

The Mobile Telephony Sector of Greece within the new Environment



ΕΝΩΣΗ ΕΤΑΙΡΕΙΩΝ ΚΙΝΗΤΗΣ ΤΗΛΕΦΩΝΙΑΣ

ASSOCIATION OF MOBILE OPERATORS



ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS
MANAGEMENT SCIENCE & TECHNOLOGY DEPARTMENT



Management
Consultants

October 2011

Executive Summary

- The mobile telephony sector of Greece has been one of the most dynamic sectors of the Greek economy for 15 out of the 20 years since its inception. However, its state has been deteriorating fast in the last few years:
 - **2010 REVENUES from services decreased by 16,1%.** In Q1 2011 revenues fell further by 21,2%
 - **2010 EBITDA declined by 18,9%.** In Q1 2011 EBITDA dropped by 21,3%
 - **2010 NET losses exceeded €800 million**
- However, the Sector has the potential to regain its prosperity and thus contribute once again to the growth of the economy:
 - **In Europe, the mobile telephony sector consists of a stagnant sector in voice and of a dynamic sector in data** (19,6% increase in data revenues excluding SMS). Data including SMS amount to 27% of total service revenues.
 - In contrast, **in Greece, data are increasing in volume but are still a limited and decreasing source of revenues**, only 13% of revenues including SMS.
- The Sector's cumulative capital expenditures exceeded 6 billion by the end of 2010. In addition, the Sector invested €380.555 millions in the spectrum auction process for mobile communication services in the 900MHz and 1800MHz bands. These investments have already given a well needed push to the Greek economy, reducing its divergence from Europe in innovation and new technologies and will allow the Sector to turn profitable
- According to a recent Cisco Forecast, for the next 5 years, **data volumes in mobile networks will grow by 92% annually** - this will require upgrading of existing networks to 4G..
- However, the Sector is experiencing a climate which is **hostile to investment, thus leading it to a diverge from the evolution in other European countries:**
 - **Recession has caused a 15% drop in disposable income**, from its highest point in Q2 2008 to Q2 2011
 - **A complicated and dysfunctional legal and regulatory framework for the licensing of base stations** that prevents the unhindered implementation of the required capital expenditures
 - The Sector's **cost of equity has risen to 18,8% due to the increased economic uncertainty**, compared to 7,1% in most European countries and roughly 10% historically for telecoms in Greece, reducing the return on investment and the valuations of the companies
 - The continuous increases in the Sector's **indirect taxation** have led to **more than 50% of the Sector's contribution to GDP being absorbed by the State** (€1 862 million in 2010)

- The **expected decrease in REVENUES and EBITDA in the next few years, will constrain the Operators' cash flows and their ability to fund investments** which are required for the development of new services and for responding to the demand for data transfer.
- At the same time, the **regulatory and tax uncertainties** do not facilitate the decision making process for long term investments, e.g. **the government expects to raise significant revenues from the Sector by licensing spectrum for 15 years but at the same time does not provide a stable regulatory regime to investors for the exploitation of these licences.**
- The **ineffectiveness of Public Administration** has resulted in inability to conclusively regulate the licensing of Base Stations as well as to process construction applications timely and to ensure their orderly operation. Relatively to other European countries, **Greece has the lowest percentage of fully-licensed base stations, the longest delays in licensing and the most complex bureaucratic environment.** Investments in broadband networks are not implemented due to the delay or even refusal of urban planning authorities and prefectures to process licensing applications.
- **Increases in tax rates no longer yield extra revenues for the government.** Higher taxes cause a drop in demand for the Sector's services, thus a corresponding fall in sales and profits and consequently a decline in total public revenues (-3,2% in 2010, -1,1% in 2009). It is estimated that:
 - **A 30% drop in the special mobile tax** would lead to a **€2 million increase in public revenues.** Public revenues would **increase by €63 million** if the multiplier effect is taken into account.
 - **A reduction in VAT to 20% from 23** would lead to a direct **decrease in public revenues by €11 million.** Public revenues would **increase by €30 million** if the multiplier effect is taken into.
 - **An exception from the special mobile tax of programs that offer at least 50 Mb in data volumes** would on the one hand lead to a €5 million direct **decrease in public revenues, but on the other hand would increase public revenues by €165 million** when the spill over effects to the broader economy kick in from the relative increase in broadband penetration.

- In 2010 the Sector **contributed 1.6% of GDP (€3,6 billion) and 8.3% of GDP when taking into consideration the spillover effects, positive network externalities and total factor productivity gains.** At the same time, the Sector offers very competitive prices to its subscribers – relatively other countries in Europe, in 2010 the Greek Operators offered **the lowest pre-tax prices (€0,066/ minute) and implemented the largest price cuts (-28,3%).**
- A sensitivity analysis for the Sector's prospects and its contribution to the broader economy shows that **significant positive effects on the economy and public revenues** will be realised if pervasive changes take place in the Sector's indirect taxation and in the Base Station licensing procedure. Specifically:
 - **A reduction in the special mobile tax of 50% in 2012 and 100% in 2013, combined with**
 - **Improvement in the regulatory environment by simplifying and speeding up the licensing procedures and by ensuring the orderly operation of Base Stations,**would achieve the following:
 - **€70 million rise in public revenues** - taking into account the multiplier effect in the general economy this would lead to **€350 million increase in public revenues,**
 - **a rise in GDP by €593 million** - taking into account the multiplier effect this would lead to a **rise of €1,3 billion** and the creation of **10 thousand extra jobs,**
 - benefits to the entire economy arising from:
 - ✓ **Investments in broadband networks**
 - ✓ **Growth in data transfers and mobile internet at growth rates that converge to the rest of Europe**
 - ✓ **Usage of mobile communication applications by companies and government** towards the reduction of their operating and energy expenses
 - ✓ **Development of entrepreneurship and innovation in related industries**

