestic investment efforts. While such strategic investments may be important in the longer term for OTE, they are being undertaken on the basis of leverage obtained from its exclusive monopoly position and the profits gained from this position. Domestic users would have benefited far more from acceleration of domestic investment in new services and the upgrading of technology.¹⁷

Table 6. State of competition (as in December 2000)

Public Voice telephony	Public fixed network for the provision of public voice services	Public fixed network for the provision of VAS	Voice to closed-user groups	Leased Lines	Mobile	Paging	Cable TV	Satellite	VAS
M	M	C	C	C	C	C	C	C	C
Until 1/1/2001	Until 1/1/2001	Since October 1997					N/A		

Notes:

VAS = Value-Added Services;

M = Monopoly;

C = Competition;

N/A: Not Available.

According to the Licensing regime that was introduced in 1995 based on Law 2246/94, all liberalised services were subject to Declaration except for those entailing the use of scarce resources. The latter were subject to a License. In particular, according to EETT's practical guide on the provision of telecommunication services in Greece, the 'license regime' applied to services whose provision involved one or more of the following:

- Establishment, operation and/or exploitation of telecommunication networks for the provision of telecommunication services;
- Use of scarce resources, in particular, radio-frequencies, the geostationary-satellite orbit, and numbers from the national numbering plan;
- Compliance with specific conditions related to the essential requirements or other special requirements related to National Defence and Security, and
- Award of special or exclusive rights (as is the case with OTE).

According to this licensing system, Declarations were issued by EETT within three months following the submission of a formal request, otherwise the Declaration was considered to be, *de facto*, endorsed. Further submissions were required each time one or more of the conditions referred to in a declaration were modified. The Ministry, following a recommendation by EETT, issued licenses within six months following the submission of an application to EETT.

A Ministerial Decision issued in July 1995 specified that the applicant putting a request for a license had to provide the regulator with the following information:¹⁸

1. A detailed description of the services to be provided.
2. A full presentation of the typology of infrastructure and the geographical area of coverage.
3. A description of how the applicant intends to use the radio frequencies to provide the service (where applicable).
4. The requested numbering space (where applicable).
5. The proposed duration of the license (could not exceed 10 years).
6. The total capacity of leased lines required within Greek territory and between Greece and other countries (in Kbps).
7. A feasibility study along with the business plan and the timetable for its implementation.
8. Provisions related to the licensee's relations with users (repair time, conditions for interruption of service, etc.).

Similar information had to be submitted by operators in their application for a declaration. An application for a declaration should include a detailed description of the services, the typology of infrastructure and the geographical area of coverage, the technical specifications of any terminal equipment (TTE), the requested numbering space (where applicable); a brief business plan; the total capacity of leased lines in use, and a statement of commitment against anti-competitive behaviour and compliance with the arbitration procedures set by the EETT.

Law 2246/94 set a number of general, and somewhat vague, criteria, which had to be taken into account for granting a license. These included the general state of national economy, the needs of the market, the strengthening of competition, the potential effect on the of development telecommunication infrastructure in the country, as well as the amount, origin, and method of financing of the required investment. The credibility and relevant experience of the applicant were also taken into account.

This licensing system was maintained until the transposition of Licensing Directive in 1999. According to officials at the Ministry, the requirements for obtaining an individual license, including a license for the provision of mobile telephony service, are included in a Ministerial Decision issued in late 1999.¹⁹ General licenses are issued by EETT following a request for registration submitted to EETT by the applicant companies.²⁰ In their request applicants should explicitly state that they would comply with the essential requirements. According to EETT, there are several categories of general licenses according to the type of services on offer. Similarly, if it is voice telephony services, then there are separate types of licenses for local, long-distance, or voice over IP services and in each case the prospective licensee needs to clearly specify which type of service it wishes to offer. The development and exploitation of alternative networks, including radio, mobile, and satellite networks are subject to individual licenses. The criteria to obtain an individual license include the requirement that the applicant company is incorporated in the form of *société anonyme* and that the company is registered in an EU member state and is formally represented in Greece.

The obligations imposed on license holders are according to the provisions of the Licensing Directive 97/13/EC that was transposed in the Greek Law. According to the Ministry, in the case of individual licenses, non-compliance with the data submitted by the applicant, especially when public works are concerned, may result in the full or partial loss of the financial guaranty deposited by the applicant, whereas for general licenses no consequences are foreseen for not respecting the time schedule or for not providing the services specified.

As in a number of OECD countries, the legal framework imposes fees on telecommunication operators to cover the administrative costs of examining an application for a license. A Ministerial Decision also imposes annual fees on license holders. These are calculated according to a formula that is based on the gross revenues they earn from activities that are included in their license.

Unlike the Ministry, which believed that licensing matters were settled following the transposition of the Licensing Directive, the majority of new players in the market expressed their dissatisfaction with licensing procedures. In particular, they have complained that licensing procedures have been extremely lengthy and bureaucratic. In one case, it was reported that a company received the first individual license to deploy a fibre optics alternative network 15 months after it had submitted their application.²¹ In 1998, the same company had filed an application for a license to offer international facility-based services and intended to buy capacity for this purpose, but the Ministry revoked its application due to a lack of secondary legislation.

Part of the problem relates to the difficulties encountered by new entrants over access to rights of ways. An interviewee reported that for a company to lay a fibre optic cable in the sea it needed about 40 different licenses from public authorities. The case of satellite services is worse. New entrants have reported extreme delays in licensing to establish transmitter and/or receiver antennae due to difficulties encountered in obtaining rights of way. The first company to obtain a license to build and operate a satellite network was granted the license in December 1999, almost three and a half years after it first filed an application in summer 1996. According to company officials, they need permission to set up earth stations from a range of public authorities. Given that they need permission for each earth station they install, this results in considerable delays.²² With the ratification of the new Telecommunications Law and the involvement of EETT in establishing procedures for 'one-stop-shopping' these conditions should change and there should be no more unnecessary delays in licensing due to difficulties in the exercise of rights of ways on public land. A first positive step has been made with a recent law (Law 2840/00) which provides EETT with regulatory powers over the award of both general and individual licences as well as over the relevant criteria for their award.

Some market players have also complained that the Ministry systematically delayed the award of licenses for the provision of services that require use of frequency spectrum. In particular, it has been reported that only OTE and the three mobile operators enjoy the right to use radio frequencies to provide

services beyond those for which they were initially granted frequencies, whereas other companies have repeatedly asked for the right to use microwave frequencies without any success. This is despite the fact that the requirements for the provision of mobile and radio services are covered by the Ministerial Decision issued in late 1999. Part of the problem has been due to the absence of appropriate regulations for the management of frequency spectrum and the unauthorised use of certain frequency bands. In 1999 the Ministry in collaboration with EETT made a positive step by setting up a Committee to manage the frequency spectrum.

The Ministry recently announced the Government's intention to grant a fourth mobile license by the end of 2000 and has been negotiating with the mobile operators to grant more frequencies. In this context, on 29 June 2000 EETT initiated a public consultation seeking the views of interested parties in relation to the type of mobile services they intend to offer, the frequencies they wish to get access to, the number and duration of prospective licenses, and the preferred system to be implemented for their allocation (*i.e.* competition tender or auction). Similar public consultations were launched in June 2000 for the award of licenses for DECT services and for individual licenses for fixed-wireless access.

Hellas and Panafon each began their operations in 1993.

In 1995, OTE was awarded an operating license after paying a lump sum of GRD 160 billion. Its licence allowed OTE to provide mobile communications services using the DCS-1800 technology. In addition, it specified that OTE should pay an additional charge of GRD 90 billion, adjusted annually relative to the Consumer Price Index, for the use of all frequency spectrum allocated to the Organisation. The Ministry issued Decision 92093/1995 which granted OTE the right to use the radio spectrum of the 1710-1785 and 1805-1880 MHz frequency bands in the DCS 1800 system for mobile telephony. Subsequently, in 1996, COSMOTE was established for the purpose of providing mobile telecommunication services. Pursuant to Law 2465/97, OTE transfer its right to develop and provide personal communications services using DCS 1800 technology to its subsidiary COSMOTE. However, COSMOTE never paid for a mobile licence. Instead, OTE paid a lump sum of GRD 15.5 billion for the frequency bands required for the operation of the DCS 1800 system. Both established mobile operators complained to the Greek State and to the EC about unfair treatment since there was no open bidding procedure in the licensing of COSMOTE. However, there has never been a formal investigation to these claims and the matter has been buried since.

According to its operating licence, OTE has also been enjoying certain privileges with respect to frequency allocation, including the right to request use of certain frequencies as part of its network expansion and modernisation programme. In the light of the upcoming new operating licence of OTE, these provisions should be reviewed and modified accordingly so as not to weaken competition in the market for wireless services.

A recent positive development that opened the way to new entrants in the market for wireless services has been EETT's decision in June 2000 to launch two public consultation debates: one regarding the allocation of a fourth mobile operating licence, and the second regarding the licensing of operators offering fixed-wireless access (FWA) in the local loop market.

With regard to licences for fixed-wireless access, EETT published its conclusions of the public consultation in July 2000. A total of 26 companies participated in the consultation process. The majority of these companies expressed interest in bidding for a FWA licence and opted for a nation-wide licence. In addition, it was suggested that licences should be allocated through a competitive tender procedure and that established operators (either wire-based or wireless) should be excluded from the tender process in order to stimulate competition and open the field to new entrants.

In September 2000, EETT issued an Information Memorandum, which opted for an auction procedure for the allocation of FWA licences. The memorandum essentially prepared the ground for the

issue of an Invitation to Tender in late October 2000. According to the memorandum, the number of individual licences to be granted are four (4) national Licences in the 3 410 – 3 600 MHz band, and five (5) national licences in the 24 500 – 26 500 MHz band. These will have a 15 year duration. An auction procedure has the advantage of ensuring transparent allocation of licences, and it would allow the NRA to impose certain minimum requirements, *e.g.* in terms of network rollout, on potential licensees.

However, a Ministerial Decree was issued in early September 2000, stating that the auction procedure would take place for the allocation of 3 (instead of 4) national licences in the 3 410 – 3 600 MHz band, and 4 (instead of 5), national licences in the 24 500 – 26 500 MHz band. The government decided that the two pending licences in the 3.5 GHz and the 25 GHz bands would be granted to OTE without an open bidding procedure. The only condition was that OTE would pay an amount equal to the bandwidth that OTE will be granted multiplied by the maximum price per MHz that will result from the auction for each band. The memorandum also contained an indicative timetable for the award of licences and a list of reserved prices for each of the licences under auction. The authority to award the licences and the responsibility to run the auction lies with EETT.

The granting of a licence without a competitive evaluation to the incumbent must be condemned. It is discriminatory, negates the principal rationale of holding an auction (or competitive tender), and places the regulator in a difficult position in terms of a neutral and independent arbitrator in the market. Neither is the procedure in line with WTO commitments that, in the Reference paper to the WTO agreement, state that any procedures for the allocation and use of scarce resources will be carried out in an objective, transparent and non-discriminatory manner.

In addition, the proposed allocation of two FWA licences to OTE is not consistent with the stated policy objectives of promoting effective competition to the benefit of all relevant parties and preventing anti-competitive practices. On the contrary, it is expected that such an approach will enhance OTE's dominant position in the market. The incumbent has no inherent right to such fixed wireless licences. On the contrary, since the licences are crucial in generating competition at the local level where the incumbent already has essential facilities, a case can be made to exclude the incumbent from the auction. Experience from other OECD countries has shown that competition has been the key driver to the rapid and efficient modernisation of the network since it provides incentives for investment in physical infrastructure.

Eventually, the auction procedure took place in early December 2000 and EETT announced the award of six fixed wireless access (FWA) licences to five successful bidder at an auction which raised GRD 15.7 billion (USD 41 million). The successful consortia include (a) Europrom, made up of Eurocom Networks Ltd and Prometheus Gas, which bid GRD 2.2 billion for a licence in the 3.5GHz band; (b) the mobile market operator Panafon, with GRD 2.77 billion; (c) The consortium formed between Greece's Public Power Corporation (DEH) and three Greek banks with a bid of GRD 3.01 billion; (d) The Mediterranean Broadband Services, a joint venture between Telecom Italia and Greek ISP Forthnet, with GRD 2.92 billion; and (e) Quest Wireless consortium, a joint venture between Infoquest, the constructing Hellenic Technodomiki, Starcom and CV Romania with GRD 1.5 billion. There were no offers for the third licence in the 3.5 GHz band. In the light of these events, EETT's role in preparing the environment for competition is crucial.

