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# HOW CONCENTRATED IS THE ROMANIAN MOBILE MARKET?

Case study

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## Keywords

Connected Continent  
Concentration Degree  
Competition Law  
Mobile Penetration Rate  
Mobile Phone  
Mobile Numbers Portability

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## JEL Classification

D02, K21, L13

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## Abstract

*The case study presented in this paper analyses the mobile market in Romania compared to that corresponding to the other European Union Member States. Mobile phone has appeared in various periods in the European Union countries and had a different development dynamics. Although there are a number of community regulations in the field of the EU telecommunications to which all the Member States are supposed to comply, there are many differences in the development of this sector at EU level. For this reason, the present study is conducted in several European Union Member States. Although the Connected Continent Package adopted by the European Commission does not involve the regulation issues, it provides a series of incentives for increasing investments as well as consumer protection. The present paper brings into focus the last legislative developments, coupled with the current economic context specific to Romanian mobile market.*

## 1. Introduction

Telecommunication market is under the supervision of European Commission, through the project „Digital Agenda for Europe – A 2020 Europe Initiative”. The main purpose of this article consists in supporting citizens and businesses within the EU Member States to benefit from all the changes that occur at the level of digital technology. In this respect, the European Commission has developed the legislative package named the Connected Continent, a project that envisages the creation of a single telecommunication market. Some of the proposals involve incentives for increasing the investments in the fourth G technology, for developing the mobile Internet wireless network, for standardising the products of fixed access, for eliminating roaming tariffs as well as for increasing consumers’ protection by concluding more favourable and transparent contracts. Regarding the roaming tariffs, the plan for 2014 has brought a series of important changes for consumers. The „Euro tariff” imposed by the European Commission defines the maximum charge that an active operator on mobile European market may perceive from its customers in terms of roaming regime. On July 1, 2014, this tariff suffered a new decline, as shown in Table 1.

This decrease was also experienced on Romanian mobile market where the operators have introduced new options and tariff plans for roaming services, as shown in Figure 1.

Not only are the roaming tariffs under the attention of the regulators, but also the interconnection tariffs. By means of the legislative project „Connected Continent”, regulators wish to increase the offer of pan-European services and, for achieving this objective, the diminution of interconnection tariffs is a very important issue. It could be seen that, over the last decade, these rates decreased by approximately 86% at the European level. This fact is due to the decisions taken by communication regulatory authorities in the European Union Member States.

The „Digital Agenda for Europe” also aims to protect the consumers. The possibility to port the numbers does represent a way by which this objective could be achieved. The implementation as well as the improvement of this service is able to increase the competitiveness of market operators as well as the consumers’ negotiation power.

All the decisions taken at the European level within the project „Digital Agenda for Europe” have clear consequences on the mobile market in Romania. Therefore, a comparative analysis of the main indicators corresponding to Romanian and European market is necessary.

There is a vast literature in the field concerning the economic implications of concentration theory. Among these studies we

mention those belonging to Karacuka et al. (2011), Lee (2006), Garbacz and Thompson (2007) as well as that of Duso et al. (2006).

Shapiro (1989) studied the way by which the economic concentrations led to higher prices. He used data concerning the telecommunication markets within different European Union countries. The research results highlighted that the mobile phone prices were greater in the countries where there was a higher concentration than the other states.

An interesting approach is made by Stryzowska (2012) that calculates consumer surplus in Mexico compared to that in other countries. From this calculation, the author states that, on average, the countries in which the telecom market main player has over 50% of the entire market share, they do have tariffs calculated on minute higher than those in other countries do. There is also a strong correlation between the market concentration degree and the anticompetitive violations. A theoretical approach and some concrete examples are presented in the papers written by Bishop and Walker (2009), Jacquemin and Slade (1989), Motta (2004) and Whinston (2006).