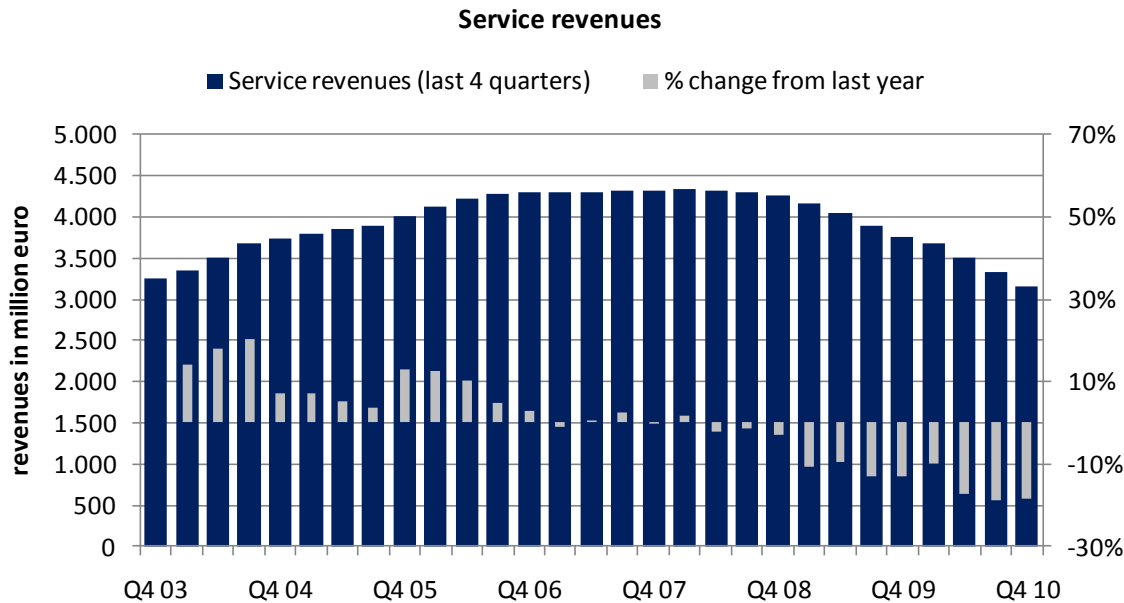
The positive effect of broadband network applications to economic growth is demonstrated by the World Bank estimate (Qiang 2009) that in developed countries **every 10% increase in broadband networks raises GDP by 1,21%.**

Sector results and Indexes

- **Mobile telephony revenues**
- **Mobile telephony net profit before taxes**
- **Subscribers**

Mobile telephony revenues

In 2010 service revenues decreased to €3 158 million, below the 2003 level

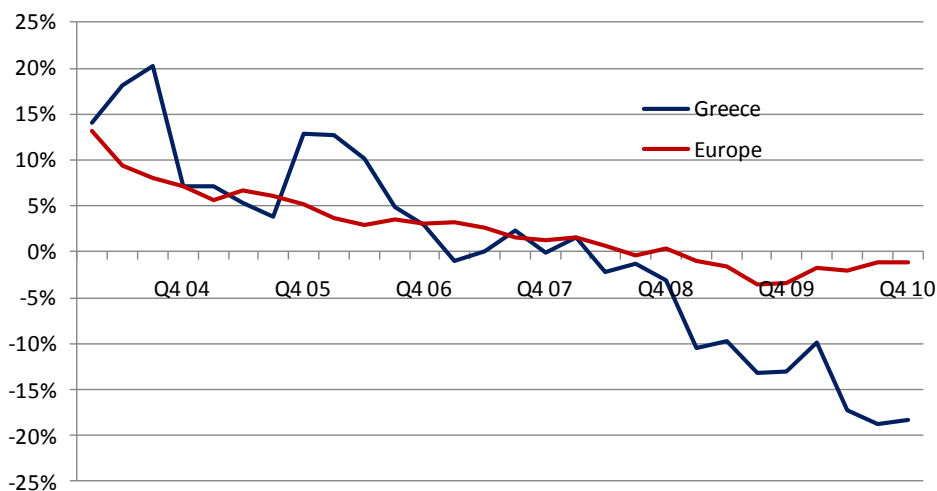


Source: Mobile Operator's data and data from the European Telecoms Matrix, Q1 2011, Merrill Lynch & Bank of America

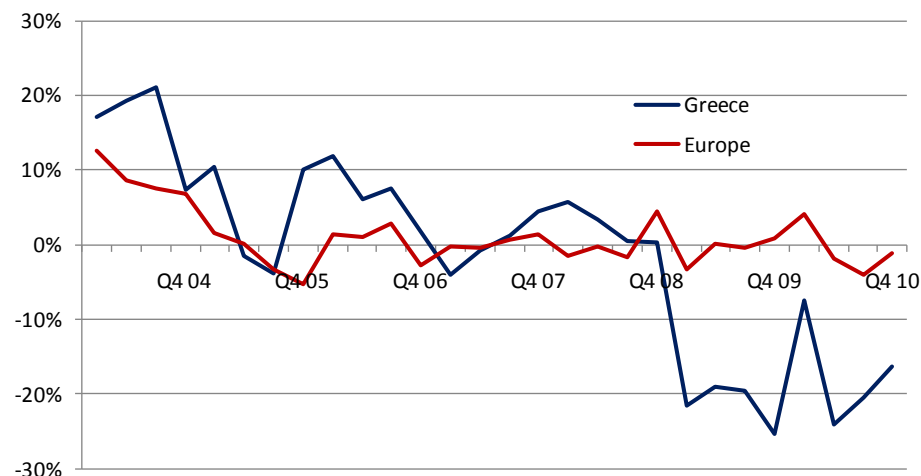
- The financial crisis, the saturation of voice services and the limited growth of new services have a negative effect on revenues
- The Sector's service revenues have decreased by 27% relatively to their peak value, and in 2010 decreased by 16,1% over the previous year
- In 2010 the Sector's aggregate turnover was € 3 571 million. This is a 38% decrease relatively to its peak value and a 18% decrease over the previous year

Revenues and EBITDA have decreased in the Greek market since 2008 while in Europe the sector is relatively stable