Further improvement in the licensing system is envisaged in the proposed new Telecommunication Law, in particular with regard to the time required for reviewing an application and granting the license. More specifically, the law determines that a general license should be granted within 15 days of application and an individual license within 6 weeks. Although these new timeframes represent a considerable improvement, further streamlining in the classification system is necessary.

For example, the new Telecommunication Law in Greece retains the system of general and individual licences and considers that any company that wishes to install, operate, and/or exploit public telecommunication networks is subject to an individual license. This implies that even if a company has no facilities of its own but provides facility-based services to the public it is subject to an individual license. In

addition, according to the new law, the Minister may decide to impose a limit on the number of licenses should this prove necessary on the grounds of non-availability of frequencies and/or numbers. Since it is the regulator that provides licences and administers numbers, it should be the same body that decides on whether there are resource constraints requiring a temporary suspension of licensing.

In regard to restrictions on licensing, the Ministry argued that any restrictions imposed on licensees relate mainly to competition rules and are in accordance with the relevant provisions of the EC Treaty. There are no explicit ownership restrictions in the regulatory framework for telecommunications. However, according to the Ministry, ownership restrictions may be imposed before granting new licenses on a case by case basis. This practice is deemed necessary as long as such restrictions aim to prevent the adverse effects of cross-ownership. Cross-ownership between competing telecommunication operators can lead to collusion and should be discouraged to ensure fair and transparent competition in the market. Yet, any such restrictions should be imposed following the provisions of specific regulation to protect competition and should not be arbitrary. The new law has indicated that a forthcoming Presidential Decree will set upper limits in the shareholdings a single person can have in similar companies operating in the same geographical market. This policy objective is considered as essential and should be undertaken as soon as the market opens to competition in order to avoid collusive behaviour and conflict of interest among companies.

According to the new Law, EETT should issue specific regulations to define the details for obtaining each type of license, the requirements for data submitted by potential licensees, the conditions included in the various licenses, as well as the administrative fees imposed on operators. It is expected that EETT's regulations will not differ from the Ministerial Decisions already in place that determine these issues. However, some market players are confused over which of the existing legislative acts will continue to apply and which are going to be replaced by new ones. Here again the government should immediately implement new EU proposals set out in the proposed *Directive on the authorisation of electronic communications networks and services*, which stresses the importance of simplicity in licensing and the information required from market entrants.

Licensing is one area where the Greek authorities should take advantage of their delay in opening the market to competition and implement 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 also in the process of proposing streamlined market entry procedures based on general authorisation.²³

In the creation of competition, EETT's mandate and market entry are inextricably interlinked. In the context of EU requirements and WTO commitments market entry must be unhindered except where objective resource constraints impose limits. With the exceptions of the incumbent, that is OTE, which will be 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. The EC in its *1999 Communications Review* stresses that individual license can 'create administrative barriers, which may be disproportionate...' and, as noted above, foresees a new framework which would use general authorisations. Such streamlining would allow Greece somewhat to catch-up on its delay in creating a competitive market resulting from the 2-year derogation period by stimulating new market entry. In this respect, there is a need for Greek authorities to begin from now to formulate a new streamlined licensing framework and minimise licensing procedures. In the context of regulatory streamlining, also stressed by the present government in its policy platform, general licenses ensure greater transparency and reduce the administrative burden on market participants. The responsibilities of telecommunication operators offering public telecommunication networks and services could have been specified either in a separate article in the new Telecommunications Law or by EETT through regulation, rather than through individual licenses. A bold step forward would be

to abolish the requirement for individual licenses for fixed infrastructure and services. Such a step would be in accordance with the spirit of the regulatory framework proposed by the EC.

2.2.2. *Interconnection and regulation of interconnection prices*

Interconnection has been the first regulatory matter that required EETT's intervention. Given that OTE has maintained exclusive rights over the provision of local, long-distance and international services, mobile and other operators had to rely on OTE for interconnection to the fixed public network. Since 1993, operators have had to rely on an interconnection regime that was established under Law 2246/94, and later on multilateral negotiations among the parties concerned that often made reference to various Articles in the Interconnection Directive. In this respect, interconnection charges have not been based on costs, nor on a commonly agreed objective methodology.

The first phase of the interconnection regime in Greece began in 1993, when OTE entered into interconnection agreements with the two mobile operators at the time, STET Hellas and Panafon. The terms and conditions of those interconnection agreements were included in the licenses awarded to the GSM operators. According to these licenses, mobile companies had to pay for interconnection charges for calls from a mobile to a fixed network, while they received payments for fixed to mobile calls on a revenue sharing basis. More specifically, according to the licenses, interconnection charges paid by mobile operators to OTE for mobile to fixed traffic should be calculated as a percentage of revenue (not on a call per minute basis) and had to be equal to the highest of either of the following amounts:

- a) 5% of mobile operators' revenue from all national calls originating from OTE's fixed network to the telephone network of mobile operators and vice versa; or
- b) 3.35% of mobile operators' gross revenue from providing cellular telecommunication and roaming services in Greece.

OTE followed the second formula and charged the mobile operators accordingly.

For fixed to mobile calls, the mobile companies received approximately 80% of the tariff while OTE retained the agreed interconnection fee per minute plus an administrative fee of 4% to cover the costs of accounting, billing customers, etc.

These interconnection charges were due to apply for the first eight years of the commercial operation of the two mobile operators, a period during which they were granted a duopoly. However, the licenses included a condition under which the interconnection charges could be revised anytime if OTE was obliged by EC regulations to base its charges on cost. In addition, it is worth mentioning two other provisions that were included in GSM licenses. First, mobile operators were prohibited from charging their customers lower tariffs than OTE's highest long distance rates. This restriction certainly did not help create appropriate conditions for competition to develop and should be rescinded in 2001 when new operating licenses for the GSM operators should be issued. Second, mobile operators were given the right to determine call charges for both originating and terminating traffic to their network.

The second phase began in 1995, with OTE appealing to EETT against the formula set out in the operating licenses of mobile companies. OTE claimed that interconnection charges were too low and that EETT should require that they should reflect the actual costs incurred. EETT relied on the results of a study conducted by a team of independent experts and academics and in July 1997 it set new interconnection charges at a rate of GRD 11.5 per minute instead of GRD 6.5 that was the rate following the formula proposed in the licenses. Both STET Hellas and Panafon appealed against this decision claiming that it was beyond EETT's authority and initiated legal proceedings before the Council of State. A public hearing of the case was scheduled for October 2000. The new increased rate was applied retroactively starting from the second half of December 1995. OTE collected the interconnection charges

for 1996 and 1997 also based on this rate. However, in March 1998, EETT informed OTE that it had set the interconnection charge for 1996 at a lower charge of GRD 10.54 per minute. Subsequently, in October 1999, EETT issued a third decision by which the interconnection charge for 1997 was set at GRD 9 725 per minute. OTE has refunded both Panafon and Telestet the difference for 1996 and 1997.

The experts that undertook the study on behalf of EETT calculated the interconnection charge per minute for all traffic passing through OTE's network. For this purpose they used traffic and cost data provided by OTE and the mobile operators. Most OECD countries, along with the EC, have realised that the fully distributed cost (FDC) methodology is inappropriate to determine interconnection prices as it is subject to manipulation in the allocation of joint and common costs across different services and does not discount for inefficiencies of former monopolies. For this reason, the methodology proposed by regulators and the EC is that of the long-run average incremental cost (LRAIC), based on forward looking costs and a sufficient return on investment for the incumbent.

However, at that time, OTE's cost accounting system was based on historic data while the cost allocation methodology used by OTE followed the fully distributed cost (FDC) model. In addition, the EETT experts were often faced with OTE's inability or unwillingness to provide the required data to allow for service costs to be estimated. With regard to operating costs, for example, no proper costing data existed. Despite these inherent difficulties the experts developed a model following the principles of the recommended long run average incremental cost methodology. EETT used this model as a basis to decide on the interconnection charges for 1995, 1996, and 1997 respectively.

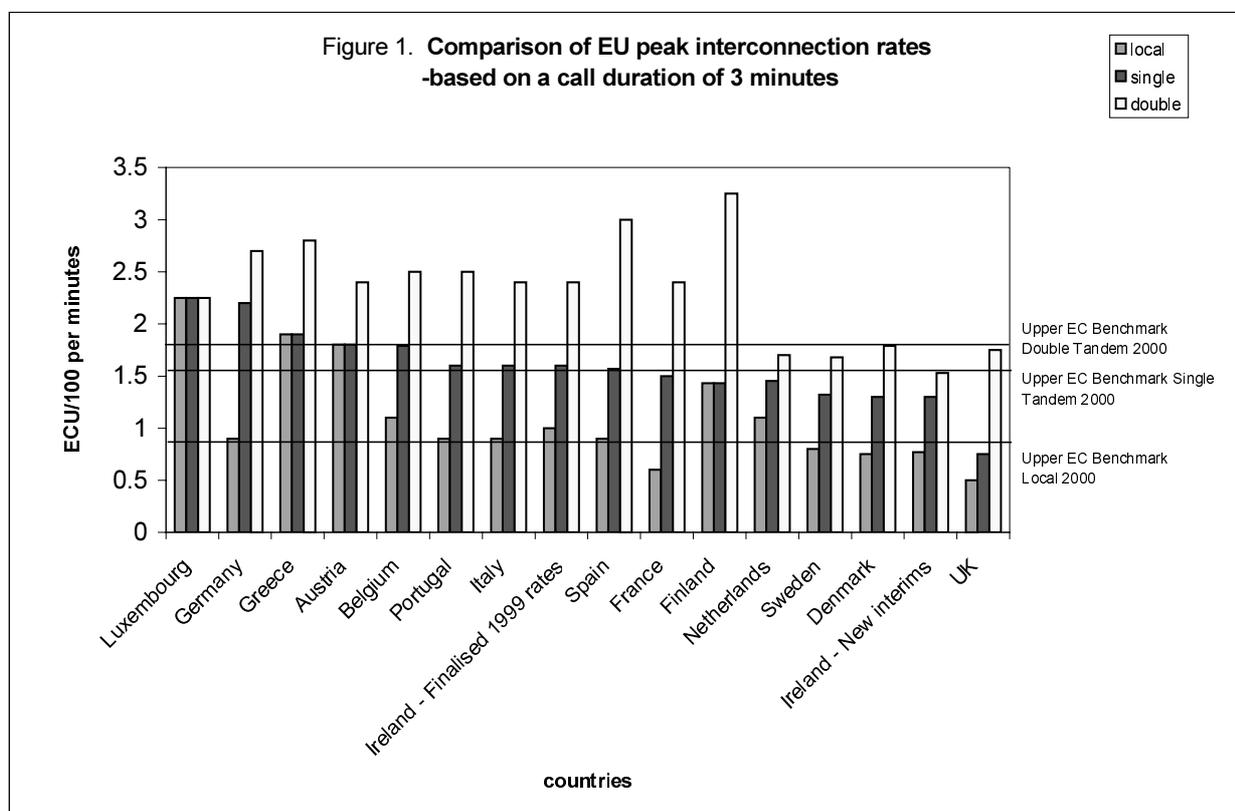
Since then the Interconnection Directive was transposed into the Greek law in 1999 (Presidential Decree 165/99). Although no accounting methodology is specified in the existing legislation, the Ministry expects that the methodology to be applied will be in line with the European Commission's recommendations, that is the LRAIC methodology. OTE claims that it is in the final stage of adopting and implementing a comprehensive cost accounting system which will enable it to determine the costs of interconnection conforming to the EC requirements.

The third phase began with the transposition of the Interconnection Directive in 1999 and the publication by OTE of a Reference Interconnection Offer (RIO). OTE in its RIO for 1998 proposed interconnection charges for mobile operators of GRD 8.3 per minute. As this tariff falls within the best practice range that appears in the relevant EC Recommendation on Interconnection, it was approved by EETT. OTE's 1999 RIO is currently being reviewed and has not yet received EETT's final approval.

In the light of the upcoming full market liberalisation and according to the terms of the derogation given by the EC, it is the regulator's duty to determine a general framework for interconnection and prices before full market liberalisation. In this context, it is necessary for OTE to make known well in advance the terms and conditions of access to its network. In June 2000 the regulator announced the interconnection rates for new entrants. However, several new entrants complained that the announcement came in too late and that OTE could benefit from a benchmarking exercise on how other operators design their RIOs. The major problem with OTE's RIOs so far was that they were addressed only to the mobile operators and not to a wider audience of new entrants. If for any reason such a framework cannot be implemented by the time new entrants enter the fixed PSTN market then the best recourse would be to adopt best practice EU interconnection prices as benchmarks until a costing methodology and a proper RIO is implemented by OTE. Given the importance of developing electronic commerce and Internet applications the EETT should also give consideration to developing a flat rate Internet access call origination product (FRIACO), which would facilitate the offer of unmetered Internet connections. The requirement imposed on BT in the UK has led to important changes in the UK Internet market and allowed for cheaper access and the development of an "always-on" environment.