## 2. The evolution of mobile market in Romania

At this time, the mobile services market in Romania involves five operators: Orange, Vodafone, Cosmote, RCS&RDS and Romtelecom. The number of these operators decreased when Cosmote took over Telemobilin 2009. Services provided by the named operators are voice services, SMS and data traffic. Due to the rapid development of technology in the telecommunications field, the regulations specific to this market suffers a series of changes. These issues enhance the dynamic of mobile market. On the other hand, given the high degree of SIM cards penetration on Romanian market, the mobile market may be seen as a mature market.

Analysing the available data concerning the total number of mobile phone active users in Romania, as shown in Figure 2, we could notice that in recent years the mobile services market has registered a slow decrease, followed by stagnation in the last four semesters. However, according to Figure 3, both the traffic volume originated and terminated in the mobile networks in Romania are in a continuous increase. We could notice that the traffic volume originated by the final users, though an upward trend, has increased by a rate increasingly smaller compared to that of the previous years.

This decrease is also reflected in the penetration rate of the active SIM cards, the level registered at the end of 2013 being with 3 percent lower than that recorded three years before. This

fact contradicts the evolution of penetration rate average for SIM cards at the European Union level that has been enjoying an upward trend since 2004, as shown in Figure 3. With the decrease of the penetration rate, we could observe an increase of voice traffic volume originated by the final users towards other mobile networks than their own ones. This increase could represent a consequence of regulations in force to reduce the interconnection tariffs implemented by ANOMC in recent years.

Despite the decrease of SIM cards penetration rate in Romania, according to Figure 4, the level of this rate continues to surpass 100%, fact that demonstrates that each user has at least one SIM card. An explanation for this phenomenon may be considered the high level of call termination tariffs in each network, as operators perceived them before 2011.

Between these rates and call termination tariffs in the own network there is a considerable difference, thus requiring consumers to purchase pre-paid or post-paid packages from the competing operators. .

### **3. The concentration degree of mobile services market in Romania**

Compared with other Member States of the European Union, the mobile services market in Romania should present a lower concentration degree, given the larger number of existing operators. The total number consisting in five operators surpasses the average in the European Union where there are only four operators. As shown in Figure 5, only Poland has a larger number of mobile operators, Denmark and Sweden hovering all over this average, with a number of operators equal to that of Romanian market.

However, an analysis of Herfindahl – Hirschman Index shows that the concentration degree of mobile services market in Romania is a high one, surpassing the threshold of moderate concentration which is that of 1.800. Moreover, HHI index has not significantly changed lately, its values recording only a slow increase in each of the three dimensions calculated, as shown in Figure 6. The index of voice traffic does present the highest increase, its level reaching a value of 3.818 during 2013. However, as shown in Figure 5, the number of players on mobile market in Romania is one of the greatest, in relation to the other EU Member States.

The HHI Index stability is due to the stability of market shares corresponding to major mobile operators in Romania. Although it has not undergone a notable change in the last three years, the leader market share is on an upward trend at the expense of smaller competitors whose market shares have decreased, as shown in Figure 7. The HHI Index for SIM cards has been calculated based on the market shares established for the total

number of users, while the HHI Index for voice traffic has been calculated in connection to market shares calculated on the basis of the voice traffic originated (exclusively for roaming).

According to BEREC (the Body of European Regulators for Electronic Communications), at the end of January 2014, the company Orange Romania S.A. has held the position of market leader with a quote of around 43%, being followed by its main competitor, Vodafone Romania S.A., with a market share of 29.2 %. The other operators share the last 27.8 percentages, the majority of percentages being held by the company Cosmote RMT S.A. (22.8%).

At the level of the European Union, the statistics at the end of 2013 show that the market leader holds, on average, a quote of about 35.4 %, with 7 less than the quote specific to the mobile services market in Romania.

Leader market share has been decreasing since 2010, taking into account the data provided at the European Union level. However, the alternative operators („Other competitors”) have strengthened their positions lately so that at the end of 2013, they have arrived to surpass the market leader. These effects are consequences of regulations on numbers’ portability and on call termination tariffs. Consequently, the situation at the level of the European Union seems to be more balanced than that in Romania where the market leader stands out from its competitors.

