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Please contact Ms. Cristiana Vitale if you have any questions regarding this document [E-mail: cristiana.vitale@oecd.org].

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COLOMBIAN PRO-COMPETITION STRATEGY IN THE TELECOMMUNICATION SECTOR: ALLOCATION SPECTRUM FOR 4G TECHNOLOGY.

Abstract

1. The contribution presented by the Superintendence of Industry and Commerce (SIC), the Colombian competition authority, is related to the participation that this Entity had in the process of 4G spectrum allocation that took place between August 2012 and March 2013. In this process the SIC serving as an advisor of the national government on the protection of competition in the spectrum allocation process participated showing the importance of competition in the telecommunications sector through the realization of an economic study which identified the risks and concerns of the allocation process.

1. Background

2. In last decade, telecommunication sector in Colombia has represented about 3% of GDP and it has been one of the most dynamic sectors reporting annual growth average rates of 7.2%. Furthermore, this sector presents a high level of development as well as a high concentration in terms of competition in the mobile segment. Before of the spectrum allocation, according to the information reported by the Ministry of Telecommunications (MinTic), in the 2nd Quarter 2011 the penetration level in mobile voice market surpassed 100%, meanwhile the penetration index in the internet mobile market was about 6.6%. Thus, it was clear that mobile voice was a mature market and the mobile internet is a market which is just emerging.

3. The MinTIC in its "Digital Plan Living" in order to progress in the deployment of 4G technology in Colombia, jointly with the National Spectrum Agency (ANE in spanish) decided to proceed in a public auction of 225MHz spectrum. This process did not have precedent considering that until the beginning of 2012 the total spectrum allocated in different processes among operators added up 215Mhz as it is shown in the Table 1.

Table No. 1. Spectrum allocation in Colombia previous to the 4G auction in 2012

Operador	700	850	1700/ 2100	1900	2300	2500	1400	Total
Comcel	0	25	0	30	0	0	0	**55**
Telefónica	0	25	0	30	0	0	0	**55**
Colombia Móvil	0	0	0	55	0	0	0	**55**
UNE	0	0	0	0	0	50	0	**50**
Total	**0**	**50**	**0**	**115**	**0**	**50**	**0**	**215**

Source: National Spectrum Agency (ANE)

4. Thus, the auction was considered as a crucial instrument to define the configuration of the future supply of communications services in the Colombia.

5. The table 1 also reveals that the 4 main operators in mobile segment in Colombia had gotten similar amount of spectrum in previous allocation processes. However, each band or range of spectrum has particular characteristics that favor some particular services. For instance, the 1.900 MHz band had been employed for supplying mobile voice services and 3G mobile internet services, meanwhile the 2.500 MHz has technical properties to provide high speed and extent LTE technology, among other technical issues, with just one operator in this band before the commented allocation process.

6. Furthermore, the allocation process arose some concerns regarding the high concentration level observed in the mobile voice market which could be transmitted to the mobile internet market. This issue was based on the fact of the large gaps among the 4 current providers and the recognition of the existence of a dominant position that was declared by the Communication Regulatory Commission (CRC) in 2009 for the operator Claro (America Móvil - headquarters).

7. Particularly, the mobile market structure in Colombia could be described in terms of HHI indicator, as a highly concentrated market in 2012, considering the number of subscribers, minutes of voice channel, and net income which reached levels close to 4,654, 6,341 and 4,766 points respectively, according to the FTC (2010).

8. In turn, the HHI calculated in terms of net profits would amount to 5,676. The dominant operator during this time had concentrated 74.3% meanwhile the second and third operator 7.8% and 7.2 % of profits respectively.

9. For those reasons, the Superintendence of Industry and Commerce was notified about the process, which was considered as a valuable opportunity for the competition authority intervention in order to define the future competition pressures in telecommunication market. Thus, with the purpose of identifying the potential effects in terms of competition derived from the spectrum allocation process, the Group of Economic Studies of the SIC was in charge of carrying out a study in the sector. The study employed the HHI concentration index and the Dominance Stenbacka Index with the purpose of describing possible scenarios of allocation. The difference between the pre-allocation HHI and the post-allocation HHI resulting of each one of 4 possible scenarios as well as the Dominance Stenbacka Index were the inputs to estimate the competition effects on the mobile market as an effect of the spectrum allocation.

