MANAGEMENT POLICIES IN THE TELECOMMUNICATION INDUSTRY IN GREECE

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ABSTRACT
The purpose of this paper is to investigate the perceptions of managers concerning the impact of institutional liberalisation of telecommunication industry on market functioning and business growth. The empirical analysis is based on a survey of 44 telecommunication companies operating for the period 2001 to 2009 in the Greek economy. These are the most important firms of the specific industry. The findings indicate that liberalisation causes a substantial increase of competition between public and private companies. Price policy and marketing policy are the main competition factors. However, several barriers such as difficult access to infrastructure telecommunication networks for private entrants and not sufficient compliance of the state-owned dominant company with the rules of healthy competition hamper competition seriously. Overall, the managers of the sample firms reveal the evolution of the private sector and the new 'business atmosphere' in the Greek telecommunication industry as a result of liberalisation and privatization policies which are becoming very acute in Greece to face the current crisis.

KEYWORDS
telecommunication industry; liberalisation; privatisation; manager perceptions; Greece.

JEL CLASSIFICATION CODES
L10, L20, L96

1. INTRODUCTION

External business environment has been changed drastically in the new era of liberalisation and new institutionalisation. Therefore, this evolution requires a systematic investigation to reveal the possible implications for enterprises. The central task of this paper is to ‘translate’ institutional policy into management terms in order to capture the consequences of such changes at business level. Managers are able to explain how external changes at industry level shape the internal business environment and create the new conditions of competition. This paper explores such evolutionary changes in the telecommunication industry.

In the last three decades, the institutional liberalisation of the specific industry took place quickly at European and global level aiming at the upgrading of the role of the market and the establishment of a competitive environment. Specifically, the role of state as producer and supplier of telecommunication services has been clearly in doubt. Its role has mostly moved from the responsibility of ownership and management to the exercise of a general supervision of the market (Eliassen and From, 2007; Wilson and Zhou, 2001). Moreover, a new regulatory framework has been created in terms of an independent regulatory authority for the effective control of competition (Omran, 2004; Levi-Faur, 2003).

At management level, the criticism against public enterprises focuses on their bureaucratic character, and their inflexible and inefficient operation based primarily on political criteria. Hence,
public enterprises do not normally set clear strategic targets, whereas high transaction costs between the principle-minister and the representative-director arise (the agency problem). In such an environment, it is not surprising that public companies even with poor performance continue to operate based on state financing. Thus, the disciplinary role of the market in terms of an acquisition threat or bankruptcy is quite limited (Megginson and Netter, 2001; Roland and Sekkat, 2000; Shirley, 1999; Shleifer and Vishny, 1994).

As many other European countries, since early 1990s, Greece implemented a liberalisation policy in the specific industry (Dimas, 2010). Full institutional liberalization was introduced by Law 2867/2000 that was enacted in December 2000 (Government Gazette A 273/19/12/2000). The central concept was the free exercise of all telecommunication activities, i.e., activities related to telecommunication networks, to telecommunication services and to corresponding equipment. On the basis of this regulatory framework, the principles governing the organisation and operation of the telecommunication sector were the increase of competition, the protection of the consumer, the protection of personal data, the provisions of universal service and the development of telecommunications infrastructures and services. Fair competition in the Greek telecommunication market is regulated by Law 703/77, as amended\(^1\). Responsible for applying Law 703/77 on competition is the National Committee of Telecommunication and Post (NCTP).

In year 2001 and afterwards, the above institutional changes have led to rising market entries of private firms and the privatisation of the Hellenic Telecommunications Organization (OTE in Greek)\(^2\).

Thus, in the new liberalised context private and public companies have co-existed and competed. In this context a basic question arises: What is the exact impact of the institutional changes on the market functioning and the growth of the private entrants? The findings of several studies on liberalisation effects in many countries are mixed. Therefore, in order to shed light in some new insights of the phenomenon, we interview 44 top managers in the Greek telecommunication industry to assess these changes that directly affect their business.