However, compared with other EU Member States, Romania does not prove to be a market with significant concerns about the market share of the leader, as it occurs in the case of Cyprus, where the market leader holds 70 %, or Greece and Holland where the quote of the leader reaches 50 % (European Commission, 2012). However, both in the case of Romania as well as in that of the other European Union Member States, the first two mobile phone operators hold together about two thirds of all users, which indicate the high concentration degree of this market.

#### **3.1 The evolution of interconnection tariffs**

The interconnection tariffs on Romanian mobile market have been the subject of a continuous decrease in recent years by means of the regulation imposed by ANCOM, as shown in Figure 8.

Even in early 2014, after a series of changes, the value of these tariffs has exceeded the EU average, Romania holding the third place among the European countries with highest interconnection rates.

From the point of view of the competition, the high level of these tariffs may strengthen the barriers to entry of mobile virtual operators (MNVOs). According to ANCOM, the mobile virtual operator (MVNO) is defined as the entity that provides electronic communications services to

mobile points without holding its own license for using radio frequencies and without reaching necessarily all the elements of the network and/or the required infrastructure for furnishing mobile communication services. By concluding such an agreement, it gets access to the mobile network of an existent operator, paying wholesale tariffs for the services that it uses. On the retail market, virtual operators have the possibility to establish their own tariffs, independent of those held by the host operator. At this moment, Romania belongs to the European countries whose telecom market does not involve any virtual operator. According to data available on the European Commission website, at the opposite pole there are countries such as the Czech Republic (58 MNVOs) and the Netherlands (52 MNVOs). The presence of these operators contributes to the increase of competitiveness on the mobile services market and, at the same time, to the decrease of market concentration degree.

After the reduction of interconnection tariffs dating from April 2014, the operators cost for providing minutes for calls to any telephone network, has considerably decreased. Compared with the regulated tariffs on March 1, 2012, costs have decreased by approximately 76.3 %, as shown in Table 2. For example, if in March 2012, the cost associated with the supply of 100 minutes in any network from the part of an operator, reached a value of €4.05, since April 2014 the supply of the same service has costed only €0.96. The reduction of interconnection tariffs achieved in the last year, has amounted to a rate of approximately 68.7%, from 3.07 eurocents/minute to 0.96 eurocents/minute. It could be very interesting to monitor in the coming period, the evolution of wholesale termination rates in order to track if the operators resort to their reduction. Moreover, such a reduction could facilitate the entry on market of virtual operators. Therefore, it could bring to the consumers a direct benefit by reducing call termination tariffs in any network as well as an indirect benefit by increasing competitiveness due to the entrance on the market of more operators. All these effects are going to be observed in the future.

### 3.2. Numbers' portability

The introduction of number portability service in October 2008, has brought a series of benefits to the mobile market. For example, consumers' bargaining power has increased, which represents a favourable factor for intensifying market competition. Therefore, existent operators had to offer packages more convenient for maintaining or even increasing their customer base. Figure 9 presents the evolution of ports number recorded lately. It can be seen that between 2009-2013, the number of annual ports on mobile phone market increased by approximately 73%, the total number of ports reaching 201.000 in 2013. ANCOM statistics show also that 80% of those

using the portability service in the mobile phone network are the ones holding subscriptions and only 20% from them have pre-paid cards.

Regarding the distribution of ported numbers, ANCOM established a top of operators based on the mobile numbers received in the network when the service was available. Statistics released at the end of 2013 show that Vodafone S.A. got the greatest part of ported numbers, surpassing the market leader, Orange S.A., as shown in Figure 10.

## 4. Conclusions

Telecommunication sector presents a series of particularities to be taken into account when considering competition on the respective market. Due to high investments necessary for market penetration, this sector is characterized by a high degree of market concentration. This fact does not represent an impediment to the functioning of a market under competitive conditions, market concentration being a necessary but not a sufficient factor for exercising supra-competitive prices that could affect consumer's welfare.