As of March 2000 OTE's interconnection rates (peak time) exceeded by a considerable margin EU benchmarks for local, single transit and double transit interconnection (see Figure 1). For local and

single transit interconnection Greece was the highest in Europe and the third highest for double transit. Since then improvements have been to the extent that for local interconnection Greece is the third most expensive in the EU, the second most expensive for single transit and the fifth most expensive for double transit.



2.2.3. Regulation of pricing

Decision 97/607/EC by which a derogation period was granted to Greece for the liberalisation of fixed telephony services and the underlying network infrastructure, states that OTE's fixed telephony prices should be aligned to costs no later than 1/1/2001. At the same time, Law 2246/94 required that public fixed voice telephony tariffs be aligned to costs and that cross-subsidisation practices be avoided. Along with this requirement, since 1995 OTE has started re-balancing its prices. The enforcement of the above has been monitored by EETT, whilst the Ministry of National Economy generally consulted with OTE and gave its consent to price changes that are below or in line with increases in consumer price index. Overall, the tariff policy that has been followed since 1993 was designed so as to avoid negative reactions from subscribers. For example, in 1994 tariffs were not increased because of prior increases in 1993. Tariffs must also be approved by OTE's Board of Directors and published in the official government gazette.

The derogation granted to Greece was provided on the basis of a single justification, that is, to allow OTE time to rebalance its tariffs before market liberalisation. Such rebalancing should have been completed before full market liberalisation but it is unlikely that this will have been achieved. Existing evidence, and claims by OTE, indicate that further price rebalancing will be required. Overall, although monthly rental charges and local tariffs have increased over recent years (see Table 15), they continue to be below cost. Thus, local telephony continues to be subsidised by revenue generated from long distance and international services.²⁴ Further price rebalancing occurred in the second half of 2000, but it may be

insufficient to attain cost-oriented prices. It is important for EETT, in consultation with OTE, to fix a schedule for completing rebalancing and ensuring that this schedule is transparent.

Currently there is no price cap regulation applied to OTE. However, for a period of three years beginning January 1, 1995, the Board of Directors of OTE was allowed to implement annual tariff increases up to a maximum defined in OTE's Charter (Law 2257/94, article 2). More specifically, the maximum weighted average increase permitted for the calendar years were not allowed to exceed the increase in the annual consumer price index (the 'CPI') for the period March 1, 1993 to December 31, 1994 plus certain percentage points. Similarly, the maximum increases permitted for 1996 and 1997 were not allowed to exceed the increases in the CPI during the prior calendar years, plus certain percentage points. These percentage points were 3%, 2% and nil for 1997, 1996 and 1995 respectively. These increases were intended to allow OTE to readjust its tariffs to reflect the costs of providing the services. Table 7 shows the tariff changes in relation to changes in the CPI for the years 1995, 1996, and 1997.

Table 7. **Changes in tariffs relative to the consumer price index (%)**

	1995	1996	1997
CPI (% change from previous year)	10.9	8.2	5.5
Percentage points for price cap	0	2	3
Expected (permissible) increase	24	10	8.5
Actual weighted average tariff changes	15.6	5.6	4.6

Source: Ministry of Transport and Communications (MTC) and OTE.

The most transparent and effective way to regulate prices is through a price cap formula. The EETT should consider imposing a price cap as of 1 January 2001. In that the EETT has indicated that it intends to commission a study on price cap regulation the initial value for the productivity factor (the X in CPI-X) can be viewed as temporary.

2.2.4. *Accounting separation*

According to Law 2246/94, OTE is required to keep separate accounts between its fixed voice telephony services and other operations. In particular, following the transposition of the Interconnection Directive into the Greek law, OTE as the incumbent telecom operator is required to follow accounting separation for interconnection services. In addition to the accounting separation issue, the cost accounting system developed by OTE follows the Fully Allocated Cost (FAC) model and is anticipated to further evolve to a cost accounting system based on LRAIC model. OTE presented this system to the Regulator in mid-2000 who is currently reviewing it with the help of independent academic advisors. It is expected that the IPO of COSMOTE will be helpful in ensuring arms length operation between OTE and its mobile subsidiary.

Accounting separation has weaknesses as a regulatory tool. For example, there are problems of "information asymmetry" concerning an incumbent's costs, as well as the ingeniousness of "creative accounting". Nevertheless, data provided on the basis of accounting separation will go some way in restricting OTE's cross-subsidisation. Moreover, sustained effort to analyse and calculate service costs will improve understanding of the costs that can be attributed to various activities.²⁵

2.2.5. *Alternative infrastructure*

Unlike many OECD countries Greece is extremely weak in terms of the availability of alternative infrastructures. A particular weakness is that a cable television infrastructure does not exist, nor are there any plans to significantly improve the situation. In most OECD countries cable is viewed as providing an important means of access to high-speed infrastructure to support electronic commerce and multimedia applications, as well as providing the means to compete effectively against the PSTN. For this reason it is important that new broadband and narrowband technologies be allowed to enter the market as rapidly as possible, in particular wireless in the local loop technologies and third generation mobile technologies.

In principle, the Minister of Press and Mass Media grants the licenses for the provision of cable television/ broadcasting services (operators also need a telecommunication licence from EETT). Presidential Decree 123/98 (the transposition of Directive 95/51/EC), specifically states that cable operators are subject to approvals by the relevant authorities (including the municipalities) for using rights of way and they can use their infrastructure for the provision of telecommunication services. However, because of the lack of cable television infrastructure in Greece, the Decree has not been put to the test.

2.2.6. *Numbering*

Numbering has important implications for the development of competition as telecommunications operators need to have access to adequate numbers in order to achieve an effective provision of their services. In Greece, at present, the Ministry allocates numbers on the basis of individual requests from telecommunication operators and is responsible for managing numbering resources. However, upon passing of the new telecommunications law by the Greek Parliament, this responsibility will pass on to the Regulator who will be responsible for numbering and for managing numbering blocks.

Also important is the introduction of number portability, which refers to the ability of customers to keep their numbers even when they change their location, service provider, or type of service. When customers cannot keep their telephone number, they are often faced with substantial costs relating to, for example printing new letterheads, informing business partners and clients, etc. Thus the absence of number portability can put a new entrant at a disadvantageous position since the potential "switching costs" act as a strong disincentive for customers to switch from the incumbent to a new entrant. In this context, the relevant EC Directive requires the introduction of number portability in Member States as soon as possible as a means to enhance consumer choice and effective competition. Complying with the EC Directive and taking full advantage of the transition period offered,²⁶ the new law sets as the latest date of introduction of number portability the year 2003, that is two years after the market is liberalised. This is too late. The government should empower EETT to oblige operators, and in particular OTE, to introduce number portability as soon as technically possible.

2.2.7. *Carrier Selection and pre-selection*

Carrier pre-selection is firmly in place in several OECD countries such as Australia, Denmark, Mexico, New Zealand, US, the Netherlands, etc. The EC requires member states to ensure that by 1 January 2000 fixed network operators with significant market power enable their subscribers to obtain access to the services of other interconnected service providers, by means of pre-selection with a call-by-call over-ride facility. OTE benefits from an extension of the deadline under EU regulations for the introduction of number portability and carrier selection and pre-selection to January 1, 2003. Greek officials argue that, in line with national and EU legislation, carrier selection will be introduced no later than 31.12.2002. The relevant EC Directive has already been transposed into the national legislation by Presidential Decree 165/99. However, no plans have yet been made for carrier pre-selection. With regard

to mobile services, no provision exists for mobile service number portability, although it is perceived that number portability will be applicable in all services.

Carrier pre-selection should be in place as soon as markets are opened to competition. For this purpose, EETT should review these deadlines and try to accelerate the introduction of carrier pre-selection including local pre-selection. By deferring implementation the authorities are not trying to catch-up on the delay which the derogation has imposed on the Greek market and Greek users.

2.2.8. *Spectrum allocation and the licensing of mobile operators (including UMTS)*

To date, the Ministry has been responsible for spectrum allocation and planning. Spectrum is allocated according to the National Frequency Allocation Table, following the recommendations by the ITU and the European Radio-communications Commission (ERC). Ministerial Decision No. 61646/98 (OJ A 505) has determined that the calculation of charges levied for spectrum resources should be based on a formula that takes into account, *inter alia*, the bandwidth of frequencies allocated, the technology used, the number of stations in operation, and the frequency zone in use. However, according to the new Law, all responsibilities with regard to frequency allocation and licensing of wireless operators will pass on to EETT.

The first two mobile operators, Panafon and STET Hellas, operate under licenses issued by the government on September 30, 1992 for the operation of mobile telephony services in the 900 MHz frequency band. The prevalent system at the time was that operators were paying for a license rather than for access to spectrum. STET Hellas and Panafon each began their operations in 1993.

In 1995, OTE was awarded an operating license paying a lump sum of GRD 160 billion. Its licence allowed OTE to provide mobile communications services using the DCS-1800 technology. In addition, it specified that OTE should pay an additional charge of GRD 90 billion, adjusted annually relative to the Consumer Price Index, for the use of all frequency spectrum allocated to the Organisation. The Ministry issued Decision 92093/1995 which granted OTE the right to use the radio spectrum of the 1710-1785 and 1805-1880 MHz frequency bands in the DCS 1800 system for mobile telephony. Subsequently, in 1996, COSMOTE was established for the purpose of providing mobile telecommunication services. Pursuant to Law 2465/97, OTE transferred its right to develop and provide personal communications services using DCS 1800 technology to its subsidiary COSMOTE. However, COSMOTE never paid for a mobile licence. Instead, OTE paid a lump sum of GRD 15.5 billion for the frequency bands required for the operation of the DCS 1800 system. Both established mobile operators complained to the Greek State and to the EC about unfair treatment since there was no open bidding procedure in the licensing of COSMOTE. However, there has never been a formal investigation to these claims.

According to its operating licence, OTE has also been enjoying certain privileges with respect to frequency allocation, including the right to request use of certain frequencies as part of its network expansion and modernisation programme. In the light of the upcoming new operating licence of OTE, these provisions should be reviewed and modified accordingly so as not to weaken competition in the market for wireless services.

A recent positive development that opened the way to new entrants in the market for wireless services has been EETT's decision in December 2000 to award six licences for fixed-wireless access (FWA) services in the local loop market.

With regard to the award of a fourth mobile licence, EETT sought the views of interested parties on a number of issues. These included, the type of services to be offered, the selected frequency bands, the expected number and duration of licences, the impact of the award of a fourth 2nd generation mobile licence

upon the future award of UMTS licences, the role and rights of existing mobile operators regarding requests for use additional frequencies in the band they operate, the preferred mechanism for the allocation of licences (*i.e.* through a competitive tender procedure or through an auction procedure), etc. On 24 August 2000, EETT announced the results of the consultation process. In total, 10 companies participated in the process and all expressed interest in bidding for the fourth mobile licence. The majority of companies opted for the award of just one more operating licence in dual band through a competitive tender procedure.

No specific plans have yet been made regarding the introduction of the UMTS system. According to Greek officials, the granting of UMTS licenses is anticipated by June 2001. Given that FWA licences have been allocated by auction the same procedure should be used for UMTS. EETT needs to ensure that all licences are allocated on the basis of the same objective and transparent procedures.

2.2.9. *Rights of way*

Law 2246/94, as amended by Law 2578/98, includes provisions for the granting of rights of way. Where the essential requirements or conditions related to environmental reasons are not met for rights of way to be granted, co-location and facility sharing are encouraged as second best alternatives. In particular, according to the Presidential Decree 165/99 that transposed the Interconnection Directive, the organisations that provide public telecommunications networks have the right to install own facilities on public or private land, or they can share the facilities and/or property with other organisations providing similar services following bilateral agreements among the parties concerned.

However, mobile operators and new entrants have reported several difficulties in getting access to rights of way which resulted in long delays in the installation of antennae for mobile services and the construction of alternative backbone infrastructure. The first company to obtain a license to build and operate a satellite network was granted the license in December 1999, almost three and a half years after it first filed an application in the summer of 1996. Company officials complained that delays were caused by the bureaucratic, uncoordinated procedures that required them to get permission from a range of public authorities for each earth station they installed.

Similar problems have been reported by Panafon and STET Hellas. The two mobile operators have filed a complaint with EETT accusing OTE of discriminatory behaviour for not treating them equally with COSMOTE in offering them co-locations in fixed facilities.