% change in service revenues in Greece and Europe



% change in EBITDA in Greece and Europe



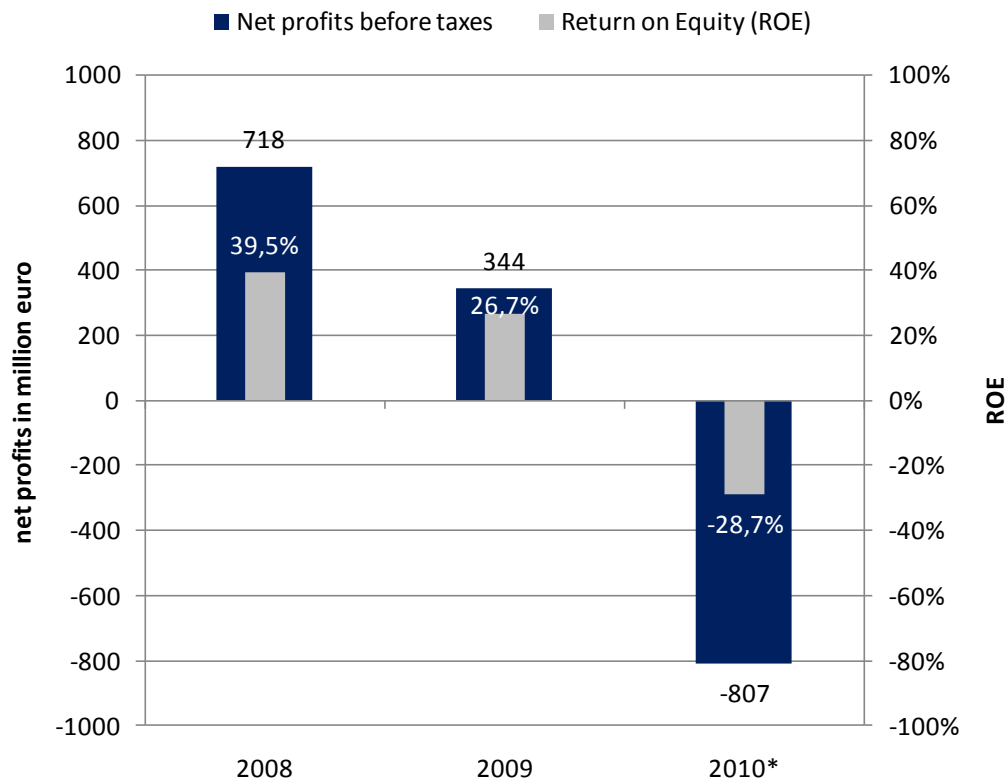
Source: Mobile Operator's data and data from the European Telecoms Matrix, Q1 2011, Merrill Lynch & Bank of America

- The increase in volume of services has been limited and does not counter the decrease in prices
- The causes are:
 - The financial crisis that erodes consumer income, the burden of taxes on the demand for the Sector's services, the saturation of traditional services and the limited penetration of new services

Mobile telephony net profit before taxes

8

The Sector's profit before taxes is "in the red" – in 2010 losses exceeded €800 million



- The significant decrease of operational profits (EBITDA) is accompanied with continuous high expenditures for taxes as well as depreciation related to past investments, resulting in significant losses for the Sector
- The Sector's losses correspond to 35% of the aggregate losses (pre tax) of all enterprises in Greece which issued financial statements by 19 July 2011 (25.616 enterprises)

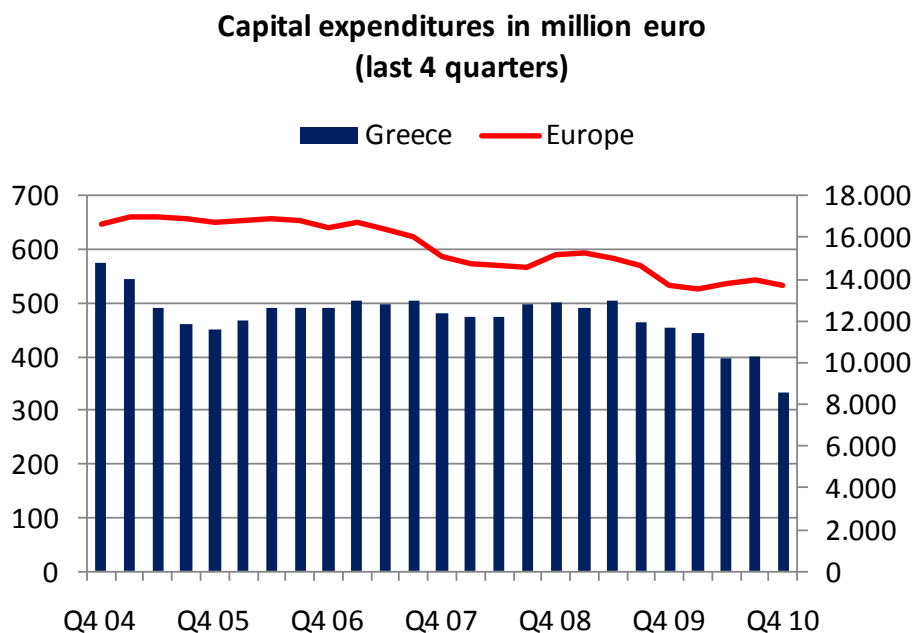
* Note: Data relate to the 2010 data for Cosmote and Wind and to the financial year 1/4/2009 – 31/3/2010 for Vodafone

Source: Mobile Operators' financial data, ICAP Databank

Mobile telephony investments

- Investment Environment
- Legal/Regulatory framework

The Sector is facing an “unfriendly” investment environment (recession, the licensing regulatory framework, taxation)



- Overall, since the beginning of the 90s until 2010, the Sector has invested approx. €6 billion, thus contributing to the country's development
- In the last years, the Sector's investments have been decreasing in accordance with the Sector's revenues and returns. In 2010, the Sector's investments in Greece reached €334 million, 27% lower than in 2009
- The forecast decrease in revenues and EBITDA in the coming years, will limit the ability of Operators to fund investments necessary for network upgrading

Source: Mobile Operator's data and data from the European Telecoms Matrix, Q1 2011, Merrill Lynch & Bank of America

Legal/Regulatory framework for the licensing of Base Stations – Cost of legal framework

11

Greece is unfriendly to investments – The obscurities and delays which are introduced by the existing legal framework costs millions of euros to the Sector and leads to postponement and cancellation of investments

- In 2010, the Sector paid €18.996.000 just for dismantling and reconstruction of Base Stations
- The Sector and the State spent a great amount of man-months for attendance in court cases, thus delaying investment development and overburdening Greek courts
- In 2010, the number of court cases surpassed **1200**, the majority of which were due to obscurities of law and innate problems of the Public Administration, relating to Law 3431 (2006) as well as preceding regulation.
- Despite the identification of the required Common Ministerial Decisions for the licensing issue, these are either delayed or not implemented. The urban planning authorities and prefectures do not process licensing applications and consequently investment in mobile broadband networks has stopped all together.