Hence, the central task of this paper is to highlight how do managers perceive the new business environment. From this point of view, this paper attempts to reveal the entry and expansion barriers that the managers of private entrants in the first years of the liberalisation period (2001 to 2009) face as well as their views concerning competition factors, evolution of market shares and prediction of market prospects.

2. INSTITUTIONAL LIBERALISATION AND ITS IMPACT ON MARKET PERFORMANCE AND FIRM GROWTH

2.1 Privatisation

Privatisation can be defined as the permanent transfer of management control from a public firm to private investors as a result of a corresponding transfer of ownership rights (Ramamurti, 2000). The targets of privatisation policy are common in many countries that undertake such efforts (Munari, 2003). Specifically, privatisation policies attempt to face economic crises, promote growth of national capital markets, reduce fiscal deficits, decrease or eliminate subsidies to public organisations, and mobilise private capital for new investment (Tavera, 2001). Moreover, privatisation policies aim at the introduction of competition to until now closed markets, the development of new technologies and innovations, the improvement of service quality, and the promotion of new management practices (Megginson and Netter, 2001; Errunza and Mazumbar, 2001; Dewenter and Malatesta, 2001). Additionally, they attempt to create a favourable environment for private initiative, to reduce government intervention in the decision-making of companies, and to face corruption of civil servers (Li et al., 2005).

The findings of relevant studies on the privatisation effects are mixed. Specifically, some studies concluded that the privatised firms are more profitable than public companies (Ariff, et al., 2009; Claessens and Djankov, 2002; Dewenter and Malatesa, 2001; Konings, 1997; Majumdar, 1996). In turn, Omran (2004), exploring 108 companies in Egypt (38 fully privatised, 16 partially privatised and

\(^1\) This law includes additional competition provisions which, to a considerable degree, follow from the provisions of the EC Treaty on competition. Another legal instrument governing electronic communications is Law 3431/2006, which mainly harmonises the Greek law with the relevant law of the European Union.

\(^2\) The first privatisation programmes started from the UK with the most important and successful initial public offer that of the British Telecom in 1984 (Lal et al., 2004; Parker, 2003). The example of the UK was followed by many developed and emerging economies (Alexandre and Charreau, 2004; Tchipev, 2003; Brainerd, 2002).
public organisations) found no substantial performance differences between privatised and public companies. Similarly, Martin and Parker (1995), examining the performance of 11 companies in the UK, privatised during the 1980s, stated that private ownership is not necessarily more productive than state ownership. Singh (2000) concluded that introducing market competition is slow and difficult to manage, but where present, it is better for growth than privatisation alone.

### 2.2 New entry vs. entry and expansion barriers

Generally, the theory of industrial organisation suggests that entry barriers are *inter alia* economies of scale, specific know-how, access to resources, synergies, product differentiation, capital availability, highly developed distribution channels, and industry-specific government policy. In particular, in the telecommunication industry we can distinguish three groups of barriers to entry such as economic, technological, and institutional barriers. Economic barriers are primarily high expenditures for establishment, operation, advertising and marketing. Technological barriers are mainly the magnitude of capacity of telecommunication infrastructure, and the innovation activity. Institutional barriers are the difficulties of licensing for the founding of a new company.

Studies on the telecommunications markets of USA (Hughes and Phillips, 1999), Japan (Min, 1999), Spain (Xavier and Ypsilantis, 2000), India (Athreyia, 1996) and Ghana (Haggarty et al., 2003), concluded that institutional liberalisation caused a massive market entry of new telecommunications companies. However, the introduction of competition in industries initially controlled by state is not only a matter of surmounting legal-entry barriers (OECD, 2001). Also, new entrants should have free access to main services provided by the state monopoly. Serra (1998), in Chile and Horwitz and Currie (2007), in South Africa concluded that if the public telecommunication organization dominates and market does not function well, then competition cannot be effective.

Overall, after market entry, the state can hamper the effective operation of newcomers providing the opportunity to public organisations to exploit several technical and financial advantages such as control of telecommunication networks, economies of vertical specialisation, access to specific resources, etc. This may have negative implications in the market growth of private entrants.