The new law provides that EETT will establish procedures for 'one-stop-shopping'. These provisions are expected to facilitate new entrants in getting timely access to rights of way on public land. In addition, the new law encourages negotiation of arrangements for facility sharing between operators, insofar as this would not impose an unreasonable economic burden or technical difficulty on facility-based operators.

2.2.10. *Unbundling*

In the last several years regulators 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. For these reasons it is important that Greece ensure that unbundling policies, including the determination of prices for unbundled local loops, are in place.

EETT has looked at this issue and has published a consultative document seeking the views of industry players. A positive development in the implementation of unbundling policy has been the

inclusion in the new law of a condition that obliges operators with significant market power to provide competitors unbundled access to their local network at cost-based prices. In addition, the law has taken an approach similar to the one adopted in Canada where unbundling of designated elements is mandated for a limited period of 5 years. The new law in Greece provides for a limited period of compulsory unbundling of 4 years. These provisions are very positive as they will assist to compensate for the lack of alternative infrastructure in the country whilst giving an incentive to new entrants to deploy their own facilities. However, it is questionable whether the law itself should specify the limited period during which unbundling will be required. Such detailed provisions should be left to the discretion of the regulator, who is in a better position to assess competitive and market developments and may need to impose a more flexible timetable. To be effective unbundling will depend on the price charged for wholesale access to unbundled local loops. If price rebalancing has not yet been completed, unbundling could well be ineffective so that the period during which unbundling provisions apply may need to be longer. Similarly, if an appropriate agreements between the incumbent and new entrants on technical and collocation issues have not yet been completed the full benefit of unbundling will not be available to new entrants.

2.3. *Streamlining regulation*

Greece is currently in the process of establishing a new regulatory framework for the sector. However, at the same time, officials responsible for the sector should question whether all regulations are necessary or whether the costs of establishing new regulations outweigh the benefits envisaged. No doubt that regulation will continue to be required in areas where the market mechanisms may fail, such as universal service, spectrum management, consumer protection and information and promotion of competition. However, in other areas, such as licensing streamlining could be rapidly implemented.

It is clear from the EU's 1999 Communication Review that during 2000-2003 there will be a new emphasis on streamlining regulations, including licensing procedures. Although Greece has only recently installed a new regulatory system, insufficient foresight has been given to implementing new best-practice regulations. Licensing is one area where the Greek authorities should take advantage of their delay and implement streamlined procedures that meet best practice regulation.

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 also in the process of proposing streamlined market entry procedures based on general authorisation.

In this context, the licensing regime in Greece needs to be streamlined to facilitate quick market entry at the expiry of OTE's exclusive provision period. This could best be achieved through a system of class licensing and eliminating the onerous requirements presently imposed.

2.4. *Consumer protection and information*

Greece has made important steps in the area of consumer protection. In particular, a relevant Ministerial Decree has been issued defining a procedure for public hearings and the resolution of disputes between consumers and operators. According to this Decree, EETT is responsible for examining unfair practices notified by consumers and for recommending appropriate action. EETT also maintains the right to require and obtain any information that is necessary in order to perform its duties. For example, it has the same powers as a taxation auditor, can make investigations on the premises of telecommunications operators, etc.

However, due to lack of human resources, EETT officials admitted that they have been unable to take drastic action in relation to consumer complaints. EETT has collected a 'package' of consumer

complaints and has transferred them to the Ministry. In parallel, EETT has been collaborating with the Consumer Protection Authority, the body responsible for consumer affairs at the Ministry of Development, for the resolution of customer complaints against telecommunication operators.

A positive intervention by EETT on consumer affairs took place in June 1999 with the issue of a Recommendation addressed to both fixed and mobile operators. The Recommendation noted: (a) The need to provide consumers with sufficient information so as to enable them to make informed choices; (b) The provisions that telecommunication operators need to establish to resolve consumer complaints; and (c) The general provisions that need to be included in consumers' contracts with operators. The Recommendation referred to specific information that needs to be available to consumers, including information on tariffs, subsidisation schemes, quality of service indicators, etc.

A normal practice in the mobile market is for providers to impose on users a minimum subscription period of 1-2 years. This long subscription period is closely linked to the subsidisation of handsets since it allows operators to cover the subsidies for handsets through the monthly charges. EETT recommended that in their contracts with subscribers, mobile service providers should clearly state the exact amount of subsidies they provide for handsets. In this way, customers wishing to revoke their subscription before the end of the minimum subscription period will be able to refund the operator an amount equal to the subsidy provided by the mobile operator and be free to select a service provider of their choice. In addition, EETT recommended that mobile operators should not change the numbers allocated to customers if they move from one tariff package to another. However, so far mobile operators have not conformed to these recommendations.

Article 9 of the new law further clarifies consumers' rights against telecommunication operators. What is still required is for EETT to establish a Consumer Complaints Centre where complaints about telecommunication operators will be collected, and for all operators to be report on the number of consumer complaints as part of their annual reporting duties to EETT. It is also important that EETT has, if necessary sufficient powers to enforce recommendations if they are not adhered to by industry.

2.5. *Quality of service*

OTE's license prescribes specific quality of service targets to be achieved in urban areas by the end of 2003 (see Section 3 for details). It also states that OTE should improve the quality of its telephony services each year between 1996 and 2003 and attain certain quantitative development objectives relating to the spare capacity of the exchanges, the level of network digitalisation, etc. Similarly, the licences of mobile operators issued in 1992 included specific geographical and population coverage requirements. In addition, specific quality requirements for the provision of leased line services were defined in relevant Presidential Decrees.

The law requires all telecommunication operators to provide EETT with data on their service performance in order to enable it to check compliance with quality of service targets. Furthermore, in a relevant Recommendation issued in June 1999 (see also Section on consumer information), EETT called operators to collaborate on the establishment of specific indicators to measure progress made in quality of service objectives.

EETT does not publish the results of its quality monitoring. EETT should monitor and publish quality of service data for the incumbent and other potential wire-based operators. It could also examine the possibility of publishing quality of service data for mobile operators and can benefit by examining similar initiatives of other regulators.

The earthquake in Attica in September 1999 led to a surge in mobile traffic by approximately 800% and created severe problems in the operation of mobile networks. In order to ensure that this

problem would not occur in future emergencies, the EETT requested the incumbent and the three mobile operators to establish an action plan for emergency situations that would allow for the timely repair of faults on their networks.

2.6. Universal Service Obligation

Under the previous legal framework, OTE had total responsibility for the provision of universal service until 31/12/00. Article 5 of the Presidential Decree 165/ adopted a limited definition for universal service that includes provision of the following services:

- Voice telephony.
- Facsimile Group III communications in accordance with ITU – T Recommendation in the “T-Series”.
- Voice band data transmission via modems at a rate of at least 9600 bps in accordance with ITU-T Recommendations in the “V-series”.
- Operator assistance.
- Directory services.
- Provision of public pay phones.
- Free access to emergency services (112).

The previous telecommunications law provided that certain expenses incurred by OTE for the provision of services to remote geographical and uneconomic areas would be subsidised by the Ministry of Finance. These expenses could not exceed 2% of OTE’s annual operating and capital expenditures. Up to now, OTE did not maintain an appropriate cost allocation method that would allow it to estimate the costs of providing these services. Thus, the compensation it has received so far is based on OTE’s subjective estimates of the costs of providing services to uneconomic areas.²⁷ In the light of full opening of the market this practice should stop. The new OTE charter should delimit any form of subsidisation from the state and refrain any sort of favourable treatment to OTE that would put in danger the development of free and fair competition.

The new law explicitly states that any telecommunication operator can undertake to provide universal service. At the same time, it extends OTE’s obligations for the provision of universal service until 31/12/2001. Should market participants entrusted with the provision of universal service prove that it conforms an excess burden to them the law provides for the establishment of a universal service fund.

In the light of circumstances, it is unlikely that any initiatives will be taken before the end of 2000 to determine how universal service should be funded. Before such a decision is taken it is also important that a determination be made of the costs of providing universal service and to use this to decide whether it is a burden on the incumbent. Any such study should be based on a methodology that complies with the EC recommendations and is approved by all parties concerned.²⁸ If the cost of universal service provision constitutes a relatively small burden on the incumbent then it may be possible to require the incumbent to maintain the burden of universal service provision, recognising that there are also benefits to operators providing universal service.

The new law also relates the concept of universal service to the development of an Information Society without, however, imposing any additional burden on telecommunication operators to subsidise educational, health, and other social policy objectives. This decision conforms to best policy practices and should be applauded. It is the Government's intention to fund the development of an Information Society directly through the structural funds allocated to the country from the 3rd Community Support Framework Programme.

2.7. *Application of competition principles*

The basic provisions of Greek competition law are set out in Law 703/77 for the "Monitoring of Monopolies and Oligopolies and Protection of Free Competition". The law essentially incorporates the relevant EU regulations in the Greek legal context and applies to all sectors of the economy, except where it is provided otherwise.

In the telecommunication sector in particular, the relevant Law 2246/94 entrusted EETT with responsibilities over the supervision and enforcement of competition principles in the sector. There is no exemption that prohibits the Competition Authority from playing a role in the telecommunication sector. In practice, it is the Competition Authority together with EETT who are the administrative bodies responsible for monitoring and enforcing competition policy. EETT often seeks consultation with the Competition Authority to restrain anti-competitive practices in the market, even though there has been no formal method of co-ordination with EETT. The Competition Authority remains severely understaffed and its officers have limited knowledge of the field of telecommunications.

The Competition Authority also approves mergers and take-overs where applicable. In addition, according to the previous telecommunication law (Law 2246/94), any significant change in the ownership of a telecommunication operator granted with an individual license has to be approved by the Minister for Transport and Communications. It is expected that the Competition Authority will play a larger role in the sector as competition emerges and a new statute on competition policy is adopted. It is important that, where there is some overlap in the jurisdiction and competencies of EETT and the Competition Authority that they establish agreed procedures for consultation and taking action based.

The new legislation on competition policy amends Law 703/77 and provides for the re-organisation and empowerment of the Competition Authority. The law includes a provision that defines further the role of Competition Authority in sectors regulated by independent authorities like EETT. In particular, the law states that the Competition Authority should have sole responsibility over the enforcement of competition principles in all incidents reported to it by the independent authorities.

Further reference to fair competition practices is included in the new telecommunications law. Article 8, par. 8 of the new law transposes Directive 99/64/EC which calls for the legal separation between the telecommunication and cable television activities operated by a single operator. In particular, the new provision restricts a legal entity representing a telecommunication operator with significant market power from having control over a cable network. This is an important clause for the development of competition even though it is presently not relevant in Greece due to the lack of cable infrastructure.

There have been a few occasions where EETT, together with the Competition Authority intervened effectively and provided protection to new entrants against abusive market power of the incumbent. One example concerns a case in which two independent service providers, Forthnet and Telecom Dynamics, filed a complaint with EETT against OTE in connection with the provision of leased lines. The companies complained that OTE's considerable delay in providing leased lines was an abuse of its monopoly position. EETT initiated a formal inquiry in consultation with the Competition Authority. No decision has yet been issued, but if EETT finds there is ground to these allegations it is likely that OTE will

be penalised. EETT has the authority to fine an organisation up to 15% of its annual turnover in the relevant sector.

On another occasion, EETT imposed a fine of GRD 80 millions against OTE for anti-competitive behaviour on the grounds that OTE did not provide independent Internet Service Providers with single access numbers as it had done with its own subsidiary OTEnet. Out of the GRD 80 million fine, GRD 50 million were imposed on behalf of the Competition Authority and the rest on behalf of EETT. Nevertheless, it should be noted that, so far, EETT has not taken a pro-active approach in monitoring the market and enforcing competition principles. Rather, it has waited for the industry to launch complaints before taking the initiative and responding to a market problem.

2.8. *Greece and the WTO agreement*

Greece has one of the 68 member-countries of the WTO that agreed to open their markets to competition in basic telecommunications services at pre-defined dates. The agreement also requires WTO members to allow foreign telecommunications operators to provide services in any member country as well as to have shareholding rights in telecommunications enterprises of that member country.

Greece is about to comply with the first commitment on 1/1/2001 when the market for public fixed voice telephony and network infrastructure will open to competition. In relation to the cross-border supply of telecommunications services, Greece permits foreign telecommunications service providers to operate in the market as long as they operate in the form of a *société anonyme* and are exclusively engaged in the provision of telecommunications services. As regards companies from non-WTO member countries, Greece will maintain the access restrictions to the market for public fixed voice telephony and network infrastructure until 1/1/2003.