| | 2009 | 2010 |
|--|-----------|-----------|
| Court cases | ~900 | ~1200 |
| Fines (€) | 3.061.000 | 5.307.000 |
| Number of dismantled antennae | 310 | 351 |
| Cost of antennae dismantling (€) | 1.075.911 | 1.306.511 |
| Average period for antennae licensing (months) | >30 mths | >30 mths |

Source: Mobile Operators' data

Legal/Regulatory framework for the licensing of Base Stations – Licensing Requirements and Waiting period

12

Relatively to the rest of Europe, Greece has the lowest percentage of fully-licensed base stations, the longest delays in licensing and the greatest number of competent licensing authorities

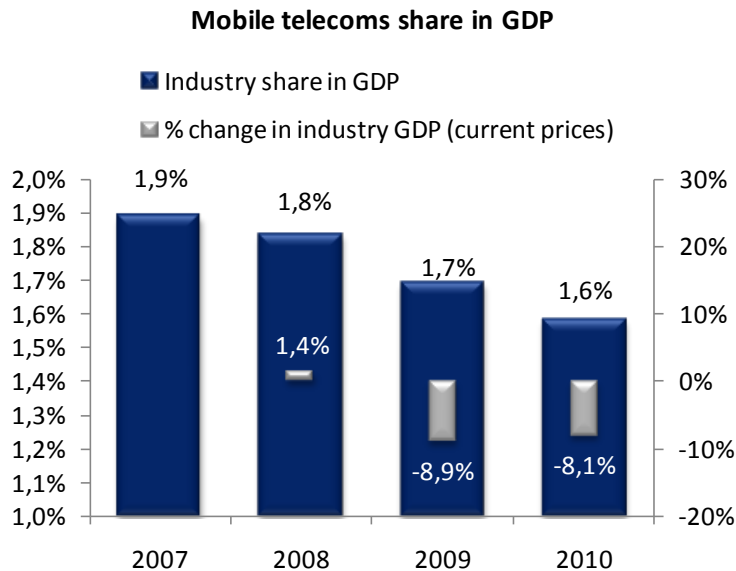
| Country | Requirements | Waiting Period |
|---------------|---|-------------------------------------|
| Austria | Varous | Usually 6 months |
| Belgium | Various | Usually 6 months |
| Bulgaria | Health Ministry, RF recordings | Not foreseen |
| France | Urban Planning Licence >12m | Usually 1-6 months |
| Germany | Urban Planning Licence >10m | Usually 6 months |
| Danmark | Urban Planning Licence | Usually 3-6 months |
| Greece | Licences and Stmts of Opinion by up to 7 different Authorities | Usually >30 months |
| UK | Allowed height <15m | Legally 8 weeks |
| Ireland | Urban Planning Licence | Usually 2-3 months |
| Spain | Urban Planning Licence & Ministry Licence | Legally 6 months Usually 18 months |
| Italy | Urban Planning Licence | Usually 3 months |
| Cyprus | Authorisation by various Authorities | Legally 2 months, Usually 12 months |
| Lithuania | Urban Planning Licence & Radiation Study | Legally 6 months Usually 18 months |
| Malta | Urban Planning Licence | Usually 4-6 months |
| Holland | Urban Planning Licence >6m | Usually 3-5 months or 9-15 months |
| Hungary | Urban Planning Licence >6m | Usually 6 months |
| Poland | Urban Planning Licence & radiation Study | Usually 18-24 months |
| Portugal | Urban Planning Licence | Legally 1 month |
| Romania | Urban Planning Licence & Radiation Study | Usually 5 months |
| Slovakia | Urban Planning Licence & Ministry Licence | Usually 3-12 months |
| Slovenia | Urban Planning Licence <10m & Ministry Licence | Usually 6 months |
| Sweden | Urban Planning Licence | Usually 3 months |
| Czech | Urban Planning Licence | Usually 2 months |
| Finland | Urban Planning Licence & Impact Analysis | Usually 6 months |

Source: GSMA 2010

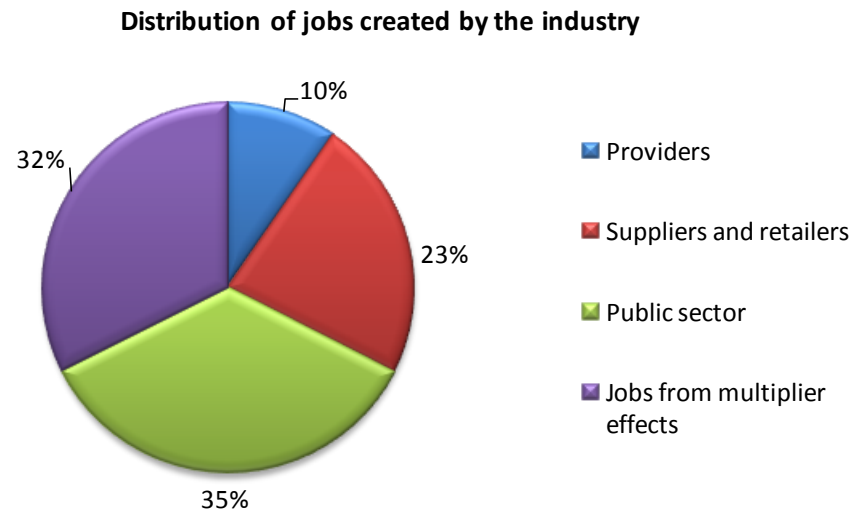
Sector's footprint into the economy

- GDP & Jobs
- Contribution to Public revenues
- Aggregate contribution to GDP

- The Sector's share in the GDP is diminishing in the last few years due to the crisis that it is facing, which is higher than the Greek GDP drop
- In 2010, the Sector created directly and indirectly 63 thousand jobs