### 2.3 New regulation

The intensification of competition requires the introduction of a new regulatory regime, especially where the initial investment costs are very high (e.g., R&D expenditures, expenditures for the construction of underground network infrastructure). Regulation policy may guarantee the assurance of legitimacy/legality, transparency, and fair treatment of traditional public companies and the newcomers (e.g., Tavera, 2001). State regulations are considered to be necessary where free competition fails to create an efficient market organisation. Regulatory bodies for the control and promotion of the relevant reforms can be either the corresponding ministry or independent regulatory authorities with specific responsibilities and duties (Holmes et al., 1996). Since the 1990s, independent regulatory authorities dominate, while the role of state is limited to the design of a general policy framework. The rationale for the establishment of an independent regulatory authority is to avoid political interventions, bureaucratic mechanisms, and the influence of strong economic groups. To protect independent regulatory authority from corruption and political or economic influence, its political autonomy, the transparent appointment of their members and their protection from arbitrary layoffs are required.

Galal and Nauriyal (1995), and Bortolotti et al. (2002), in many developed and developing countries and Bagdadioglu and Cetinkaya (2010), in Turkey, found that the degree of independence of the regulatory authority substantially determines the functioning of telecommunication market. Specifically, a strong independent regulatory authority can assure a reliable and smooth market operation. In the same spirit, Serra (1998), Haggarty et al. (2003), Clarke et al. (2003), and Laffont and N’Guessan (2003) showed that an imperfect regulation of competition on basic issues, such as price policy, equal access, etc. may hamper healthy competition in the telecommunication industry. Fink et al. (2003), Li and Xu (2002), and Lam and Shiu (2010) found that a parallel implementation of competition and privatisation policy can produce the best market effects. Also, empirical studies in a large number of countries (Wallsten, 2002) showed that the privatisation by itself, without the

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3 However, regarding the degree of competition, it is not clear how much competition is good competition. Literature (e.g., Krairit, 2001) suggests that less-developed countries should tailor their telecommunications reform policies to their own pace and needs given that extensive liberalisation could not increase market efficiency better than other policy alternatives.
existence of an independent regulatory authority, cannot provide a substantial improvement of market functioning. In addition, Serra (1998), analysed the telecommunication sector in Chile concluded that the high performance of privatised firms may benefit customers under the condition that healthy competition exists.

Figure 1. Conceptual framework

Based on the conceptual framework of the Figure 1, we empirically investigate the specific issue in the Greek economy.

Table 1. Empirical studies on the effects of liberalisation in the telecommunication industry

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin and Parker</td>
<td>1995</td>
<td>UK</td>
</tr>
<tr>
<td>Galal and Nauriyal</td>
<td>1995</td>
<td>29 developing countries (e.g. Argentina, Jamaica, Philippines)</td>
</tr>
<tr>
<td>Majumdar</td>
<td>1996</td>
<td>India</td>
</tr>
<tr>
<td>Athreya</td>
<td>1996</td>
<td>India</td>
</tr>
<tr>
<td>Konings</td>
<td>1997</td>
<td>Hungary, Romania and Slovenia</td>
</tr>
<tr>
<td>Serra</td>
<td>1998</td>
<td>Chile</td>
</tr>
<tr>
<td>Hughes and Phillips</td>
<td>1999</td>
<td>USA</td>
</tr>
<tr>
<td>Min</td>
<td>1999</td>
<td>Japan</td>
</tr>
<tr>
<td>Xavier and Ypsilantis</td>
<td>2000</td>
<td>Spain</td>
</tr>
<tr>
<td>Singh</td>
<td>2000</td>
<td>Asia</td>
</tr>
<tr>
<td>Dewenter and Malatesta</td>
<td>2001</td>
<td>Several countries in Europe, USA, Japan etc</td>
</tr>
<tr>
<td>OECD</td>
<td>2001</td>
<td>Several countries in Europe, USA, Japan, Australia etc</td>
</tr>
<tr>
<td>Wallsten S.</td>
<td>2001</td>
<td>30 countries in Africa and Latin America</td>
</tr>
<tr>
<td>Krairit D.</td>
<td>2001</td>
<td>Thailand, The Philippines</td>
</tr>
<tr>
<td>Claessens and Djankov</td>
<td>2002</td>
<td>7 Eastern European countries</td>
</tr>
<tr>
<td>Wallsten S.</td>
<td>2002</td>
<td>197 countries in Europe, Asia, Latin America etc</td>
</tr>
<tr>
<td>Li and Xu</td>
<td>2002</td>
<td>50 countries</td>
</tr>
<tr>
<td>Bortolotti</td>
<td>2002</td>
<td>25 countries in Europe, Latin America, Asia</td>
</tr>
<tr>
<td>Haggarty et al.</td>
<td>2003</td>
<td>Ghana</td>
</tr>
<tr>
<td>Clarke et al</td>
<td>2003</td>
<td>Malawi</td>
</tr>
</tbody>
</table>
3. METHODOLOGY