2.9. *The impact of convergence on regulation*

The progressive convergence of telecommunications, broadcasting and information technology has led to the development of new types of applications and services that do not strictly fit into the existing service classification system set up for regulatory purposes. Such services stem from the deployment of Internet for business applications, including e-commerce, and the development of digital broadcasting platforms. Regulators across OECD countries have started to realise that technological and service convergence needs to be treated with care so that artificial regulatory barriers imposed do not inhibit the economic and social benefits it can generate. The main issue of concern has been how to facilitate the process of convergence, especially when each of the sectors involved is regulated by a different regulatory institution.

Greece has lagged behind its OECD counterparts in ensuring that regulators from the various sectors co-ordinate their actions to ensure efficient convergence between the various technologies and services. In Greece, the broadcasting and telecommunications sectors are still regarded as separate entities. The National Radio-Television Council supervised by the Ministry of Press and Mass Media regulates the broadcasting industry, and EETT supervised by the Ministry of Transport and Communications regulates the telecommunications sector. There is a formal requirement for co-operation between the regulators and the Ministries in the case of licensing a broadcasting network. In particular, the relevant law stipulates that such a network should first obtain a telecommunications license. However, in practice market players are faced with an extended bureaucracy that causes delays in the launch of new services.

A plausible solution to the problem followed by many OECD countries is the unification of regulatory functions in broadcasting and telecommunications under a single independent organisation that

will operate at arm's length from the relevant Ministries and the Government. The latter will still maintain their policy functions in the respective sectors.

Greece should consider the creation of a Telecommunications and Broadcasting Committee that would combine the regulatory functions of both the telecommunication and the broadcasting sectors.

3. PERFORMANCE OF THE TELECOMMUNICATIONS INDUSTRY

3.1. Introduction

The rationale for regulatory reform is the increase in the efficiency in the provision of services and the beneficial effects it is expected to deliver to users and consumers. This section assesses the performance of the Greek telecommunications industry in the delivery of those benefits to users and consumers, using indicators related to network penetration, investment, price, quality, and productivity.

The main elements of market performance examined below are:

- Network development and modernisation;
- Services based on leading edge technology and infrastructure;
- Lower prices;
- Improved quality of service;
- Increased customer choice; and
- Benefit to users.

The exclusive right retained by OTE for the provision of voice telephony and the establishment and provision of public telecommunications networks, arising from the European Commission's derogation, has limited customer choice with respect to the main telecommunication service offerings. Nevertheless, the indicators are important in the context of the incumbent's commitment, as well as that of the government, to use the breathing space given by the European Union's derogation to undertake required structural changes and investments. The concern relating to network development and modernisation is also important since it is critical in the delivery of the benefits of the Information Economy.

The telecommunication service sector, as measured by telecommunication service revenues, in Greece has increased, as shown in Table 8, from GRD 75.4 billion in 1985 (USD 546 million) to GRD 1 597.4 billion by 1999 (USD 5 226.2 million). The telecommunication sector, one of the most dynamic in the Greek economy,²⁹ increased its share in GDP from 1.3% to 2.9% during this period. During the same period the number of telephone mainlines expanded significantly, from 3.1 million lines to 5.6 million or 53.4 per 100 inhabitants. Employment in the sector, which stood at 30 571 in 1985 has declined steadily to around 24 000. The incumbent, OTE, was ranked 43rd in 1999 among the major public telecommunication operators in the OECD area as measured by revenues.

Table 8. Main telecommunication indicators

	1995	1996	1997	1998	1999
Telecommunication Services: Operating Revenue (billion GRD)	680. 6	832.9	1 048.0	1 273.8	1 597.4
Total Employment ('000)	25 381	24 758	23 841	23 733	24 000*
OTE's Operating Revenue per access line (GRD '000)	116. 6	130.5	151.7	170.8	197.3
OTE's Operating Revenue per employee (GRD '000.)	24 498	29 206	36 224	43 116	51 275

Note: Total employment includes mobile and fixed services.

* Estimate for 1999.

Source: OECD (1999), Telecommunications Database 1999 and OTE.

Over three-quarters of operating revenue of OTE derives from public switched telecommunication services (Table 9). However, this share is in relative decline as new business areas are developing, mainly Internet access, and business services.

Table 9. OTE's distribution of telecommunication service revenue

PSTN Service Revenue (incl. Revenue from fixed charges)	1998		1999	
	Drachmas (million)	Per cent	Drachmas (million)	Per cent
Basic monthly rentals	132 592	14.0	147 844	13.5
Local & long distance calls:	416 626	43.9	454 239	41.4
[of which fixed to mobile:]	112 325	11.8	177 779	16.2
Other	18 064	1.9	17 290	1.6
International	175 594	18.5	174 769	15.9
Mobile services	9 013	1.0	58 270	5.4
Total (Fixed telephony & Mobile)	751 889	79.3	852 412	77.8
Leased lines & data communications	42 072	4.4	45 521	4.1
Other operating revenues	154 047	16.3	198 368	18.1
Total Operating Revenues	948 008	100	1 096 301	100

Source: OTE Annual Report 1999.

3.2. Network development and modernisation

The growth in telecommunication access lines in Greece has decreased from a compound annual growth rate of 5.3% during 1987-92 to 3.8% during the 1992-97 period.³⁰ This growth has been just above the average for the OECD during these two periods (see Figure 2). In terms of access lines per capita, Greece ranked 15th in the OECD in 1997 with a penetration rate of 52 lines per 100 population (compared to an OECD average of 49). By 1999 the penetration rate had increased to 53.4 per 100 inhabitants. The build-up of network capacity has eliminated the long waiting time for a connection, a common feature of the 1970s and 1980s. The waiting list which in 1994 stood at 210 930 had declined to 27 163 by 1998 and, at present, waiting time for a new connection is under a week.

The traditionally high penetration rate in Greece reflects the fact that more than one-third of subscribers have more than one home and about 14% of subscribers have more than one line. In addition, OTE has made an effort to equip the main tourist resorts with good telecommunication access. Data are not provided by OTE as to coverage in rural areas and small communities situated in areas not frequented by tourists.

Table 10 indicates that in Greece, public telecommunications investment (*i.e.* OTE's investment) as a percentage of revenue increased significantly in the early 1990s (when about 1 million access lines were added between 1991-1995). Increases in investment over the last few years reflect investment in mobile activities and OTE's international investments. OTE has also undertaken significant investments outside of Greece since 1997 (Table 11).

Table 10. **Public Telecommunication Investment as a percentage of revenue**

	1986-88	1989-91	1992-94	1995	1996	1997	1998	1999
Greece	20.5	33.4	45.6	24.1	23.6	25.6	27.9*	29.5*
OECD average	25.8	27.5	25.0	24.4	25.1	24.4	25.1	26.6

* Only OTE Group investment.

Source: OECD (1999), *Communications Outlook 1999*, Paris, Table 4.10, p. 81.

Table 11. **International telecommunication investments by OTE**

June 1997 20% in Telekom Srbija GRD 106 billion.
March 1998 90% equity in ArmenTel GRD 41 billion.
December 1998 35% in Romtelecom GRD 189 billion.
July 1999/July 2000 Failure to get agreement with KPN to purchase 51% of Bulgarian Telecommunications company USD 320 m (OTE share).
May 2000 Expression of interest in 51% of equity of telecommunication operator of FYR of Macedonia.
July 2000 Purchase of 85% of AMC (mobile operator in Albania) by COSMOTE USD85.6 m.

Source: OTE.

3.3. *Digitalisation*

In contrast to network expansion, Greece's performance in terms of network digitalisation has been rather weak. In 1997 Greece had the lowest rate of digitalisation among OECD countries at 47%.³¹ As shown in Table 12 a number of smaller economies performed significantly better than OTE, even though during the last several years prior to full market liberalisation OTE has undertaken a significant improvement in network upgrading. By the end of 1999, 90.6% of installed access lines were connected to digital exchanges in Greece³² and OTE has earmarked USD 271 million over 2000-2002 for digitalisation of the switching network. The targeted rate of digitalisation for the end of 2000 is 95%.³³

New technologies have emerged with digitalisation, in particular ISDN. National coverage for ISDN was achieved at the end of 1998. Penetration of ISDN increased from 4 184 subscribers in 1995 to 27 522 basic rate access lines by the end of 1999 or about 0.5% of main lines. By the end of the 1st quarter of 2000 the number of basic rate access line customers had reached 85 983 (or 1.5% of main lines). Commercial ADSL services had not yet been made available in mid-2000 although pilot trials were being held. The objective of the company is to have 2000 ADSL connections in service by the end of 2000. In this context there is concern by potential new market entrants that they will not be given sufficient time to be involved in trials before OTE begins offering ADSL commercially.

Table 12. OTE's rate of digitalisation

	1993	1995	1997	1998	1999
Greece	22.0	37.1	47.1	74.5	90.6
Czech Republic	10.0	17.0	54.6	64.1	74.4
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 average	58.8	74.8	87.5	92.1	94.2

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

3.4. Cellular mobile services

Growth in fixed line infrastructure has been accompanied by rapid growth in cellular mobile infrastructure and markets where the benefits of competition to users can be clearly seen. As noted in previous sections, Greece, unlike most OECD countries, did not issue a licence for analogue mobile telephony. In September 1992, following a competitive tendering process, two GSM licences were provided to STET Hellas and Panafon. A third licence was given to the incumbent (as COSMOTE¹) in 1996. The first two licensees commenced service in mid-1993. However, significant growth and competition only began once the third licensee began commercial service in April 1998 (see Table 13). A fourth licence is expected to be awarded at the end of 2000.

Table 13. Cellular mobile subscribers

	1997	1998	1999	2000*
Panafon	623 739	1 191 000	1 663 209	1 901 945
Telestet	391 000	688 614	1 182 751	1 414 812
Cosmote		299 000	1 058 000	1 515 235
TOTAL	1 014 739	2 178 614	3 903 960	4 831 994
Market penetration	9.7%	20.7%	37.1%	45.2%

Note: * June 2000.

Source: Company annual reports.

As of the end of 1999 the mobile penetration rate in Greece had reached 37 per 100 inhabitants climbing to 45% by mid-2000. This penetration rate was below the European Union average, but comparable to the OECD average. Market share was fairly evenly distributed among the three companies with the leader, Panafon 39%, Cosmote 32% and STET Hellas 29%. By the end of 1999 over 90% of the Greek population was covered by the 3 mobile networks³⁴ and the geographic area covered was, depending on the operator, between 45-56% of the country. The distribution of subscribers by type of subscription by the end of 1999 is shown below:

Table 14. Distribution of subscribers by type of subscription

	Contract	Pre-paid
Cosmote	39.9	19.7
Panafon	36.3	45.5
Stet Hellas	23.7	34.8

The development of the cellular mobile sector and mobile revenue has resulted in its share in total telecommunications revenue increasing from 12% in 1995 to 31% in 1999 (Table 15).

Table 15. Cellular mobile revenue (GRD million)

	1995	1996	1997	1998	1999
Panafon	40 700	82 100	130 500	205 500	221 800
Telestet	37 703	55 459	93 779	118 486	151 638
Cosmote	-	-	-	4 500	117 000
Total	78 403	137 559	224 279	328 486	490 438

Source: Company annual reports.

3.5. Development of competition

Although full liberalisation will occur only on 1 January 2001 in Greece, the potential threat of competition and the process of adjusting prices to reflect costs has brought some benefits to Greek consumers and users (see Section below). However, these have been mainly from digitalisation and the improvement in quality of service it brought, from the expansion in the network and, for relatively heavy users of long distance services. However, the delay in opening the market and the fact that Greece, unlike some other EU countries maintained a closed market for the full derogation period, has meant that most consumers and users have borne the cost of a monopoly market. The delay in awarding PSTN licences, which will inevitably occur given that 3 months before the scheduled market opening, no licensing framework had been put in place, will also reduce the cumulative benefits that would come from competition. The first effects of direct competition are unlikely to be felt before mid-2001 when new entrants begin service.

Greece, unlike a number of other European Union countries, lacks alternate communication infrastructures. Cable television infrastructure does not exist as a commercial service although some small pilot projects are underway. This may have the effect of slowing down the development of competition particular in terms of access to the local loop.

3.6. Price performance and rebalancing

OTE began in 1995 to rebalance its prices. Even though the derogation given by the European Commission to Greece in 1997, allowing it to maintain reserved services until 2001, was given in order to allow OTE to rebalance its prices, this process has yet to be completed. According to OTE monthly fixed charges and local charges are below cost.³⁵ The derogation (Decision 97/607/EC) specifically states that OTE's fixed network prices should be aligned with costs by 1 January 2001.

