

# Investing in the Telecommunications Sector in Ecuador: An Outlook before the Upcoming Presidential Elections

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*Abstract– This article presents a review of the state of an important financial indicator as well as some national intrinsic factors that drive money investment in the telecommunications sector in Ecuador. The review aims at analyzing and understanding those factors in the context of the upcoming presidential elections (February 19th 2017, and a possible second round of elections in April 2nd 2017). This project intends to give a general idea of whether the telecommunications sector will remain attractive for the investors, or not, depending on the economic and regulatory visions of the person taking office next May 2017. The financial analysis considers the calculation of the weighted average cost of capital over the last seven years and the national factors include political and social status of the nation to this date. Both will give a broad outlook of the profits earned by the telecommunication companies lately and aid interpret likely future changes in the sector. The findings give a high possibility of the telecommunications market to continue in full swing and become more open and inviting to new foreign investments.*

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*Abstract– This article presents a review of the state of an important financial indicator as well as some national intrinsic factors that drive money investment in the telecommunications sector in Ecuador. The review aims at analyzing and understanding those factors in the context of the upcoming presidential elections (February 19<sup>th</sup> 2017, and a possible second round of elections in April 2<sup>nd</sup> 2017). This project intends to give a general idea of whether the telecommunications sector will remain attractive for the investors, or not, depending on the economic and regulatory visions of the person taking office next May 2017. The financial analysis considers the calculation of the weighted average cost of capital over the last seven years and the national factors include political and social status of the nation to this date. Both will give a broad outlook of the profits earned by the telecommunication companies lately and aid interpret likely future changes in the sector. The findings give a high possibility of the telecommunications market to continue in full swing and become more open and inviting to new foreign investments.*

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*Resumen– Este artículo presenta una revisión del estado de un importante indicador financiero así como también algunos de los factores intrínsecos nacionales que influyen en la inversión de capital en el sector de las telecomunicaciones en el Ecuador. La revisión apunta a analizar y entender aquellos factores en el contexto de las próximas elecciones presidenciales 2017 a realizarse en el país (el 19 de febrero, y una posible segunda ronda el 02 de abril) y tiene la intención de dar una idea general de si el sector de las telecomunicaciones se mantendrá atractivo para los inversionistas o no dependiendo de las visiones económicas y regulatorias de la persona que suba al poder en mayo 2017. El análisis financiero considera el cálculo del costo promedio de capital ponderado a partir de los siete últimos años, mientras que los factores nacionales incluyen el estado político y social de la nación a la fecha actual. Ambos darán una visión amplia de las ganancias de las compañías de telecomunicaciones últimamente y ayudarán a interpretar posibles cambios e inversiones futuros en el sector de las telecomunicaciones. Los resultados muestran una alta posibilidad de que el mercado de las telecomunicaciones continúe en apogeo y que sea atrayente de nuevas inversiones extranjeras.*

*Palabras Clave– Ecuador, costo promedio de capital ponderado, sector de las telecomunicaciones, elecciones presidenciales.*

## I. INTRODUCTION

The concept of Knowledge Society has conveyed telecommunications to rank as one of the most dynamic sectors of modern economies. Technology progress and high-quality services provided make a great contribution to the economic growth, especially in developing countries such as Ecuador (Reyes-Lopez & Vera-Rivera, 2016). Low prices of both devices and services have led to the universalization of telecommunications applications in the last decade ranging from common phone calls to the edging telemedicine.

The adoption and huge deployment of telecommunications infrastructure, as well as the improvement and mass use of telecom services contributed the growth of the developed countries economy (Lam & Shiu, 2010; Madden & Savage, 2000). In addition, although this tendency is currently going very slow in developed countries (Rohman, 2013), it continues to support the economic growth of developing countries (Gasmi & Recuero Virto, 2010), (Hofman, Aravena, & Aliaga, 2016).

Presidential elections always bring a series of dynamic changes in a country, with especial regards to the economy and international affairs. These changes may convey to an attractive profitable environment for investment or, to a completely opposite direction in which the investors would rather look elsewhere to invest (Conrad & Kostka, 2017; Zhai, 2014). In that context, this paper reviews the state of the weighted average cost of capital (WACC) and some intrinsic elements determining investments in the telecommunication sector as a tool for sustainable development of Ecuador.