As mentioned in the introduction, market liberalisation has led to the establishment of many new private firms and the privatisation of the state monopoly in the telecommunication industry in Greece. Hence, during the 2000s we located 108 telecommunication companies in total that operated in the country (Business Register of the NCTP). At the same time, within the specific industry intensified competition is gone hand by hand with the creation and development of three particular market segments, i.e., fixed telephony services, mobile telephony services, also internet services.

Our field research was realised through interviews, based on a structured questionnaire. We used the step by step approach. At the beginning, we tested and upgraded the questionnaire through a pilot interview. Furthermore, after a telephone communication with all 108 companies, we sent them the questionnaire via e-mail. Moreover, we repeated our communication contacts to finalise the meetings with the top managers of these firms either general manager or economic director. Overall, we interviewed 44 top managers in corresponding companies, i.e., three public companies (two in fixed telephony and internet and one in mobile telephony) και 41 private firms (38 in fixed telephony and internet and three in mobile telephony). These companies were the most important firms in the sector. We considered as state companies those with a majority or a fully state ownership, and a state-controlled management, and as private firms those totally controlled by private investors. We investigated systematically these companies for the period 2001 to 2009. Each interview lasted 2 hours at least and concerned inter alia the ownership structure, the market entry strategy, the assessment of the new regulated framework, the evolution and the elements of competition and the prediction of market prospects (see Appendix A).

Our sample has a relatively high creditability, since the reliability analysis reveals that the Cronbach alpha factor is 0.6456. This confirms the coherence of our 17 questions and indicates the robustness of our findings (see Appendix B).

To compare the two sub-samples (public vs. private managers) and test any potential differences between them we applied the  $\chi^2$ (chi square) analysis showing whether the frequencies of these differences are statistically significant or not. To clearly reveal possible differences in the perceptions of private and public managers, we explicitly compare/contrast the low and high evaluations and not the intermediaries, which are available upon request. Additionally, we present the results for the whole sample (in the last column of the Tables 2, 3, 4, 5).

4. RESULTS

Institutional liberalisation of the telecommunication market caused a substantial ownership change of the state monopoly OTE. Our field research revealed that the OTE was founded in the year 1949 and was fully owned by the Greek state. The management of the company stated that the early 1990s was decided the partial privatisation of OTE through a both domestic and international public stock offering. After two unsuccessful attempts, OTE was partially privatised in 1996 and a first equity stake was listed on the Athens Stock Exchange, thus reducing the participation of the Greek state. The years 1997 and 1998 followed the second and third public successful public stock offering. However, up to 2000 OTE had operated as a state monopoly, providing exclusively basic telecommunication services. But in 2007 the Greek State sales about 11% of OTE share capital to institutional investors and in 2009 the majority block of shares of the company was transferred to the control of private owners (Deutsche Telecom).
Table 2. Barriers to entry (high/low evaluations)

<table>
<thead>
<tr>
<th>Company / Indicator</th>
<th>Public companies</th>
<th>Private companies</th>
<th>All companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very little or little</td>
<td>much or very much</td>
<td></td>
</tr>
<tr>
<td>Institutional barriers [removal]</td>
<td>0,0</td>
<td>100%</td>
<td>0,0</td>
</tr>
<tr>
<td>Technological barriers</td>
<td>66,6%</td>
<td>33,3%</td>
<td>2,4%</td>
</tr>
<tr>
<td>Economic barriers</td>
<td>0,0</td>
<td>100%</td>
<td>0,0</td>
</tr>
</tbody>
</table>

Notes: ***, **, * indicate statistical significance at level 10%, 5% and 1%, respectively.