Although a reduced number of operators characterize the mobile market in Romania, it does not adversely affect the consumers; technological progress having a great impact on the dynamics of this industry, always maintaining a high degree of the competition.

The rapid growth of mobile penetration degree in the last years as well as its stabilization around 110%, together with the sharp decline of costs, they all show that Romanian mobile voice services market has reached its maturity, the consumers focusing on other services that the operators provide them, such as data packages.

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Appendix Tables and Figures

TableNo. 1.

Maximum tariffs for calls, SMS and data traffic in the EU

	1 July 2012	1 July 2013	1 July 2014
Initiated call (per minute)	€0.29	€0.24	€0.19
Incoming call (per minute)	€0.08	€0.07	€0.05
Initiated SMS (per SMS)	€0.09	€0.08	€0.06
Data traffic (per MB**)	€0.70	€0.45	€0.20
*	1 July 2012	1 July 2013	1 July 2014
Initiated call (per minute)	€0.29	€0.24	€0.19
Incoming call (per minute)	€0.08	€0.07	€0.05
Initiated SMS (per SMS)	€0.09	€0.08	€0.06

Source: European Commission; Your Europe

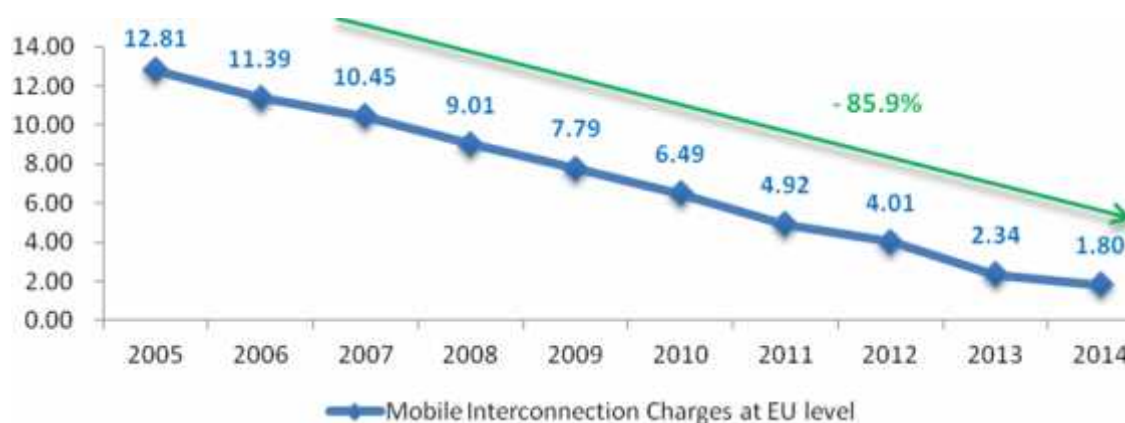
Table 2

Evolution of interconnection tariffs as regulated by ANCOM

Mobile operator	Interconnection tariffs regulated for termination at mobile points (eurocents/minute, excluding VAT)					
	Since May 1, 2009	Since January 1, 2010	Since July 1, 2010	Since March 1, 2012	Since September 1, 2012	Since April 1, 2014
Orange Romania S.A.	5.03			4.05	3.07	0.96
Vodafone Romania S.A.	5.03					
Cosmote RMT S.A.	6.40	5.67	5.03			
Telemobil S.A.	6.40	5.67	5.03			
RCS & RDS S.A.	7.21	6.40	5.67			
Romtelecom S.A.						