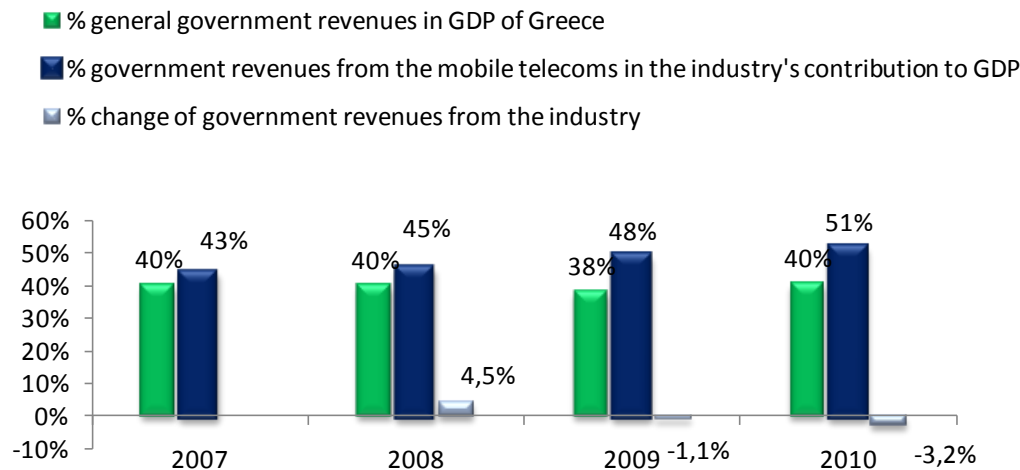


Source: Mobile Operators' data, EL.STAT., IMF forecast



Source: Mobile Operators' data, EL.STAT.

The Sector is taxed disproportionately (51% of the Sector's GDP contribution), yet the return to the State from the extra taxation is negative

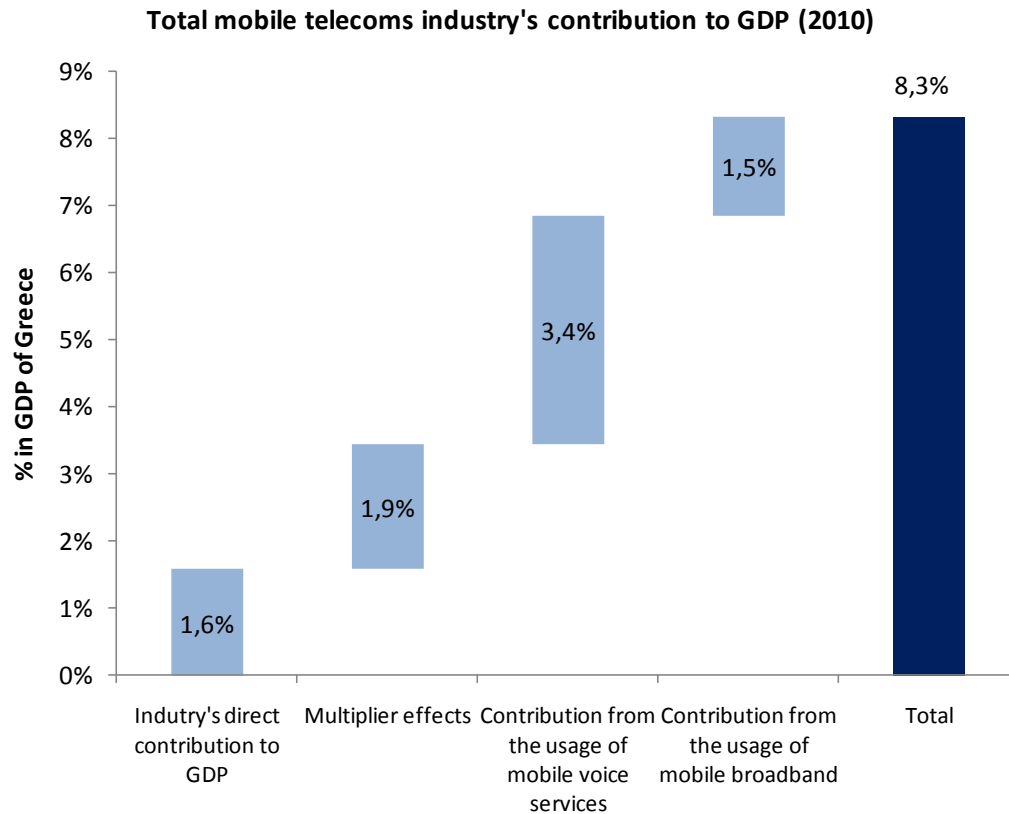


Source: Mobile Operators' data, EL.STAT., IMF

- The 2009 and 2010 increases in VAT increased the State's share to over 50% of the Sector's revenues
- Public revenues decreased in 2009 and 2010 due to the Sector's deep recession

- In effect, the Sector is funding the government organisations that are responsible for its supervision and the licensing of its operation (the EETT, the GAEC, Urban planning offices) through spectrum fees, numbering fees, annual fees, Base Station construction fees, fees for environmental studies. The State is not burdened with any additional costs for the operation of these organisations with respect to matters that relate to the Sector.

The Sector supports directly and indirectly the Greek economy - 8,3% GDP contribution



- According to the World Bank:

- In developed countries, every 10 percentage point increase in mobile telephony penetration increases GDP by 0,6%
- In developed countries, every 10 percentage point increase in broadband penetration (either mobile or fixed) increases GDP by 1,21%

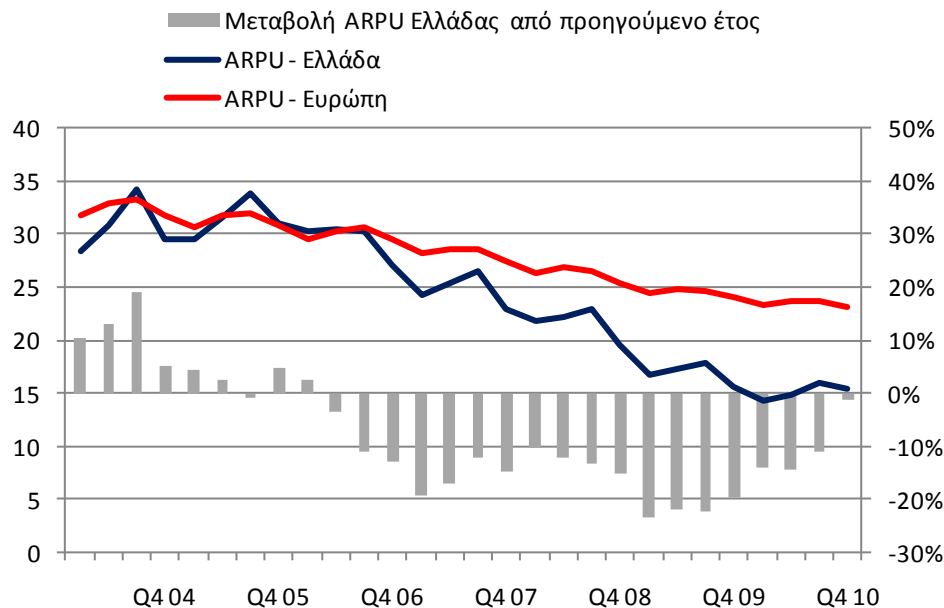
Source: Mobile Operators' data, EL.STAT., IMF
Note: 2,18 multiplier effect, based on EL.STAT.'s input/output analysis in the symmetric table for the communications sector