Source: Data research

The removal of institutional barriers caused also a relatively massive entry of newcomers. More than the half of the managers of the sample companies (65.9%) attributed this fact to the relatively simple licensing procedure for the founding of a new establishment (Table 2). However, we located a statistically significant difference (p < 5%) between the public and private managers. The managers of the private enterprises expressed the view that they faced more bureaucratic difficulties as compared to public firms. In addition, during our field research we realised that the private firms which were licensed were almost double than those which finally entered the market. For this reason, we tried to find out additional barriers (which apart from the institutional barriers) could hamper market entry. According to the Table 2, almost all managers (97.7%) independently of the ownership status of their firm referred serious economic barriers to entry such as high expenditures for establishment, operation, advertising and marketing. There was no statistically significant difference between public and private managers in this field. Moreover, almost half of the managers (45.5%) reported technological entry barriers since they had no easy access to infrastructure networks. Nevertheless, the private managers (p < 10%) noted that the specific obstacles were more serious for them than for public companies. They argued that public companies possessed a very wide telecommunication network especially in the fixed telephony and internet due to their long-term operation in the industry. Specifically, they referred that up to 2006 only the OTE had a complete telecommunication network, whereas the private newcomers were forced to rent licenses from OTE to sell their services. But since 2007, some private companies have created gradually their own broadband network and could offer fixed telephony, mobile telephony, internet, even TV services, at the price of a total packet. At this point it is worthwhile noticing that today OTE offers also a complete packet of fixed telephony, mobile telephony, internet and TV services at a very competitive price. This puts a pressure on the provider-companies of TV services to reduce their rates. However, this pressure should have a negative effect on some TV companies that cannot cope with the intense competition.

As noted in the theoretical section, the transmission from the state monopoly to the competitive market created the need for a new regulatory context to achieve a sound operation of market organisation. However, our field research indicated that the implemented regulatory policy in the Greek telecommunications market was not fully effective. In particular, a relatively small number of private and public managers believed that the NCTP that supervises and regulates telecommunications market was fully independent (27.3%) and had a wide spectrum of competencies (27.3%). In this area, there was a big unanimity between the private and public managers. Obviously, the insufficient independence of NCTP could have important negative implications for market efficiency. Additionally, the vast majority of total sample (77.3%), primarily managers of private-owned enterprises, stated that the OTE, as the dominant organisation, behaved in a way that was not always in conformity with the rules and the workings of competition. Thus, in the specific field, we could locate statistically substantial differences (p < 5%) in the perceptions of the private and public managers (Table 3).
Table 3. Regulating policy (high/low evaluations)

<table>
<thead>
<tr>
<th>Company / Indicator</th>
<th>Public companies</th>
<th>Private companies</th>
<th>All companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very little or little</td>
<td>much or very much</td>
<td>very little or little</td>
</tr>
<tr>
<td>NCTP’s independence</td>
<td>0,0</td>
<td>100%</td>
<td>24,4%</td>
</tr>
<tr>
<td>NCTP’s competences</td>
<td>0,0</td>
<td>66,6%</td>
<td>29,2%</td>
</tr>
<tr>
<td>OTE’s conformity</td>
<td>0,0</td>
<td>100%</td>
<td>82,9%</td>
</tr>
</tbody>
</table>

Notes: ***, **, * indicate statistical significance at level 10%, 5% and 1%, respectively.
Source: Data research