The following section of this article consists of a literature review of financial, political, social and regulatory aspects of the country. This section is a compilation of the theoretical fundaments studied before the execution of this work. It gives a review of financial terms, focusing on the WACC (Damodaran, 2015). The third section accommodates WACC calculation for telecommunications sector in Ecuador, which includes a table with an historic assessment of this parameter over this decade. The fourth section comprises a research on parameters that affect money investment in this Latin-American country, which includes the status of the country as an attractive place to invest in based on political, economic and sociological contexts. Finally, this paper presents a section for discussions, conclusions and future research after Ecuador's Presidential Election.

## II. LITERATURE REVIEW

As a means to have a good approach to the current condition, in terms of investing, of the telecommunications sector in Ecuador, this project take under consideration specific financial indicators and some political and regulatory aspects, as well as technical and economic characteristics and social factors. Some studies on the importance of telecommunications for the economic growth in developing countries are the basis for this work and are summarized later on in this section.

The WACC is the rate that a company is expected to pay on average to all its security holders to finance its assets, i.e. represents the minimum acceptable return that a company must earn on an existing asset base to satisfy its creditors, owners, and other providers of capital, or they will invest elsewhere (DePamphilis, 2015). At a lower WACC, there is a lower cost of recovery that means investment is more profitable.

Before deciphering the WACC formula, which is a calculation of a firm's cost of capital in which each category of capital is proportionately weighted (Kumar, 2016), it is recommended to understand the parameters that it comprises. For instance, the asset beta of a telecommunication company ( $\beta_C$ ) is the sensitivity of the return on asset C relative to the telecommunication market portfolio. The asset beta can be calculated as the summation of the estimated beta related to a specific operation of the company times the weight of this operation. The specific operations of a telecommunications company can be classified as fixed (F), mobile (M) and others (O) which includes pay per view tv, internet, etc. Equation 1 shows the formula for beta.

$$\beta_C = \beta_F \omega_F + \beta_M \omega_M + \beta_O \omega_O + \xi \quad (1)$$

Other factors involved in the formula are the sum of debt (D), the sum of equity (E) and the total capital (D+E). Given this, the equity-to-capital and debt-to-capital ratios are expressed as  $E/(D+E)$  and  $D/(D+E)$ , respectively.

The debit risk premium (DRP) is the difference between the risk free rate of return and the interest of a telecommunication company debt, while the equity risk premium (ERP) is the required interest on the telecommunications market portfolio above the risk free rate.

The charge placed by governments on the profit of a firm is the company or corporate tax rate (T). This value is set at 22% in Ecuador. The risk free rate ( $R_f$ ) is the theoretical rate of return of an investment with no risk of financial loss. The  $R_f$  selected for this project is the US 10-year treasury constant maturity rate.

Finally, the equation 2 is the mathematical expression for the WACC.

$$WACC = \left(\frac{D}{D+E}\right)(1-T)(R_f + DRP) + \left(1 - \frac{D}{D+E}\right)(R_f + (\beta_C)ERP) \quad (2)$$

Although the WACC is a complete approach to estimate future investments on telecommunications markets in Ecuador, because it comprises the costs of debt and equity, it is not recommended to use it alone since some of the factors in the formula are not steady values and are mostly subjective. This means that financial entities may propose different values for the same factor. The return on invested capital (ROIC) is one of the metrics most recommended to use along the WACC. The ROIC indicates the profitability of a company investment and it is calculated using the equation 3.

$$ROIC = \frac{Net\ income - Dividends}{Total\ capital} \quad (3)$$

The ROIC and WACC allow a company to determine whether to invest or not. Only when the ROIC is higher than the WACC, the company should move forward with the capital project since it will add value. The difference between the ROIC and the WACC is known as the economic spread (ES) and it defines the capability of a company to earn money on investments.