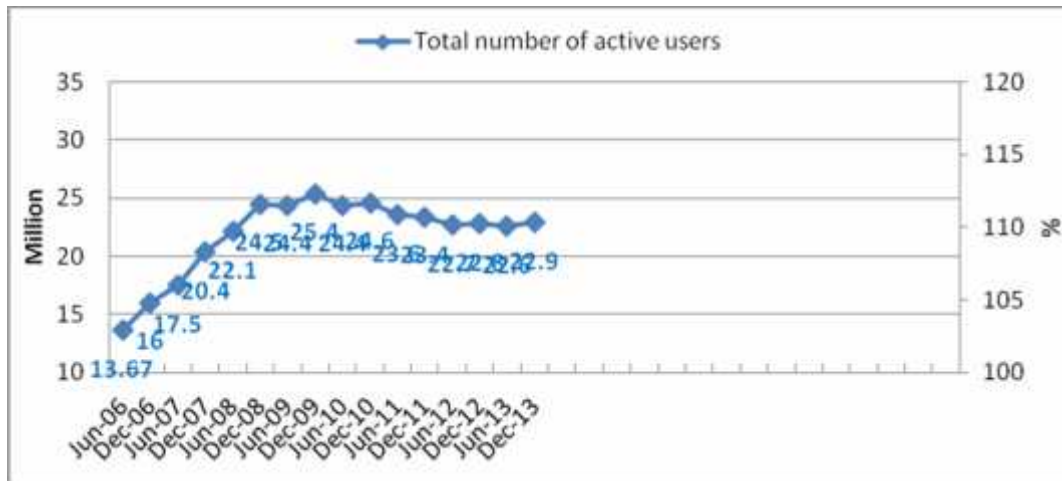
Source: ANCOM

Figure 1: Interconnection tariffs at the EU level: January 2005 – January 2014



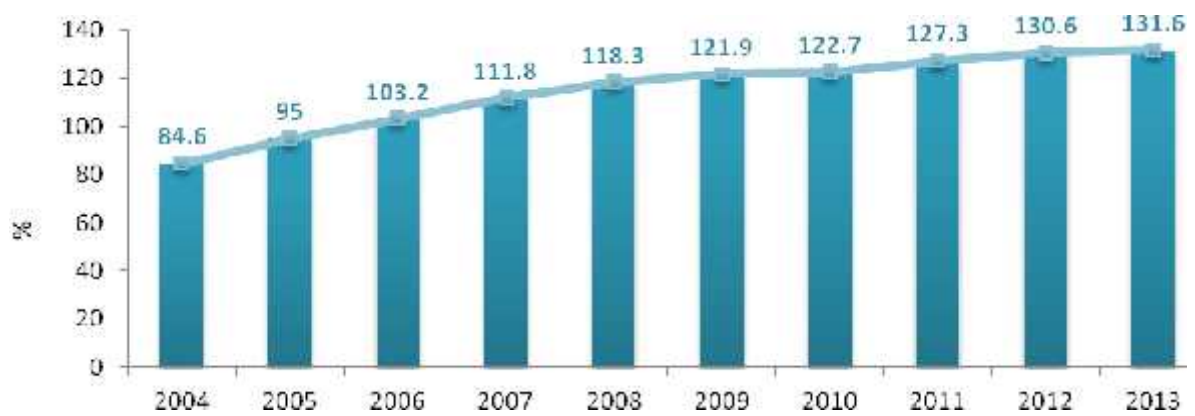
Source: European Commission – Digital Agenda for Europe

Figure 2: Number of active users and SIM cards penetration rate per 100 inhabitants