Despite the market-entry difficulties and the other functional problems of the market, the field research showed a substantial rise of competition. In particular, 79.6% of the managers independently of the ownership type of their enterprise considered that the completion in the relevant markets was very intense (Table 4). Hence, entering the market was not enough. To survive afterwards was the most difficult task. Consequently, our next question to the management concerned the main factors of competition. Almost all managers, independently of the ownership type of their company, mentioned price policy (92.3%) and advertising/marketing policy (92.3%) as the main competition factors. Moreover, they considered competition in customer’s services (52.2%) also as important. At the same time, they referred competition in technology (36.3%) and personnel (20.5%) as relatively mild. The relatively low rank of the technology factor in the management perceptions should be explained by the fact that the managers in the already established enterprises (to the extent that these enterprises had secured a satisfactory access to technological networks) focused mainly on marketing mix. Managers stated clearly that marketing and sales promotion did not demand high-skilled personal with exception the top management positions. Chi square ($X^2$) analysis indicated that there were no statistically significant differences between the managers of the two groups of companies in the sample (Table 4).

Table 4. Intensity and characteristics of competition (high/low evaluations)

<table>
<thead>
<tr>
<th>Company / Indicator</th>
<th>Public companies</th>
<th>Private companies</th>
<th>All companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very little or little</td>
<td>much or very much</td>
<td>very little or little</td>
</tr>
<tr>
<td>Intensity of competition</td>
<td>0,0</td>
<td>100%</td>
<td>2,4%</td>
</tr>
<tr>
<td>Elements of Competition: Technology</td>
<td>66,6%</td>
<td>33,3%</td>
<td>9,8%</td>
</tr>
<tr>
<td>Advertising &amp; marketing</td>
<td>0,0</td>
<td>100%</td>
<td>0,0</td>
</tr>
<tr>
<td>Customer’s services</td>
<td>0,0</td>
<td>50%</td>
<td>9,8%</td>
</tr>
<tr>
<td>Price policy</td>
<td>0,0</td>
<td>100%</td>
<td>0,0</td>
</tr>
<tr>
<td>High-skilled personal</td>
<td>0,0</td>
<td>66,6%</td>
<td>26,8%</td>
</tr>
</tbody>
</table>

Notes: ***, **, * indicate statistical significance at level 10%, 5% and 1%, respectively.
Source: Data research
As regards the prospects of market, the majority of managers predicted that in the next years the Greek telecommunications market will further grow and expand. Moreover, they believed that corporate takeover and mergers will rise (Table 5). Nevertheless, the managers of the public sample companies were more optimistic for the future than the private (p < 5%). The more optimistic view of the public management was based on their extensive client basis, advanced infrastructure, and rich operational experience as compared to the management of private enterprises that faced serious growth obstacles.

Finally, we explored if the above subjective management assessments could be reflected in the dynamic evolution of market shares for both public and private enterprises. Our field research in terms of market share confirmed the aforementioned manager perceptions. It showed that the market share of public sector remained relatively high for many years after liberalisation though with a gradual reduction. Specifically, in fixed telephony and internet the public market share decreased over 30% from 2001 to 2008 (Table 6). Thus, the public company continued to dominate, controlling almost 2/3 of the market, until 2008. All managers of the sample companies emphasised the already consolidated policy of OTE, the advantages of OTE’s broad-based clientele and of its infrastructure and entrepreneurial experience. The relatively small size of the Greek telecommunication market, in relation with the high investment costs for the creation of infrastructure and sales network obviously hampered the full development of competition. Nevertheless, since 2009, with the full privatisation of OTE, the market share of the public companies in fixed telephony and internet has been substantially reduced and almost disappeared. By contrast, the mobile telephony market was more competitive, with oligopolistic characteristics.

Table 5. Prospects of the telecommunication market (high/low evaluations)

<table>
<thead>
<tr>
<th>Company / Indicator</th>
<th>Public companies</th>
<th>Private companies</th>
<th>X²</th>
<th>All companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very little or little</td>
<td>much or very much</td>
<td>very little or little</td>
<td>much or very much</td>
</tr>
<tr>
<td>Future dimensions and growth rate</td>
<td>0,0</td>
<td>100%</td>
<td>7,3%</td>
<td>63,4%</td>
</tr>
<tr>
<td>Corporate takeovers and mergers</td>
<td>0,0</td>
<td>100%</td>
<td>2,4%</td>
<td>80,5%</td>
</tr>
</tbody>
</table>