Mobile communications – Greece vs. EU

Mobile Broadband

- **ARPU**
- **Subscribers**
- **Data Revenues & New Services**
- **Mobile Broadband**

The revenue per user in Greece is 33% lower than Europe, while decreasing at a faster rate



- The revenue per user in Greece decreased 9.4% in 2010 compared to 2009 while in Europe by 4.2%

Πηγή: Επεξεργασία στοιχείων εταιρειών κινητής τηλεφωνίας και *European Telecoms Matrix*, Q1 2011, *Merrill Lynch & Bank of America*

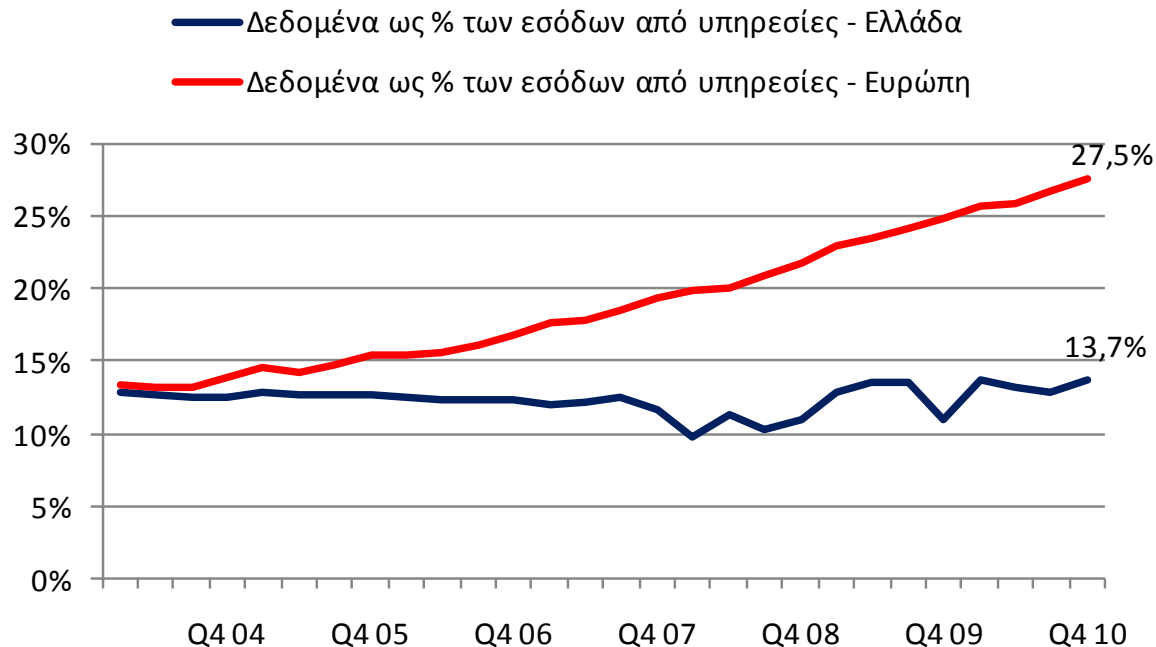
The number of subscribers decreased by approx. 5 million (-24%) in one year



- The mandatory registration of subscribers has contributed to the reduction
- The continuing decrease in subscriber numbers following the completion of the mandatory registration is an indication that the financial crisis contributed to these results
- In Europe, the number of subscribers has stabilised following a long period of increase

Source: Mobile Operator's data and data from the European Telecoms Matrix, Q1 2011, Merrill Lynch & Bank of America

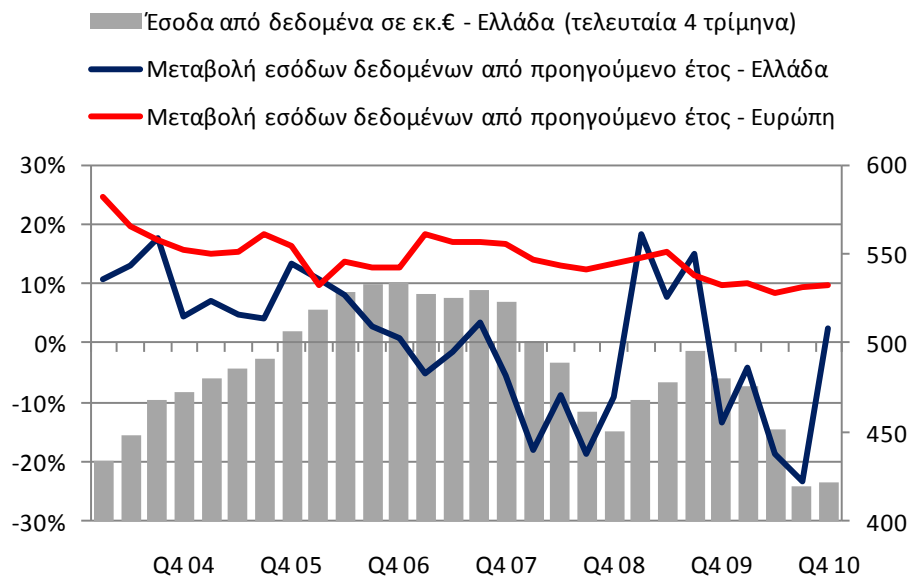
Greece has a significant delay to Europe in the development of data services, with the exception of SMS