OTE's local telephony charges are shown below in Table 16. Two price adjustments took place in 1999 and one in 2000 and it can be expected that new price changes will be introduced either in late 2000 or the beginning of 2001 which will increase local call and fixed monthly charges. Local call charging has changed over the years from an untimed tariff rate for analogue lines to a duration-based tariff rate on digital lines (which now predominate). On 1 March 1999 the charge for one tariff unit was restructured to 6 drachmas per minute (subsequently raised to 7 drachmas on November 1999) compared to 13 drachmas per 3 minutes in 1998. This was a significant price increase, in particular for off-peak charges where the increase in the per minute price was from GRD 1.6 a minute to GRD 3.5 (the peak per minute charge applies for 2 minutes during off-peak). A further price adjustment took place in August 2000 increasing local call charges and monthly rental charges, while decreasing long distance charges. OTE in justifying the introduction of per minute charges argued that this is an advantage to consumers, because such a structure is fairer taking into account shorter calls,³⁶ but this is disingenuous in that under such

circumstances OTE should have introduced per second charging, which has become the norm in competitive markets. OTE should move rapidly to implement local charges based on per second, rather than per minute charges. This would also allow for further rebalancing to be implemented while limiting the impact on consumers.

Table 16. **Local telephony charges**

	1995	1996	1997	1998	1999*	2000 (August)
Connection charges (GRD)	72 000	50 000	30 000	15 000	10 000	10 000
Monthly rental charges (GRD)	1 450	1 650	1 850	2 050	2 300	2 400
Charge for one tariff unit (GRD)	9.0	10.2	11.5	13.0	7.0	9.0
Duration of a tariff unit (minutes)						
Peak	3	3	3	3	1	1
Off-peak		8	8	8	2	2

*: As of November 1999. The charge for one tariff unit was changed to GRD 6.0 per minute on 1 March 2000.

Source: EETT/OTE.

In line with changes in local charges, price changes have taken place in domestic long distance and international charges (Table 17). However, these price adjustments have not been consistent with price developments in other countries or with rebalancing. The period 1994 to 1997 was characterised by increases in long distance prices, whereas rebalancing would have suggested that these prices should have been reduced. The process of price reduction began only after the 1997 derogation. It was only in November 1999 that OTE made a significant effort to reduce long distance charges resulting in the ratio of the longest long distance call charge to the local charge falling from 21 to 8 (Table 17), and falling to 4 as a result of the August 2000 rebalancing. The shortest long distance call zone was all priced as a local call, thus effectively reducing the number of long distance zones to two. This is in line with practice in other OECD countries where pricing is becoming distance insensitive. Price rebalancing which took place in August 2000 merged the two remaining long distance zones into one. OTE, unlike many operators in OECD countries does not have different prices for residential as compared to business customers and does not provide any volume discounts.

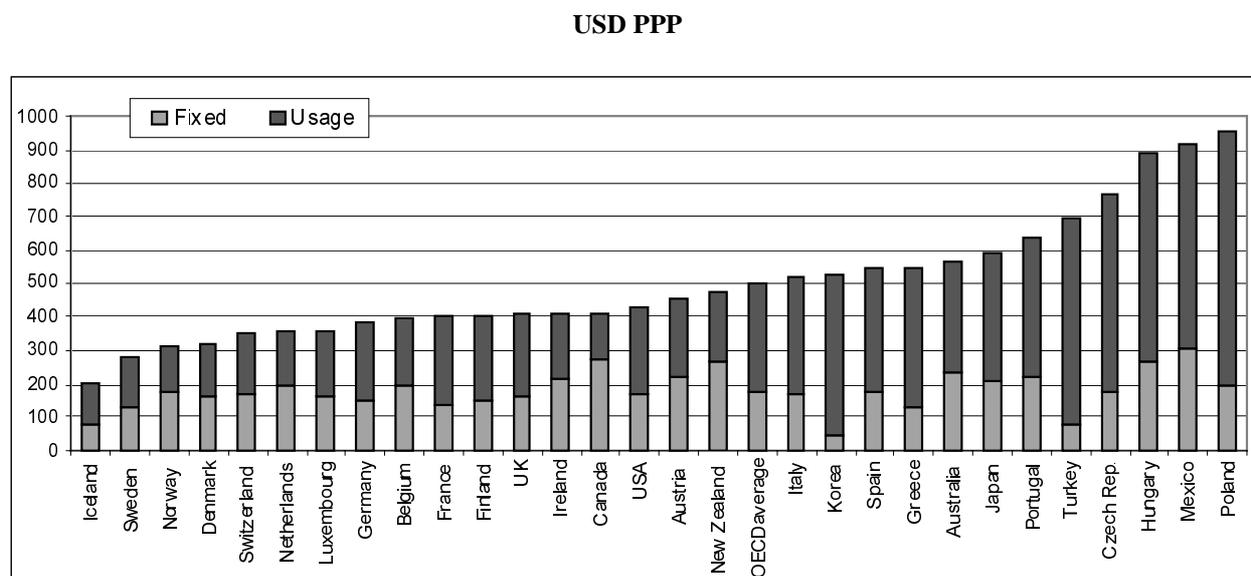
Table 17. **Distance service charges (GRD per minute)**

		1994	1995	1996	1997	1998	1999	2000
Distance	Up to 45 km peak	23	25	27	37	30	7	9
	45-80 km peak	56	63	68	70	60	45	40
	>80 km peak	78	90	94	99	90	54	40
Ratio of longest long-distance call charge to local call		55.7	30.0	27.6	26.0	20.9	7.7	4.4
International call charges per minute (weighted average in ecu)		0.56	0.57	0.57	0.56	0.52	0.49	0.44

Source: MTC/OTE.

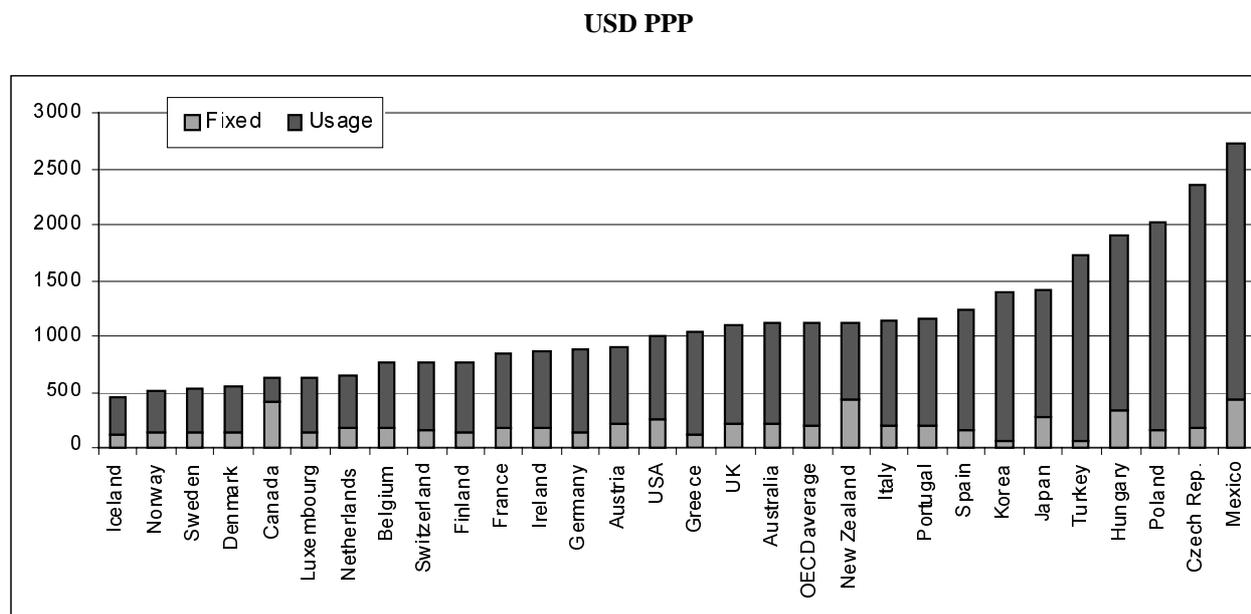
Price levels in other countries provide an important source of price benchmarks. For these purposes the OECD collects the prices of a basket of telecommunications for residential and business customers in each of the OECD countries.³⁷ These price comparisons indicate that Greece's relative PSTN price performance has been within the lower third most expensive of OECD countries for residential prices (Figure 2). Performance for a business basket of calls was relatively better with Greece's performance just better than the OECD average (Figure 3).

Figure 2. OECD Composite Residential basket, November 2000



Note: VAT included, excludes calls to mobiles.

Figure 3. OECD Composite Business basket, November 2000,



Note: VAT excluded, excludes calls to mobiles.

The trend in price rebalancing for OTE compared to some other OECD countries is shown in Figure 5. Significant increases in fixed charges (both monthly rental and connection) and in long distance charges (see above) after 1993 account for the exaggerated changes in prices between 1994-1997. The rental charge has been increasing since then, but mainly as a result of digitalisation, the connection charge has been reduced quite significantly.

3.7. *International telecommunication prices*

3.7.1. *International Prices*

Greece in the past had relatively high international telecommunication prices,³⁸ but recent price reductions have resulted in Greece's average collection charge (peak rate) to be well under the OECD average.³⁹ Significant adjustments have also been made in accounting rates, which in 1996 were considerably out of line with best practice (Table 18). Significant efforts have been made to reduce these rates, although there is still scope for further reductions. Given Greece's ambition to become a Mediterranean hub low international rates are important. A single price is now in effect for international calls to EU countries, Canada and the US.

Table 18. **Accounting rates with the United States (USD)**

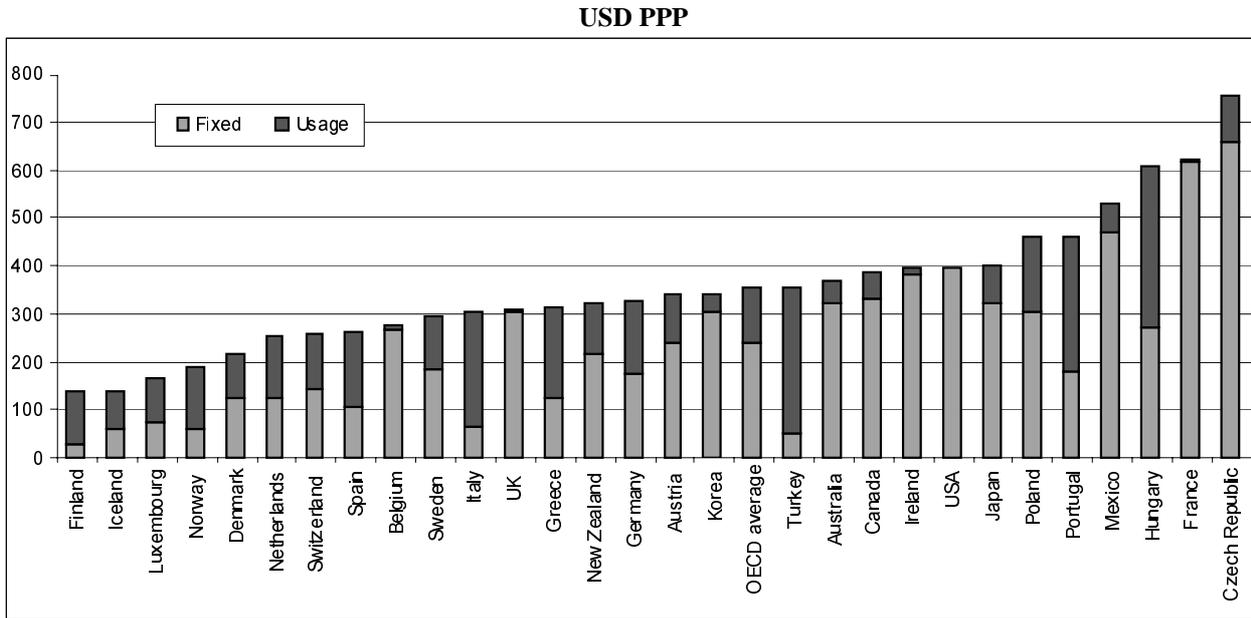
	1996	1997	1998	1999	2000
Greece	USD 1.01	0.86	0.55	0.30	0.26
France	USD 0.35	0.26	0.21	0.20	0.20
Ireland	USD 0.35	0.33	0.19	0.19	0.20
Italy	USD 0.52	0.33	0.22	0.22	0.21
Portugal	USD 0.83	0.60	0.43	0.30	0.29
Spain	USD 0.64	0.48	0.26	0.27	0.27
United Kingdom (BT)	USD 0.36	0.20	0.21	0.21	0.20

Source: International Bureau, Federal Communications Commission, US.