After reviewing the importance of this financial indicator and how it will be used in this project, it follows to revise researches carried out in different location. Such the study by Tarik, Azra and Arnela in 2015 (Tarik, Azra, & Arnela, 2015) gives a good approach to external aspects impacting the financial analysis in a developing country currently experiencing the privatization of telecommunications companies, Bosnia and Herzegovina. The contribution that telecommunications cause in several small Pacific Islands was studied by Ravinesh, Devi and Patel (2015) and it presented positive results linking it to the economic growth of the islands (Ravinesh, Devi, & Patel, 2015). The research by Trypolska (2014), for determining the level of international investment in Ukraine demonstrated that even countries under high risk rates may attract investors due to some other factors like high service tariff and amount of users (Trypolska, 2014). South Korea has experienced many benefits and an increased economic growth after the investment in research and development of the information and communication technologies (ICT) (Hong, 2016). The same results were found in India according to the Erumban's and Das' research (Erumban & Das, 2016). Ward's and Zheng's findings state that telecommunications, especially mobile services, has contributed to the fast economic growth of China (Ward & Zheng, 2016). The sociological work by Basaran, Cetinkaya and Bagdadioglu in 2014 (Basaran, Cetinkaya, & Bagdadioglu, 2014) offers an assessment of the preferences at the moment of selecting a telecom operator by Turkish population. The study cases mentioned above are just a few examples of how different factors beyond pure financial indicators will influence the stakeholder's decision on which company and how much money they will invest.

Silberberger and Königer came to indicate that the quality of business regulation is significantly related to the economic growth of a country in a non-linear proportionality (Silberberger & Koniger, 2016). This means that developing countries such as Ecuador, where a high improvement in

reducing poverty, no matter the indicators used to measure. Hence, it should be beneficial for the poor by increasing their access to sources of funding. However, financial instability sets issues that lurks the poor and reduces their likely benefits, especially if the country faces liquidity constraints and bank

TABLE I  
FINANCIAL PARAMETERS AND WACC

Parameters	Year							
	2010	2011	2012	2013	2014	2015	2016	2017
R <sub>f</sub>	3.84	3.29	1.87	1.76	3.04	2.17	2.27	2.45
DRP	15.00	15.00	12.75	10.50	11.25	9.75	10.21	9.25
Pre-Tax Cost of Debt	18.84	18.29	14.62	12.26	14.29	11.92	12.48	11.70
T	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
Post-Tax Cost of Debt	14.70	14.27	11.40	9.56	11.15	9.30	9.73	9.13
$\frac{D}{D + E}$	31.99	25.41	25.42	24.14	27.00	26.81	26.75	26.00
B <sub>Unlevered</sub>	0.78	0.78	0.47	0.71	0.62	0.69	0.67	0.66
ERP	19.50	20.00	18.75	16.30	16.25	15.50	16.46	14.94
Cost of Equity	19.05	18.89	10.68	13.33	13.12	12.87	13.30	12.31
$\frac{E}{D + E}$	68.01	74.58	74.58	75.86	73.00	73.19	73.25	74.00
WACC	17.66	17.72	10.87	12.42	12.58	11.91	12.34	11.48
Expected Inflation (Local Currency)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Expected Inflation (USD)	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
WACC (Local Currency)	22.39	22.45	15.33	16.95	17.11	16.41	16.87	15.97

regulatory quality can still be done, will experience a higher economic growth than countries with already high-quality regulation framework. Besides, the privatization, regulation and competition in the telecommunications sector has an important role in the economic growth and development of a nation according to the outcomes presented in the paper written by El Khoury and Savvides (El Khoury & Savvides, 2006).

After the statistical study of ten countries from the Middle East and North Africa region on financial development and economic growth, Abid, Bahloul and Mroua (Abid, Bahloul, & Mroua, 2016) found that the financial development, rather the stock market than banking, is a major factor of economic growth. In the research by Boukhatem (Boukhatem, 2016) it is stated that the financial development contributes directly to

crises.

Several studies demonstrate that each nation has to be analyzed as a unique economy but considering the correlations that may exist with other economies. For instance, a research on the integration and segmentation of thirteen emerging countries, based on dynamic conditional correlations and network theory using data from 2003 to 2013, showed that none of these countries has the same financial pattern than the others (Sensoy, Ozturk, Hacıhasanoglu, & Tabak, 2016).

Seven and Coskun assessed a link between finance inequality and poverty based in dynamic panel data methods for emerging countries. The outcomes revealed that financial development promotes the economic growth but not necessarily for people with the lower incomes. Actually, they demonstrated

that financial dynamism play no role in poverty reduction (Seven & Coskun, 2016).

