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## Bosnia and Herzegovina telecommunication sector outlook

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### Abstract

The upcoming privatization of two remaining telecom operators in Bosnia, and not so recent privatization of one of the incumbent, will create dynamic and changing sector environment for all participants. At the same time the investors are scanning the sector trying to find the right approach and the market niche for more competitive start. In our overview we have looked at regulatory status, core services figures, followed by financial overview for incumbent operators in the past decade, as well as mobile users' attitudes in carrier section. What we will show is that sector development and the expansion of consumers' base is far from over. The services offered are still at rudimentary level, and the potential owners of incumbent operators as well as new entrants will have considerable room for development. Financial analysis has shown that revenue for all three incumbent operators is stagnating in the last years, while the small private operators are experiencing steady growth. Although BH Telecom is still the largest company in the sector, it dose face slight decline in net profit while its biggest competitor – Telecom Srpske in 2013 had biggest ROE. We find that BH Telecom and Telecom Srpske had unexploited franchise growth and competitiveness potential. We assessed the intrinsic value of all three companies stocks by application of Franchise Factor Model and find that BH Telecom stock price is in equilibrium, Telecom Srpske stock is underpriced and Croatian Telecom is stock strongly overpriced. Finally, the analyses of consumers' perspective have revealed existence of network effect in mobile market and the strong competition between two market leaders. In all, BiH telecommunication sector is still in its expanding phase and the potential owners of state operators as well as new entrants will have competitive well regulated market.

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## 1. Introduction

As telecommunications have become an essential part of how economies work and function, the telecommunications sector is unprecedented source of opportunities for economic growth in developing and emerging markets. In recent years, through boom in mobile data services as well as liberalization of telecommunication services, we have witnessed increased consumer expectations and additional pressures on telecom operators to provide wide range of services at diminishing prices. By focusing on developing countries, a series of studies have found a link between telecommunication sector development and the overall economic growth (Das & Srinivasan, 1999; Waverman et al., 2005; Thompson & Garbacz 2007; Biancini, 2011; Narayana, 2011; Bacchiocchi et al., 2011; etc). With the intention to serve as comprehensive outlook at the key elements of telecommunication sector in Bosnia and to some extent by anticipating dramatic change in sector structure and dynamics with the upcoming privatization of the largest operator in the sector, this paper provides a snapshot of sector structure and regulation. As the first visible effects of recently privatized Telecom Srpske (rebranded to: "M:tel") are showing, we will provide telecommunication sector outlook over the past decade covering core service figures, key financial indicators, as well as current status of sector regulatory framework. Furthermore, for more insightful look at the sector we also included a brief look at the result of consumers' perceptions and attitudes in mobile service provision survey.

## 2. Literature Review

The role of telecommunication sector in the development has been extensively analyzed over the past decades. In our literature review we found a number of studies focused on diverse and rather different issues related to the impact of telecom operators and/or services on the economic growth. Hardy (1980), followed by Saunders et al. (1983) and Leff (1984), represents the early attempts to assess the relationship between telecommunication service and economic growth. Although models were not as sophisticated as we would expect today, they do support positive impact of telecommunications on economic development. Madden and Savage (1998) were the first to measure the impact of telecommunication infrastructure investments on economic growth, and found it has an important role in overall country development. In particular they tested causality between investments and GDP growth and found that although causality is generally in both directions, telecom penetration rates precede more directly economic growth than do telecom investments. Röller and Waverman (2001) questioned feedback process between activity in telecommunications and aggregate economy. Conclusion was that, for OECD countries, telecommunications infrastructure growth has a positive effect on economic growth, especially when having in mind that most of OECD countries, for the researched period (1970-1990), had state-owned telecommunications enterprises. Using their model, Jacobsen (2003) re-questioned conclusions with larger country sample, including some of developing countries. His findings show that the threshold effect is not statistically significant and that there is a correlation between telecommunication and GDP growth for both developed and developing countries. Focusing on developed countries, Boylaud and Nicoletti (2001) included 23 OECD countries and showed that effective competition reduces the prices of all telecommunication services, while Edwards and Waverman (2006) study of 15 European countries and found that public ownership increases interconnection prices while regulator's independence decreases it. On the other hand, Grzibowski (2005) used sample data for EU countries from 1998-2002 and showed that the liberalization of landline has a negative impact on the prices of mobile services and a positive effect on the demand. Author concludes that the effects of liberalization are not just restrictive for landline, but also contribute to positive developments in the mobile industry. Also, competition enhancing measures like the introduction of number portability decreases consumer switching costs and in turn causes prices to fall.

With more emphasis on developing countries, Li and Xu (2004) use a sample of 177 countries (ITU and WB data) over ten year period to estimate the impact of privatization and competition on telecommunication sector. The authors find positive effects of privatization on output/growth, productivity and resource allocation. However, the finding also shows increase in output and prices of local calls as a result of privatization. Although, the privatization has led to increase in service quality, strong network externalities, in combination with non-competitive behavior, leads to increase of cost of phone calls. El Khoury and Savvides (2006) study looks the effects of privatization, deregulation and competition in the telecom sector as the determinants of economic growth. The findings for 23 less developed countries do support conclusion that telecom openness has positive impact on economic growth. Thompson and

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