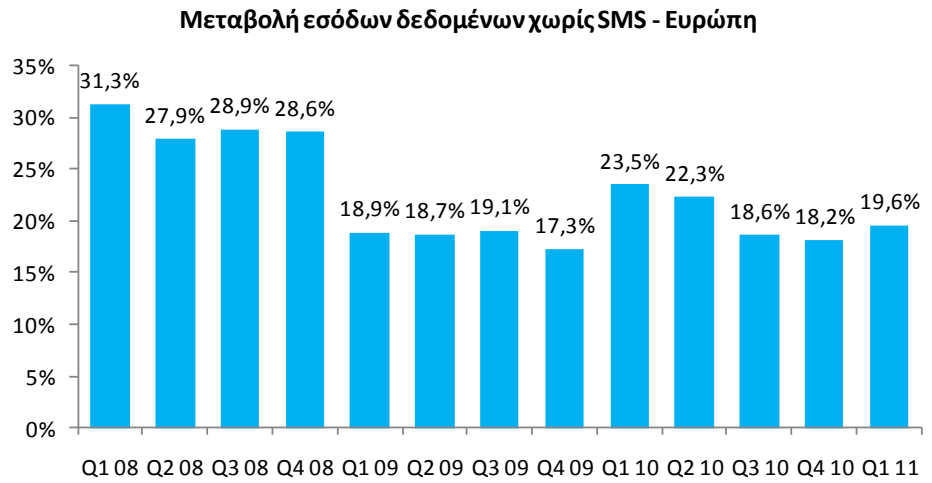
- In Europe, the share of revenue from data is increasing, twice that of Greece with the development of new services.

Πηγή: Επεξεργασία στοιχείων εταιρειών κινητής τηλεφωνίας και *European Telecoms Matrix*, Q1 2011, *Merrill Lynch & Bank of America*

Revenues from data reduced in Greece. Revenues from data in Europe have grown by 10% without the SMS at a rate nearly 20%



Πηγή: Επεξεργασία στοιχείων εταιρειών κινητής τηλεφωνίας και European Telecoms Matrix, Q1 2011, Merrill Lynch & Bank of America

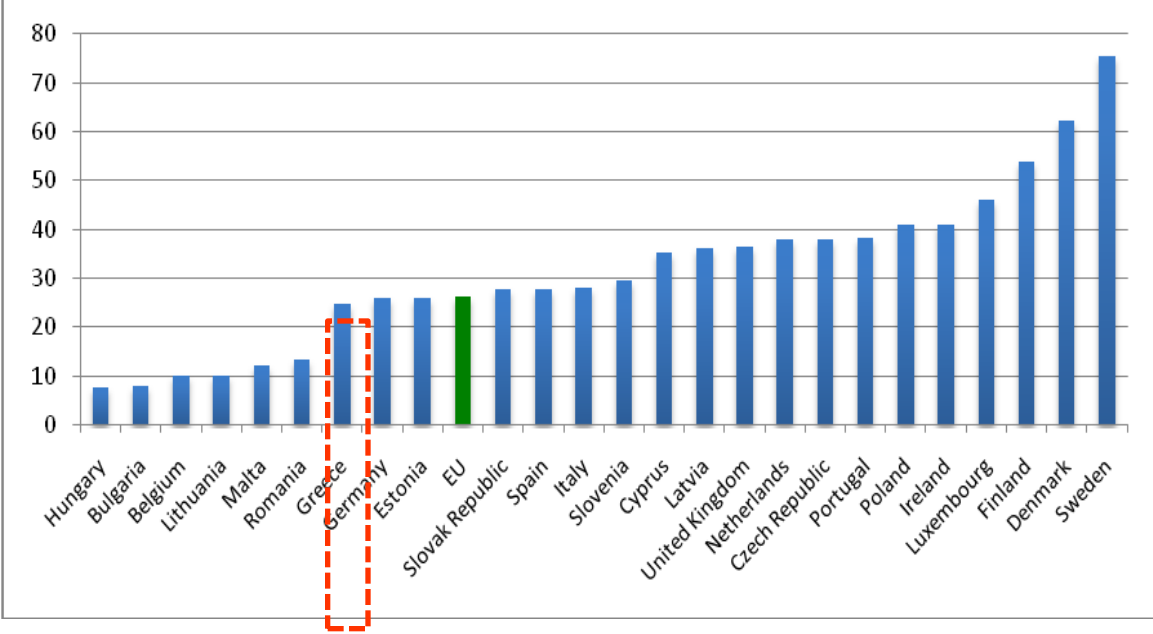


Πηγή: Επεξεργασία στοιχείων Barclays Capital

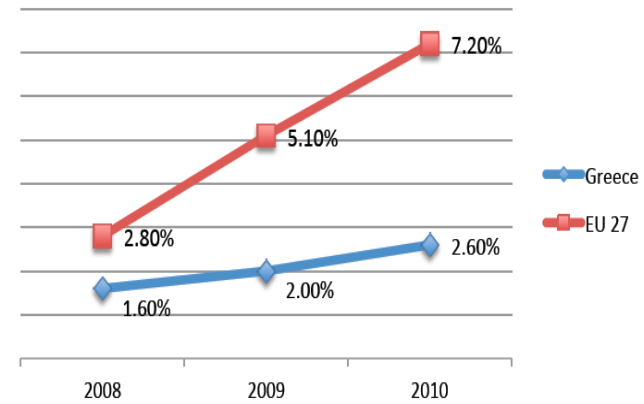
Greece has 24.6% mobile penetration for all active 3G subscriptions, underscoring the EU average of 26,2%

- Penetration in Greece is 2,6% for mobile Internet cards & usb sticks and 22% for usage of 3G telephones
- The 3G data cards show a slower rate of penetration
 - subscription cancellations due to the crisis
 - considered by users as a complementary service

Mobile Broadband Penetration (%) - all active users, January 2011



3G Data Card Penetration (%)