2. Allocation auction process proposed by MinTIC

10. The original design of the auction process proposed an open mechanism in which incumbents and entrants were able to participate in two segments of the spectrum allocation. The first segment called AWS, characterized by having the greatest technological developments, deployment of networks and the lowest costs of equipment and infrastructure. The second segment called 2.5 GHz is characterized by a high speed data transmission and relatively higher cost than AWS segment.

11. The bidding proposal included allocating 90 Mhz in the AWS band into 3 blocks of 30Mhz, and 130Mhz in 2.5Ghz band into blocks of 30 or 40Mhz, which would be auctioned among incumbents and entrants. Finally, there was a block of 5 Mhz in the band 1.850 MHz a 1.990Mhz, that was not relevant for the analysis.

12. The difference between incumbent operators and potential competitors in terms of financial capacity indicated a strong asymmetry of incentives to participate in the auction, added to the required infrastructure deployments. Just to give an example, the dominant operator of this time had 9 times of net profits of the other providers and potential entrants to compete in the allocation process.

13. Thus, not every mechanism could generate enough incentives to promote competition into the allocation process. Therefore, the original mechanism, proposed by MinTIC did not consider neither

conditions for the entry of new participants nor tools to prevent the effects of dominant agent with financial ability to struggle into the action. Hence, the original mechanism could quickly extend conditions of a provider with dominant position in the mobile internet market, in the absence of competitors were able to supply the 4G technology in Colombia.

3. Involvement of the Colombian competition authority (SIC)

14. The main objective of the work carried out by the SIC, as a national government adviser in this specific process, was to identify the latent risks derived from omitting the importance of competition in both aspects such as: i) the spectrum auction process as an *ex ante* mechanism to promote competition and ii) mobile internet market functioning. In this sense, the main recommendation of the Superintendence of Industry and Commerce to the Entities directly responsible for the procurement process was to impose incentives to promote the entry of at least a new operator in the mobile internet market considered as highly concentrated.

15. Likewise, it is important to highlight that the SIC, in the advocacy power exercising, also recommended to eh regulator the design of a strategy to follow up the new providers who would have access to the current provider infrastructure, during a specific period of time. Thus, the SIC was looking for that the entrants were competitive at the same conditions faced by the incumbents after a prudent period.

4. Parallel mechanisms of intervention

16. In order to boost the competition and enable the entrants resulting of spectrum allocation process to participate actively in the market, the MinTic in a joint effort with the Communication Regulatory Commission worked to issue some regulatory dispositions. Thus, parallel dispositions related to roaming and infrastructures sharing were issued to promote the competition along the national territory.

17. Moreover, in order to avoid that populated regions of the country were captured by the dominant operator, the auction process established coverage goals for each operator in particular zones of the national territory. Thus, the dominant operator had the duty of extending their services in some insulated areas meanwhile the entrant duties were less demanding in those matters.

18. Furthermore, the roaming and infrastructure sharing dispositions were instruments to facilitate that the new operators were able to supply their services in the short-run meanwhile they develop their own networks and investments.

5. Results of the intervention of the Competition authority

19. The main recommendations sent by the SIC to the regulatory bodies was focused on the design of mechanisms to promote the entry of at least one new operator in the Colombian mobile market. In addition, the SIC suggested adopting mechanisms such as implementing the network access (e.g. national roaming) and infrastructure sharing to generate pro-competitive conditions for the new operators.

20. The MinTIC, the National Spectrum Agency and the Communication Regulatory Commission adopted these suggestions in the process, and as a result of a joint effort among this Entities and the SIC, the auction resulted with the adjudication of 5 licenses over the next 10 years, that allowed the entry of **two new companies** to the Colombian mobile market.

21. In this sense, the participation of the competition authority in the spectrum allocation process was very important in order to recognize the role of competition in mechanisms that can define a new dynamic in sectors, such as mobile telecommunications, which are extremely important to the consumer welfare and the development of emerging economies.

6. References

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