3.7.2. *Mobile prices*

Greece is also performing relatively well in terms of mobile prices (Figure 4). Performance in this area has improved considerably due to the entry of the third licensee and their aggressive market behaviour.

Figure 4. Mobile consumer basket, November 2000

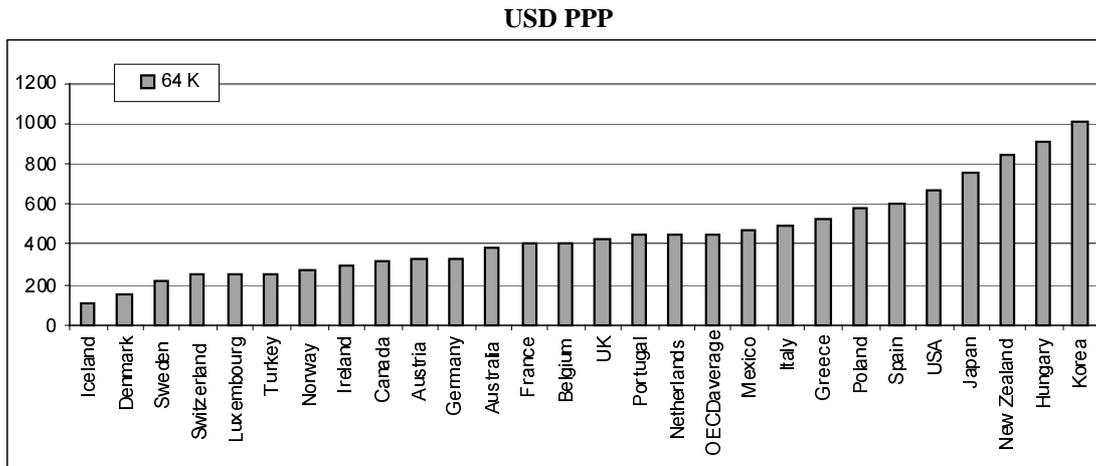


Note: VAT included.

3.7.3. Leased lines

The availability of leased lines and their price levels are important for the development of competition since new entrants initially will rely on these circuits to develop service. Leased circuits have also become important for the development of Internet services. Compared to other OECD countries, prices in Greece for leased circuits have been extremely high for 64kbit lines, on the basis of an OECD index of 100, Greece's index was at 168.⁴⁰ Since then price performance has improved but prices in this area remain above the OECD average (Figure 5). Prices for 1.5/2.0Mbit/s circuits were just under the OECD average for national lines and among the most expensive for international circuits.⁴¹ In 1998 demand for leased circuits increased by 163% mainly as a result of mobile development.

Figure 5. Leased lines charges, November 2000



Note: VAT excluded.

3.8. *Quality of service*

Greece has made important progress in terms of improving quality of service. To a large part this has been the outcome of the programme to increase digitalisation. In 1990 OTE had reported an average waiting time for a telephone line installation of 81 months, this was reduced to 66 months by 1992 and by 1995 to one month.⁴² Present average new connection waiting time is 1 week and the target for the year 2000 is for less than one week.⁴³ Table 19 provides data on the evolution of OTE's quality of service.

Table 19. **OTE's quality of service**

	1993	1998	1999	2000 target	2003 Licence target
Faults per 100 lines per year	51.0	24	17	15	10
Percentage of faults repaired within 24 hours	57.0	83	90.5	92	95
Unsuccessful calls	n.a.	<0.9%	<0.8%	<0.8%	<1.0%
Calls waiting over 3 seconds for dial tone	n.a.	<5%	<4.8%	<4.5%	<1%

Source: OTE, OECD.

OTE is subject to quality of service targets to be met by 2003 (Table 19) which are imposed in its licence under the OTE Law. It has met several of these targets already. OTE's licence also requires it to install by 2003 7 public telephones for every 1 000 inhabitants (5 of these phones must be cardphones).

3.9. *Employment and productivity*

A simple measure of labour productivity is the number of access lines per employee. Although this measure has many shortfalls,⁴⁴ it is useful as a point of comparison. Labour productivity in telecommunications has increased rapidly in Greece as a result of the growth in infrastructure combined with a reduction of OTE's workforce (Table 20). The reduction in OTE's workforce has yet to be compensated through new employment creation in new entrants, for example, the mobile companies. As a result, net telecommunications employment has decreased in Greece and is unlikely to begin to show a net increase until the third quarter of 2001 as new entrants begin to develop a customer base.

Greece has had, historically, low ratios of revenue per employee (about half the OECD average). For example, in 1997 revenue per employee was USD 144 500 compared to an OECD average of USD 236 700.⁴⁵ Lack of competitive pressure resulting in high costs and over-employment account for this.

Table 20. **Employment and labour productivity**

Year	1995	1996	1997	1998	1999	2000 (31 March)
OTE employees	24 581	23 808	22 741	21 925	21 588	20 441
OTE lines per employee	210	223	238	252	260	275

Source: OTE.

3.10. *Internet developments and performance*

As of the 1st quarter of 2000 the number of dial-up Internet subscribers in Greece numbered about 237 400 and permanent connections 1 709. The number of dial-up subscribers is extremely low amounting to about 2% of population, which places Greece among the lowest OECD performers in this area. Forthnet, is the leading commercial Internet Service Provider in Greece,⁴⁶ and OTE's ISP OTEnet holds second place.

Perhaps the main reason for this lag⁴⁷ is the low penetration of PCs estimated at about 5% of the population.⁴⁸ Pricing performance is slightly better than the OECD average for peak times (Table 21), however, because off-peak time starts at 22:00 hours, the comparisons for off-peak show Greece among the more expensive OECD countries. Internet usage does not follow PSTN usage patterns so that using the same off-peak rates as for telephony penalises Greek Internet users, and in particular children. Internet access tariffs should be adjusted by OTE to implement a more reasonable start for off-peak rates.

Most OECD countries have become concerned with the high cost of local call charges, especially for intensive use, such as for electronic commerce and Internet access. Regulators and incumbent operators, who view Internet as a new business opportunity, are therefore making efforts to readjust their call charges downward.

Table 21. OECD Internet access basket for 20 hours at peak times using discounted PSTN rates, including VAT

	PSTN Fixed		PSTN Usage		ISP		Total	
	USD	USD PPP	USD	USD PPP	USD	USD PPP	USD	USD PPP
Australia	8.76	10.95	1.92	2.39	17.38	21.73	28.06	35.07
Austria	18.48	19.06	24.95	25.73	0.00	0.00	43.44	44.78
Belgium	14.65	16.09	26.90	29.56	5.59	6.14	47.13	51.79
Canada	16.76	20.44	0.00	0.00	12.37	15.09	29.13	35.53
Czech Repu	4.71	11.77	26.72	66.80	11.49	28.72	42.92	107.29
Denmark	18.24	15.33	0.00	0.00	18.07	15.18	36.31	30.51
Finland	11.55	11.41	11.44	11.30	7.26	7.17	30.25	29.88
France	10.66	11.11	0.00	0.00	21.64	22.54	32.30	33.65
Germany	13.31	13.72	0.00	0.00	19.79	20.40	33.10	34.12
Greece	7.59	10.26	7.59	10.26	15.82	21.38	31.01	41.90
Hungary	7.88	18.75	25.18	59.96	9.55	22.74	42.61	101.45
Iceland	6.66	5.33	19.39	15.51	11.24	8.99	37.28	29.83
Ireland	15.17	17.05	19.01	21.36	13.89	15.61	48.07	54.02
Italy	10.48	12.63	16.25	19.58	0.00	0.00	26.73	32.21
Japan	16.17	9.86	24.02	14.65	18.02	10.99	58.20	35.49
Korea	2.47	3.98	10.67	17.21	3.85	6.21	16.99	27.40
Luxembourg	11.80	12.69	0.00	0.00	42.66	45.87	54.46	58.56
Mexico	17.20	24.57	0.00	0.00	8.98	12.83	26.18	37.40
Netherlands	16.68	18.53	28.39	31.55	0.00	0.00	45.07	50.08
New Zealan	16.16	22.77	0.00	0.00	11.13	15.68	27.30	38.45
Norway	20.47	16.91	23.61	19.52	10.94	9.04	55.02	45.47
Poland	7.00	13.22	32.15	60.66	0.00	0.00	39.16	73.88
Portugal	11.82	17.38	20.35	29.93	0.00	0.00	32.17	47.31
Spain	9.09	11.96	25.51	33.57	0.00	0.00	34.60	45.53
Sweden	11.32	10.02	26.02	23.03	2.59	2.29	39.93	35.33
Switzerland	15.83	12.77	32.66	26.34	0.00	0.00	48.49	39.10
Turkey	3.59	6.65	3.59	6.65	3.85	7.14	11.04	20.44
United Kingd	14.87	13.64	29.55	27.11	0.00	0.00	44.42	40.75
United State	13.65	13.65	2.33	2.33	5.45	5.45	21.43	21.43
OECD	12.17	13.88	15.11	19.14	9.36	11.08	36.65	44.09
EU	13.27	14.21	16.10	17.82	9.34	9.96	38.71	41.99

Source: OECD

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. General assessment of current strengths and weaknesses

The regulatory regime in Greece displays some strengths (see below). These strengths are, however, *potential* depending very much on the practical implementation of the provisions of the new law by the regulator (EETT) and the extent to which the government takes an arm's length position towards the incumbent, OTE, and its new strategic partner. These strengths in the regulatory framework can position Greece for effective competition once the voice telephony market is open for competition in January 2001. They can also be expected to provide substantial benefits to consumers and users if further reforms are taken to complete the implementation of a transparent and neutral regulatory framework based on sound economic principles.

Box 2. Strengths

- Universal availability of infrastructure with high penetration rates.
- Competitive mobile sector.
- No line of business restrictions.
- Modern telecommunications law
- Unbundling of local loop to be implemented rapidly
- Low retail prices for many services
- Measures to cover consumer protection have been incorporated in new legislation

Greece has relatively high penetration rates for fixed telephony and a competitive mobile sector with good levels of penetration. The fourth mobile licence will ensure that the mobile sector become highly competitive and should boost penetration rates by a significant amount. Facilities-based competition, starting from 2001 should result in a rapid completion of digitalisation and begin to provide broadband access.

The new law, although it has some weaknesses, provides a good basis in which the EETT can begin to implement the necessary details of regulations. The enhanced role given to the EETT in the new law is important in this respect.

The incumbent, OTE, has made considerable gains in efficiency and improving quality of service over the last several years, but still requires significant changes in corporate culture laying stress on customer requirements and marketing. Prices, although relatively low, can be improved in terms of targeting specific customer groups more effectively, and by providing more suitable pricing structures for Internet access and electronic commerce applications.

An important initiative has been taken in this context of local loop unbundling. OTE is required to provide unbundled access (access to raw copper) to its local loop to other operators on reasonable terms, including any ADSL enhanced segments. To maintain incentives on new entrants to deploy their own infrastructure rather than depend indefinitely on the incumbent's, the requirement on OTE to provide unbundled elements of its network is restricted to a specific period (four years). Such policies will help enhance competition in the local loop if they are supplemented by regulatory oversight ensuring collocation, reasonable prices for unbundled local loops, and effective arbitration.

There are also a number of important weaknesses that characterise the Greek telecommunication scene.

Box 3. Weaknesses

- Delays in meeting the requirements of the EC derogation.
- Considerable delays in implementing necessary regulatory framework and lack of essential safeguards.
- Lack of expertise within the independent regulatory authority.
- Lack of advanced telecommunication services.
- Lack of alternate infrastructure.
- Discriminatory licence allocation for fixed wireless access.
- Relatively far behind in telecommunication market development compared to EU partners.

The derogation provided to Greece can be characterised as a lost opportunity. The fact that the main objective of the derogation, to rebalance OTE's prices, was not achieved is indicative of the

insufficient effort made to prepare for full market liberalisation. As well, the fact that the Greek government chose to maintain the full derogation, unlike some other EU countries, is indicative of the lack of commitment, during 1996-1999, to create a competitive telecommunication market. There are indications of a greater commitment to reform in the recent past. The new law is a significant step forward relative to earlier drafts that had been under consideration. The decision to reduce the government's share in the incumbent is also an important step forward in the process of reform.

Yet, these positive signs have been marred mainly because of the decision to grant OTE a FWA licence without a requirement that they participate in the auction. The decision can only be explained by the wish of the government to add value to a company for which it seeking a strategic partner. As well, the new law provided an opportunity to use best practice regulations and to incorporate new EU thinking that has yet to be formally adopted. An example would be to streamline licensing procedures allowing market entry on the basis of class licences. The commitment to competition should also have been followed up by much earlier licensing of new entrants so that on 1 January 2001 they would have already been prepared to enter the market. As things presently stand, it is unlikely that new entrants will be in a position to compete before mid-2001 at the earliest. In turn this will retard the potential benefits to consumers from market liberalisation.