Notes: ***, **, * indicate statistical significance at level 10%, 5% and 1%, respectively.
Source: Data research

Table 6. Evolution of market shares

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed telephony and internet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public companies</td>
<td>100%</td>
<td>98,1%</td>
<td>84,6%</td>
<td>75,1%</td>
<td>71,8%</td>
<td>69,4%</td>
<td>67,9%</td>
<td>66,3%</td>
<td>0,0</td>
</tr>
<tr>
<td>Private companies</td>
<td>0,0</td>
<td>1,9%</td>
<td>15,4%</td>
<td>24,9%</td>
<td>28,2%</td>
<td>30,6%</td>
<td>32,1%</td>
<td>33,7%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Mobile telephony</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public companies</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>36%</td>
<td>39%</td>
<td>42%</td>
</tr>
<tr>
<td>Private companies</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
<td>64%</td>
<td>61%</td>
<td>58%</td>
</tr>
</tbody>
</table>

Source: Data research

5. DISCUSSION

Our field research concluded that despite the several economic and technological entry barriers which private companies faced, the institutional liberalisation of the Greek telecommunications market, in conjunction with the facilitation of licensing for entry, led to relatively massive new entries. Of course
this liberalisation happened gradually and so there were no important market distortions. This conclusion is supported by other research studies taken place in the telecommunications market of USA (Hughes and Phillips, 1999), Japan (Min, 1999), Spain (Xavier and Ypsilantis, 2000), India (Athreya, 1996) and Ghana (Haggarty et al., 2003).

The managers of the sample companies underlined that the gradual entry of new companies in the market and the supply of a relatively wide range of services caused an intensification of competition mainly in the fields of price and marketing/advertising policy. Though the strong competition the public companies continued to control a large market share for many years after liberalisation. This conclusion is confirmed by other studies such as that of Boyland and Nicoletti (2000) in 23 OECD states.

The transition from the state monopoly to a competitive market status led to the establishment of a new regulatory context. However, the managers of the firms in the sample referred that the implementation of the regulation policy in the Greek telecommunications market met many difficulties. Specifically the managers of the private companies referred to the non-compliance of the public company, OTE, with the instructions of the regulatory authority and with the rules of healthy competition. Earlier studies such as those of Haggarty et al. (2003) in Ghana, Clarke et al. (2003) in Malawi and Laffont and N’Guessan (2003) in Côte d’Ivoire found similar results.

As far as the prospects of the Greek telecommunication market are concerned, we found that the managers of the public companies were more optimistic for the future than those of private firms, probably due to the difficulties of expansion which the latter were faced with.

The most important management implication is that market liberalisation cannot de facto lead to a market dominance of private ownership. In fact, liberalisation increases competition through many newcomers. However, the dominant public company continues to determine the ‘rules of the game’. Key factors in this direction are the nature of the sector (e.g., high investment expenditures in telecommunications networks) and the non-compliance of the dominant state-enterprise with the rules of competition. Hence, the evolution of competition does not always fully result in favour of the private companies. The status quo appears to be able to be overturned more effectively via the privatization process of the state monopoly than through the entrance of private newcomers, which is often not successful. In addition, the fact that many private firms were licensed but finally not entering the market indicates relatively high barriers to entry in the specific industry.

Future research should examine whether the mix of liberalisation policy and its effectiveness depends on the specific national environment. This is because countries may differ from one another in many aspects, political, social and economic. In such different contexts, managers may have different perceptions concerning nature and degree of liberalisation, terms of competition and business philosophy. Therefore, they can assess in different way institutional changes at industry level.

6. CONCLUSIONS

In this article, we have investigated the manager perceptions of public and private companies in the early era of liberalisation of the Greek telecommunications market (2001 to 2009). In this framework, we have selected our data interviewing 44 top managers in corresponding enterprises operated in fixed telephony and internet, and in mobile telephony. Their responses were evaluated with the help of chi square ($X^2$) analysis. The findings revealed a substantial increase of competition in the new institutional environment due to massive new private entries. At the same time, the newcomers faced serious economic and technological entry barriers with negative implications in their market growth. Furthermore, the managers of the private companies referred to the non-compliance of the public company, OTE, with the instructions of the regulatory authority. They believed (and our data on market shares confirmed that) that only the privatisation of the public company could change the structure of the local market radically in favour of the private ownership. Overall, our paper succeeded to reveal the new ‘business atmosphere’ in the Greek telecommunication industry that has been created next few years after its institutional liberalisation.