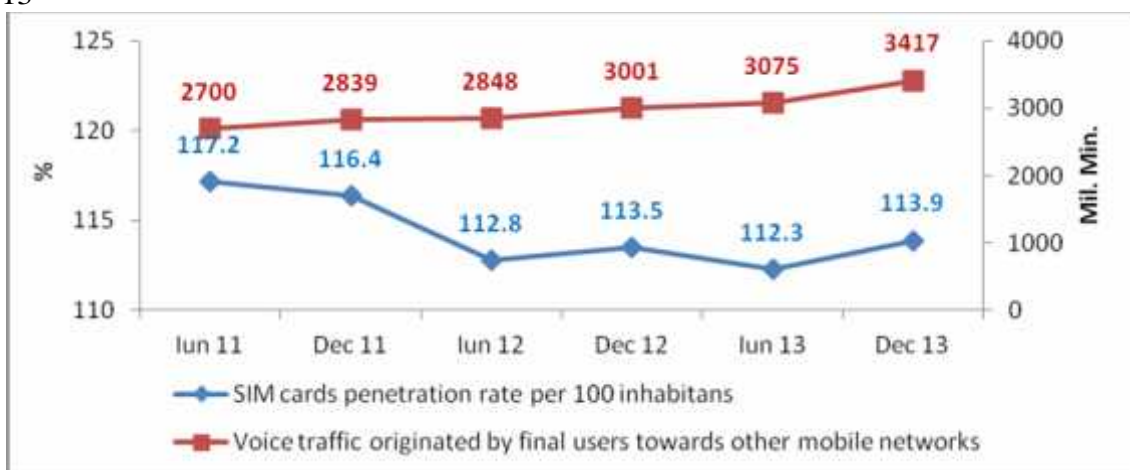
Source: ANCOM

Figure3:SIM cards penetration rate at EU level during 2004-2013



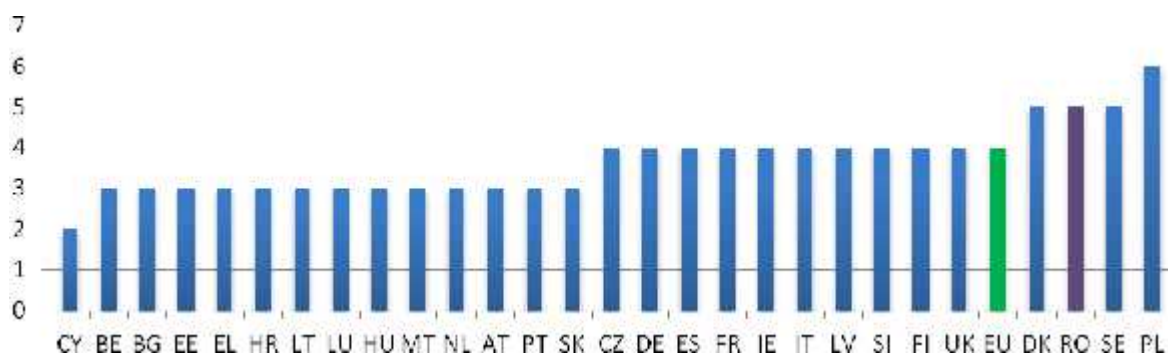
Source: European Commission – Digital Agenda for Europe

Figure4:SIM cards penetration rate vs. Voice traffic in networks in Romania during 2011-2013