The independence provided to the regulator in the context of the new law has still to be tested. However, the weakness of the regulator has characterised the period of transition. Attempts by the EETT to put in place required regulatory safeguards were constantly being undermined by the Ministry. The regulator was further weakened by being inadequately resourced. The regulator now needs to be given adequate resources so that it can attempt to catch-up on some of the lost time. A concerted effort to change behaviour through leadership and necessary institutional and structural change would quickly transform the Greek telecommunication scene into a leader and provide strong support in transporting the Greek economy into the information age.

A particular concern is the lack of a number of necessary safeguards to promote competition in the marketplace and a clear-cut timetable to implement these policies. This is the case for cost-based interconnection prices, price caps, cost-based prices, a methodology to calculate the cost of universal service, number portability, and licensing for third generation mobile services.

Greater emphasis on ensuring consistent decisions and on creating a strategic vision for the development of competition in the telecommunication service sector also would be of benefit to Greece. There should be greater reliance on competitive market forces to improve the competitive characteristics of the marketplace and benefit users. This would stimulate investment in new technologies and services, enhance industry competitiveness, and improve price performance.

4.2. *Potential benefits and costs of further regulatory reform*

Section 3 pointed to some early evidence that market liberalisation and competition are bringing significant benefits through:

- Lowering of national and international long distance prices;
- Competition stimulating investment, and innovation in the mobile service sector;
- Improving quality of service.

The immediate task is to ensure that PSTN competition develops and is translated into improved price structures and more advanced services when the market opens to competition in 2001. Early licensing of fixed wireless technologies has been an important step in this context as would be the encouragement of

rapid development of cable television infrastructures in major cities. The fourth mobile licence will help improve price performance and increase penetration rates in that market segment. From a longer-term perspective, the most important impact of pro-competitive regulatory reform will be to accelerate broadband development and provide the foundations for electronic commerce and the information society. These developments can lead to important new growth (and employment) opportunities for the Greek economy.

4.3. Policy recommendations

The following recommendations are based on the above analysis, taking into account the “Policy Recommendations for Regulatory Reform” set out in the OECD *Report on Regulatory Reform* (OECD, June 1997).

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

- *Strengthen EETT in its role as an independent communications sector regulator and maintain a clear differentiation between MTC’s policy responsibilities from regulatory responsibilities.*

Creation of an independent regulatory body is of prime importance in Greece to ensure transparent and non-discriminatory regulations aimed at maximisation of consumer welfare through a market-oriented regime. The allocation of a number of important responsibilities to the independent regulator, as foreseen in the new law, should improve the effectiveness of regulation and help eliminate any potential conflict between the regulator and Ministry. An urgent effort needs to be made to rapidly increase the number of EETT’s staff and improve its level of expertise.

- *Implement a price cap system for OTE’s PSTN prices effective 1 January 2001. Ensure an efficient system of prior approval of prices for prices outside of a price cap basket.*

The regulation of prices through government authorisation is not appropriate for current competitive circumstances particularly since so far it has been driven by political considerations rather than the pro-competitive need for price flexibility. There has been insufficient competitive pressure in a number of market segments on OTE to increase efficiency and improve pricing structures. The independent regulatory body should implement price cap regulation rapidly. For prices outside the price cap basket a system of prior approval needs to be put in place which is efficient and rapid. OTE should also be required to implement ‘per second’ pricing for voice services.

- *Implement an interconnection pricing framework using long-run average incremental cost (LRAIC) as the appropriate cost basis for pricing. and ensure that an agreed interconnection offer is available before full market liberalisation;*
- *Ensure that prices are rebalanced as rapidly as possible providing a transparent target to the incumbent to achieve this goal.*

Assuring interconnection to the incumbent's public switched telephone network is a key competitive safeguard. Such safeguards are particularly important where the incumbent carrier, like OTE, 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. An interconnection offer should have been made available for new entrants at a much earlier date than June 2000. It is important that such an agreed offer is available well before full market opening otherwise this will lead to delays. Consideration should also be given to introducing an interconnection offer to allow for unmetered interconnection services. The development of competition and local loop unbundling require that prices are rebalanced. OTE and the regulator need to agree on a target date to achieve rapid rebalancing.

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

Local loop competition will not be able to develop effectively unless number portability and preselection allows customers to reduce the "transaction costs" of changing service provider and choosing the cheapest provider. The further delay that has been given to OTE to implement these requirements effectively strengthens its market power and slows down competition. OTE has had a sufficient lead-time to prepare for competition so that no further delays are necessary. This is important in the fixed telecommunication service market but should also be implemented for the mobile market.

- *Develop an adequate methodology to cost universal service.*

The government needs to establish a transparent universal service funding mechanism that is competitively and technologically neutral. Current universal service obligations on OTE will be maintained until the end of 2001.

- *Use auctions to allocate licences in the mobile sector and also to allocate licences for the 3rd generation mobile services. Ensure that the incumbent is required to participate for a fixed wireless access licence on the same terms and conditions as other potential licensees.*

Auctions allow for more transparency and increasing regulatory efficiency in spectrum allocation. The auction system chosen for wireless in the local loop licences should be maintained for all wireless licences. The incumbent should not be provided a FWA licence on an unfair and discriminatory basis, but should be subject to the same requirements as other potential new market entrants.

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

- *Reduce barriers to entry by introducing a system of general authorisations rather than individual licences. Conditions which need to be attached to licences can be through a general licensing framework*

In order to simplify and streamline regulations Greece could immediately adopt a class licensing system that relies on simple authorisation for market entry. This would accelerate market entry and reduce bureaucratic barriers to market entry. It would also be an important step in implementing best-practice regulatory models.

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

- *Review regulations in all areas of telecommunications regularly and systematically with a view to streamlining and where appropriate abandoning them.*

The government already reviews regulations, but these reviews need to be conducted more systematically and in depth to ascertain whether the regulations are still in the public interest, benefit users, 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 and the industry should be given the right to request reviews of laws and regulation’s to increase efficiency and reduce market barriers. EETT should be required in its Annual Report to examining the potential for streamlining regulations.

Ensure independent operation of the incumbent.

Although subject to asymmetric regulation, it is important that the incumbent be allowed to act independently in the market without undue interference from the government, its major shareholder. The full privatisation of the incumbent should be accelerated and the government should not attempt to maintain control over its operation other than through transparent laws and regulations.

NOTES

1. Caloghirou, Y. and T. Darmaros (1994) in Bohlin, E. and O. Grandstrand (eds).
2. The initial responsibility of the EETT was only for telecommunications. Its responsibilities for postal issues were added in 1999.
3. Commission Decision 97/607 concerning the granting of additional implementation periods to the Hellenic Republic for the implementation of Commission Directive 90/388/EEC as regards full competition in the telecommunications markets. Published in the Official Journal: OJ L 245, 9/09/97, p. 6.
4. A new operating licence for OTE and the new providers of public voice telephony services has been drafted and was sent to the EC for approval on 31/12/99.
5. The net income margin is net income as a percentage of total operating revenues.
6. An Action Plan named 'Operational Programme for the Information Society' is currently being negotiated with EC officials in the context of the 3rd Community Support Framework for Greece in order for specific measures to be subsidised by the EC, in accordance with the terms and conditions approved by the EC.
7. OTE (2000), Annual Report Pursuant to Section 13 OR 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 1999, Commission file number 1-14876.
8. Interview with Forthnet, Athens, 21/6/00.
9. France Telecom's shares were floated on the Stock Exchanges of Athens and London.
10. www.totaltele.com/view.asp?articleID=32096&Pub=TT&categoryid=627
11. The EU's ONP Interconnection Directive allows for a regulator to notify an enterprise as having significant market power if that enterprise has a market share of more than 25% of the relevant market.
12. Interview at the Ministry of National Economy, Athens, 22.6.00
13. No mention was made of renewal of the President in the first Telecommunications Law (Law 22 46/94).
14. With regard to the preparation of the new Telecommunications Law, it has been reported that the content of the new law has been under discussion since February 1998 and successive drafts have been presented to the interested parties since then. The view of most telecommunication service providers in Greece is that this is due to a conflict of interest between EETT and the Ministry. The latter wished to maintain the 'upper hand' and avoid the transfer tasks and powers to EETT. The same providers criticised the Ministry for acting 'at the last minute' and for losing valuable time in preparing the new regulatory framework for competition.
15. So far, EETT's personnel was recruited by the High Level Council of Personnel Selection, known as ASEP. The new law transfers responsibility over recruitment to EETT but any new recruitment has to be approved by the Council within 20 days.
16. It should be clarified that the installation, and/or operation of public telecommunication networks for the provision of liberalised services has been open to competition since October 1997.
17. In this context, it should be noted that a main argument used by the Greek government and OTE to request a derogation period was the necessity to invest substantially to upgrade the domestic network. OTE had argued that "digitalisation and modernisation would be prejudiced if full competition was introduced in

1998... This would deprive OTE of revenue needed both to finance the modernisation of the Hellenic Republic's telecommunications infrastructure and to provide universal service to dispersed customers in remote areas of the Hellenic Republic."

18. This is according to EETT's publication "*The provision of telecommunication services in Greece: Practical Guide*".
19. Ministerial Decision 78674/99 (B2117), amended by Ministerial Decision 29392/15.5.2000, (B' 6541, 22/5/2000).
20. Ministerial Decision 78794 (B' 2112, 3.12.99).
21. According to company officials they had submitted an application in February 1999 and were awarded a license in May 2000.
22. According to Ministry officials, for each application submitted to the Ministry for the installation of antennas, the Ministry is obliged to request the conduct of a study on the effects of electromagnetic waves to public safety, following the European Council Recommendation L199/1999/529/EC.
23. 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.
24. OTE (2000), Form 20-F as filed with the Securities and Exchange Commission on June 28, Washington D.C., p. 17.
25. This was demonstrated for instance in the UK where Oftel considers that cost allocation efforts in various studies undertaken have succeeded in reducing the joint/common costs from about 30% down to some 10%.
26. Article1, para. 2 of Directive 98/61/EC with regard to operator number portability and carrier pre-selection allows for a maximum period of two years for the implementation of number portability in those countries which have been granted an additional transition period for full liberalisation of voice telephony services.
27. According to OTE's estimates these costs reached GRD 13.2 billion, 12.4 billion and 11 billion in 1997, 1998 and 1999 respectively. Source: OTE FORM 20-F (2000).
28. In 1998, EETT commissioned a study to determine the costs of Universal Service in Greece and to propose methods for financing any potential excess costs incurred. Although at that time OTE's role was critical because it could provide the team responsible for the study with detailed information on its network structure, its assistance has been rather poor. The Ministry commissioned a similar study on universal service that is currently under way and results are expected by December 2000.
29. See OECD (1999a).
30. OECD (1999b), Table 4.1, p. 97
31. OECD (1999b), Table 4.5.
32. The European Commission has assisted in investment by providing ECU 34.9 million as capital investment subsidies.
33. Presentation by OTE's Chief Executive Officer to the "Global Telecom Investor conference", New York, 13-16 March 2000.
34. The Greater Athens area accounts for 30% of the Greek population.

35. OTE (2000), Form 20-F as filed with the Securities and Exchange Commission on June 28, Washington D.C.
36. OTE has estimated that 49% of local calls are less than one minute long (SEC Form 20-F, June 2000), whereas in OTE News (May 31, 2000) data provided show the average call duration during the 1st quarter of 2000 as 190 seconds.
37. The basket includes a number of calls distributed at different times of the day, different days of the week and over different distances. The statistics are prepared in USD using both purchasing power parity (PPP) and current exchange rates. In general, it is considered that the PPP figures provide a more reliable comparison.
38. See, OECD (1999b), Table 7.9.
39. OECD (2001).
40. See, OECD (1999b), Table 7.18.
41. *Op. cit.* Tables 7.19 and 7.20.
42. See OECD (1993), OECD (1995), OECD (1997).
43. OTE.
44. See, for example, the OECD (1997), Chapter 8.
45. OECD (1999b), Table 9.5.
46. The Academic Net is the market leader in terms of number of addresses. See Open.gr domain survey.
47. Content in Greek does not appear to be a factor slowing Internet penetration. In fact Greece is fourth leading OECD country in terms of radio stations on the web per million inhabitants.
48. Flecher estimates for 1st quarter of 1999 putting Greece last among EU countries.

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