ACKNOWLEDGEMENTS

We thank the anonymous reviewer for his valuable and constructive comments.
REFERENCES


**APPENDIX A: RESEARCH QUESTIONNAIRE**

**a. Barriers to entry in the market**

1. How easy do you think is to acquire licensing for entry into the relevant market?

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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

2. To what extent do you think that there are technological barriers to entry into the relevant market, such as for example, modernization and size of the relevant infrastructure, existence of patents, degree of innovation of the product etc.?

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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

3. To what extent do you think that there are economic barriers to entry into the relevant market, such as, for example, high costs of establishment, expensive working-capital, high costs of advertising and marketing, etc.?

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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

**b. Market competition**

4. To what extent do you think there is competition in the Greek telecommunications market?

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</table>
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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

5. To what extent do you think that the current competition is about technology (technological competition)?

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</table>
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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

6. To what extent do you think that the current competition is about promotion and marketing?

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</table>
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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

7. To what extent do you think that the current competition is about customer service?

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</tbody>
</table>
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1= none, 2= scarcely, 3= fairly, 4= much, 5= very much
8. To what extent do you think that the current competition is about pricing policy?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

9. To what extent do you think that the current competition is about experienced and expert personnel?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

c. Market regulation
10. To what extent do you think the Greek Regulatory Telecommunication Authority is really independent?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

11. To what extent do you think that the competences of the Regulatory Authority are enough for the effectiveness of competition in the relevant market?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

12. To what extent do you think that the dominant enterprise in the Greek telecommunications industry, i.e. OTE, strengthens competition in the market?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

d. Prospects of the telecommunication market
13. How big do you think is the size and rate of growth of the Greek telecommunication market in comparison to that in the rest of the member states of the EU?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

14. In your opinion, what are the employment prospects of the telecommunication market in the coming years?

1 2 3
1= no change, 2= negative, 3= positive

15. In your opinion, what are the prospects for prices in the telecommunication market in the coming years?

1 2 3
1= no change, 2= negative, 3= positive

16. To what extent do you think that the enterprises which are currently active in the Greek telecommunication market will be involved in takeovers and mergers in the coming years?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

17. In your opinion, what are the prospects for further growth and return rates in the telecommunication market in the coming years?

1 2 3 4 5
1= none, 2= scarcely, 3= fairly, 4= much, 5= very much

APPENDIX B: Reliability Analysis – Scale (Cronbach Alpha)

<table>
<thead>
<tr>
<th>Q</th>
<th>Scale Mean if Item deleted</th>
<th>Scale Variance if Item deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Alpha if Item deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52.7674</td>
<td>21.2303</td>
<td>0.1412</td>
<td>0.6434</td>
</tr>
<tr>
<td>2</td>
<td>53.2326</td>
<td>21.8494</td>
<td>0.1112</td>
<td>0.6467</td>
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<td>3</td>
<td>52.3488</td>
<td>21.4707</td>
<td>0.2248</td>
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<td>4</td>
<td>52.7674</td>
<td>21.4208</td>
<td>0.1714</td>
<td>0.6406</td>
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<tr>
<td>5</td>
<td>53.3721</td>
<td>20.8583</td>
<td>0.2097</td>
<td>0.6367</td>
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<td>6</td>
<td>52.2791</td>
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<td>20.9502</td>
<td>0.2573</td>
<td>0.6309</td>
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<tr>
<td>9</td>
<td>53.7442</td>
<td>20.1473</td>
<td>0.3568</td>
<td>0.6177</td>
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</table>
Reliability Coefficients
N of Cases=43.0
N of Items=17 questions in total

**Alpha = 0.6456**