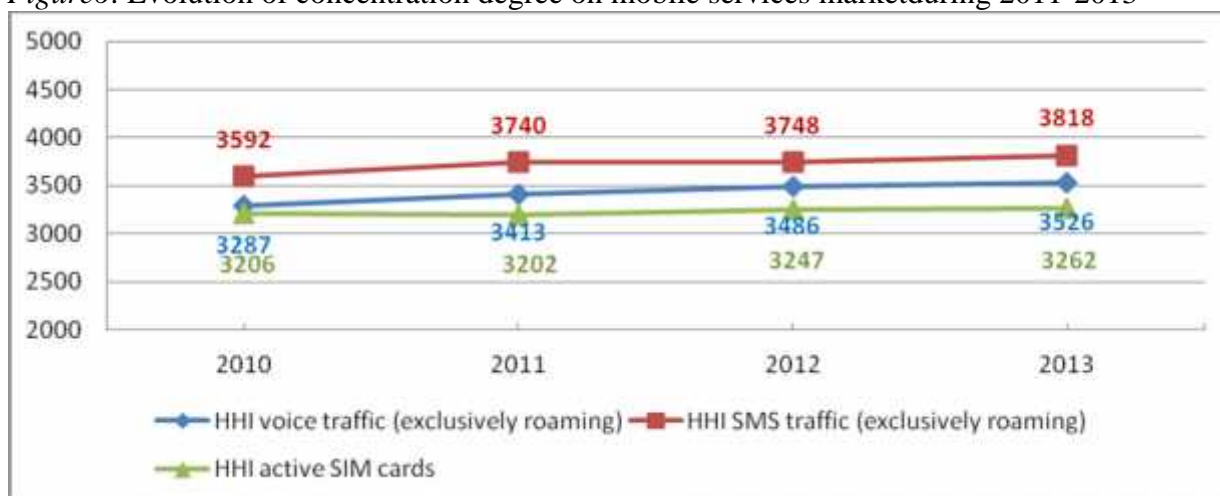
Source: ANCOM

Figure5: Number of mobile phone operators at EU level in October 2013



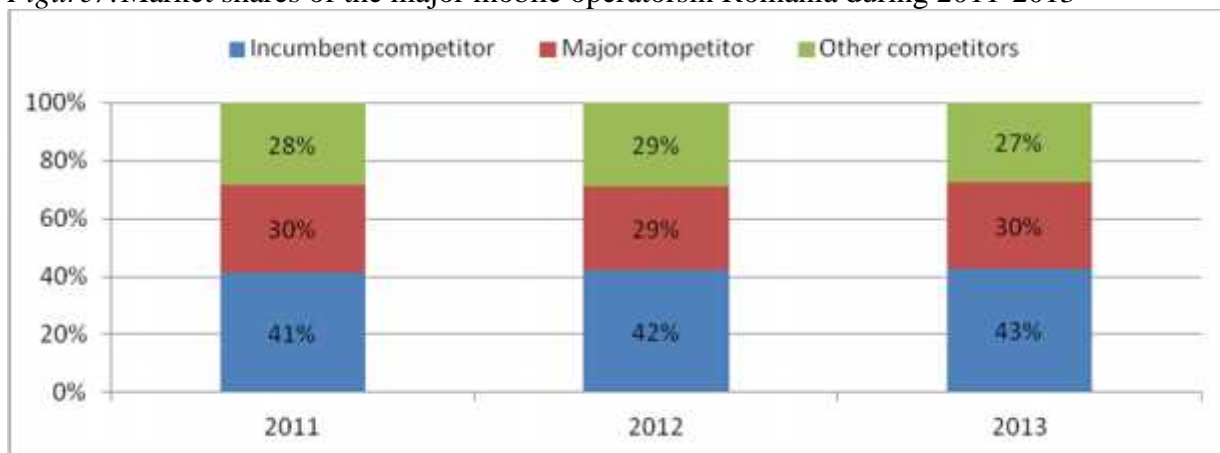
Source: European Commission – Digital Agenda for Europe

Figure6: Evolution of concentration degree on mobile services market during 2011-2013



Source: ANCOM

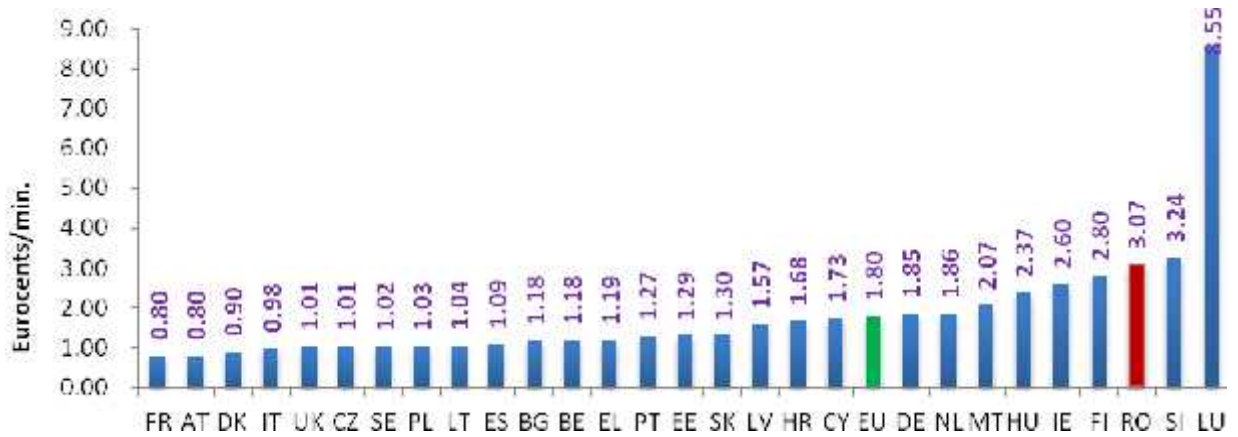
Figure7: Market shares of the major mobile operators in Romania during 2011-2013