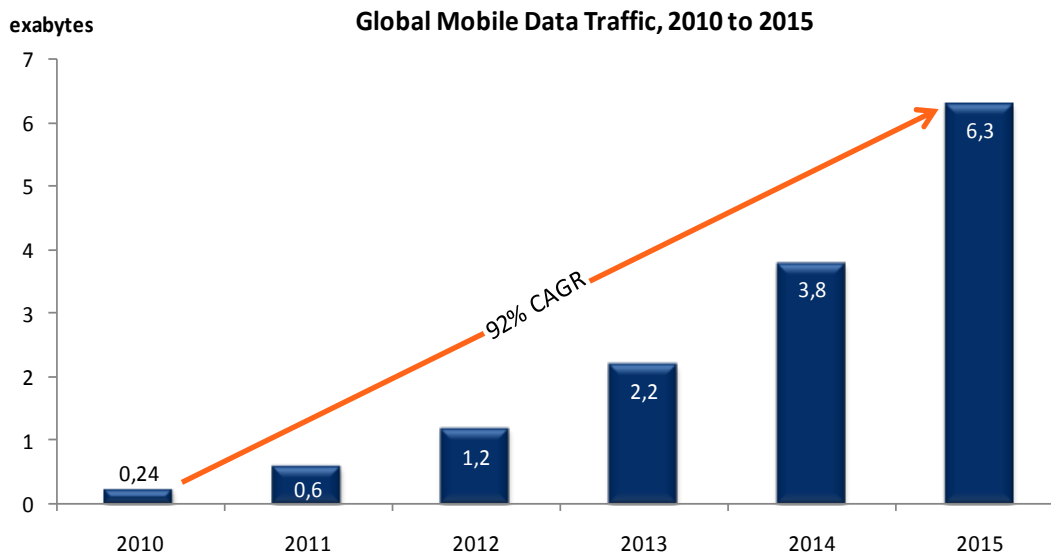


Source: Communications Committee

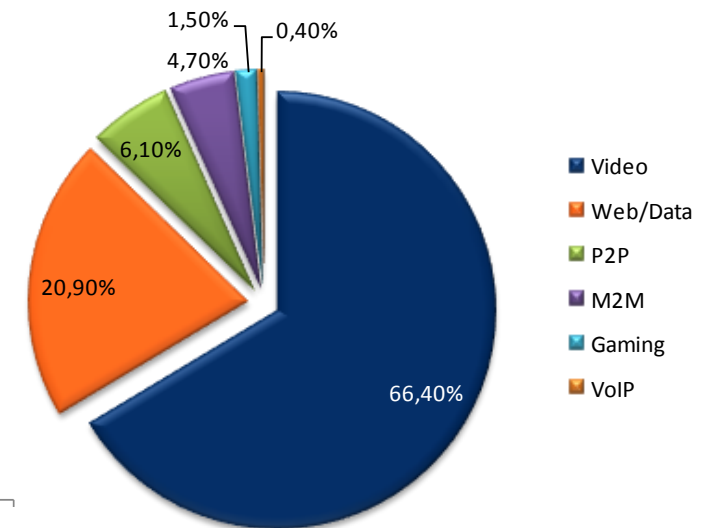
Forecast for mobile communications

The monthly volume of data transfer is expected to show an annual rate of increase of 92% within the period 2010 - 2015

- The monthly volume of data transfer through mobile phones is expected to increase 26 times within the period 2010 to 2015, reaching 6,3 exabytes
- Video usage is expected to drive the above increase in monthly volume of data transfer, given that by 2015 video usage is expected to make up more than 66% of the transferred data



Global Mobile Data Traffic by Type of Use, 2015



Future development of mobile communications in Greece depends on Public Administration's will to support the Sector's dynamics

- **Scenario A:** the Sector's legal and tax environments of 2011 remain unchanged until 2015.
- **Scenario B:** Public Administration recognises the Sector's importance in the development of the economy
 - ❖ The Special Mobile Tax is decrease by 50% in 2012 and abolished totally in 2013
 - ❖ The legal framework is improved through simplification and speed up of Base Station licensing procedures and by securing their operation.

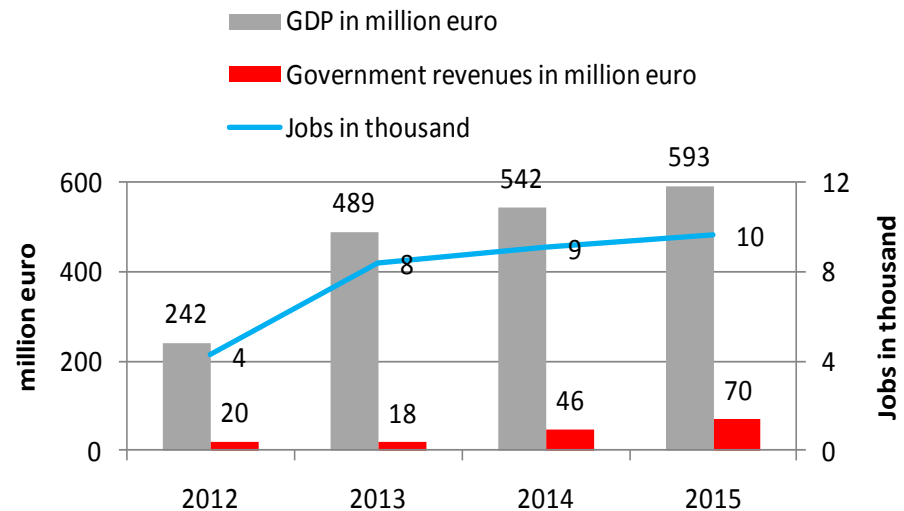
The reduction of indirect taxation reduces the prices paid by consumers, thus increases demand for voice and data and improves Operator cash flows which they can use in order to invest in networks.

In parallel, the improvement of the legal framework allows the Operators to set the growth of Base Station network as a priority, which will in turn support the demand for data transfer and will allow for the provision of new services and the relative increase in penetration. Furthermore, the market for new devices, which support the new services for data transfer through broadband networks, is strengthened. Data revenues for the years 2012 – 2015 increase as per the European rate of increase (9,3% annually)

The Sector could become a vehicle for convergence with Europe and for moving the country out of the recession, through a targeted boost by the State in the licensing and taxation frameworks

- The growth scenario will increase public revenues by €70 million and by €350 million if the multiplier effect is taken into consideration
- The GDP will increase by €593 million and by €1,3 billion if the multiplier effect is taken into consideration
- 10 thousand new jobs will be created
- Benefits to the overall economy:
 - ✓ Investments by the Sector into broadband networks
 - ✓ Growth rates in data transfer and mobile intern which will be converging those of Europe
 - ✓ Implementation of mobile communications applications by enterprises and by Public Administration for the reduction of their operati costs and energy
 - ✓ Growth of entrepreneurship and innovation in related sectors to the economy.

Effect from growth scenario to the broader economy



Source: Mobile Operators' data, IMF forecast for the growth of the Greek economy, Econometric model of elasticities, EL.STAT.'s symmetric table of input/output for the multiplier