Source: ANCOM

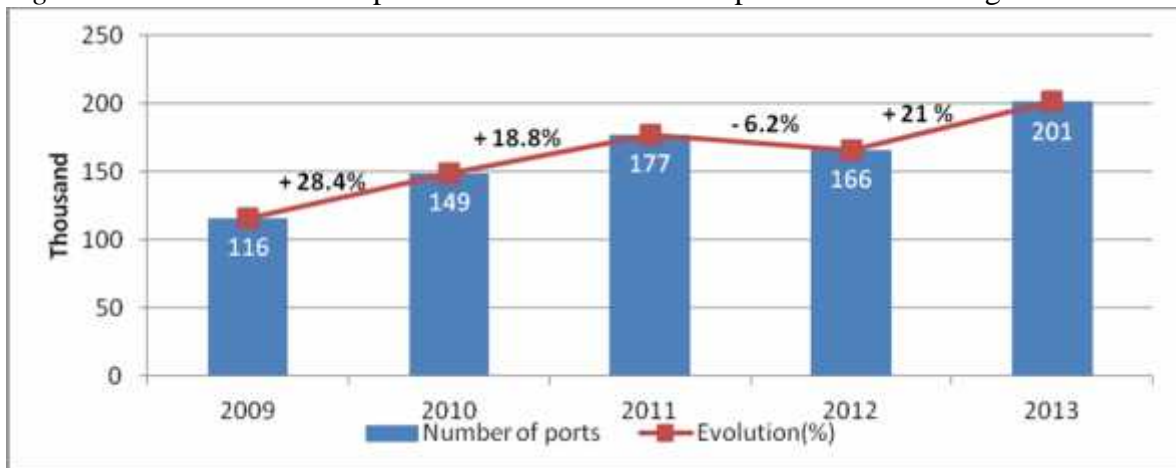
Figure8: Interconnection tariffs in EU countries at the level of January 2014





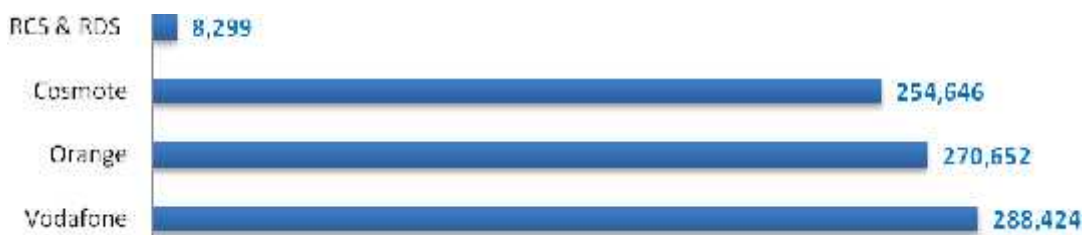
Source: European Commission – Digital Agenda for Europe

Figure9: Evolution of annual ports number on the mobile phone market during 2009-2013



Source: ANCOM

Figure10: The top four players on mobile phone market in Romania, according to the numbers assigned in 2013.



Source: ANCOM