A better corporate governance profits firms through greater access to financing, lower cost of capital, better performance, and more favorable treatment of all stakeholders (Claessens & Yurtoglu, 2013). Claessens and Yurtoglu also found that voluntary and market corporate governance mechanisms have less effect when a country's governance system is weak and identified possible issues such as the special corporate governance issues of banks, family-owned and state-owned firms, just like it occurs in Ecuador.

### III. ANALYSIS OF THE WACC FOR ECUADOR

This study will only take under consideration historic values of WACC for comparison. The calculation of the ROIC involves highly sensitive information from companies that was not shared for this research. Most of the data used for the estimation of the WACC were downloaded from Damodaran's webpage (Damodaran, 2017).

For Ecuador, it is mandatory to use the beta for emerging countries. This study uses unlevered betas for calculations to show a better picture of how risky is to invest in a specific telecom company. The estimation of performance uses the geometric mean since it is less susceptible to outliers and works better with percentages than arithmetic mean. It also allows easily compare different return figures without knowing the amounts invested.

This approach considers a nominal tax rate for any private company in the Ecuadorian market. Under this condition, the calculation involves only the income tax as the total company tax rate. The Organic Law of Internal Tax Regime in its Article 37 sets the 22% of the taxable income of incorporated business established or located in Ecuador (Servicio de Rentas Internas, 2015). The Internal Rents Service (SRI) sets a 15% of the net profits as the workers' participation in the Article 97 of the Work Code; however, this calculation does not consider it because it is a taxation on the profits. It is easily observable in the Table 1 that during President Correa's first term the WACC values were very high (22.39% and 22.45%) however by his second term in office WACC values have experienced a steady decrease. By 2017, this parameter holds up to 15.97%.

Any mistake made when determining the WACC will convey to detrimental decisions. In one hand overestimated rates would lead to the rejection of profitable opportunities, and facing an aggressively competitive market in which margins are increasingly reduced, this would lead to the deterioration of the value of the company. In the other hand underestimated rates will not display a very representative figure in a given high interest rate economic environment which coupled with the high risk that the domestic financial market may experience as a result of a recessive process in the economy, would also lead to the deterioration of the value of the company.

Some online WACC calculators online allow estimate this rate, such as WACC Expert (<http://www.waccexpert.com/>)

which tosses a default value of 16.10%, the minimum and maximum WACC are 12.75% and 18.73%, respectively.

### IV. INVESTMENT AND SOCIAL FACTORS IN ECUADOR

Ecuador is among the nations of the high human development category set by the United Nations Development Programme (UNDP). According the last Human Development Report in 2014, Ecuador's Human Development Index (HDI) has a value of 0.732, which ranks it at the position 88 out of 188 countries and territories (United Nations Development Programme, 2015a). The HDI has increased since 2010 (0.717) indicating an improvement in life conditions socially, educationally and economically. However, most of the countries in the region has experienced a higher improvement and enjoys of a steady economic situation with higher rates of development (United Nations Development Programme, 2015b).

According to the Ecuadorian Institute for Statistics and Census (INEC), for the year 2016 there is a 55.6% of the population that uses Internet (Instituto Nacional de Estadísticas y Censos, 2017), an increment of the 91.72% compared to 2010 (29% of the population) (Instituto Nacional de Estadísticas y Censos, 2011). They access the Internet by using different devices (laptops, PCs, cellphones, tablets, etc.) and from diverse places (home, work, parks, etc.).

The mobile networks continue experiencing a steady growth when compared to the rest of telecommunication services becoming one of the most used ways to connect to Internet. The two bigger mobile service operators in Ecuador, Claro and Movistar, are private multinational enterprises, while the third and smallest mobile operator is public, CNT E.P. The infrastructure enhancement of the cellular operators and the universalization of the use of mobile devices have provoked that 89.86% of the population owns at least one active cellular line according to the report released by the Ecuadorian Agency for Regulation and Control of Telecommunications (ARCOTEL) in 2016 (Agencia de Regulación y Control de las Telecomunicaciones, 2016a). Other aspects to consider are the price reduction of the mobile telephony plans that include data services, and the augmented free Wi-Fi coverage throughout the Ecuadorian territory (Agencia de Regulación y Control de las Telecomunicaciones, 2016b). The mobile data traffic experienced a significant progress from 760 Terabytes in 2013 to 864 Terabytes in 2014 with a raising trend of 1,26 percent annually (Secretaria Nacional de Telecomunicaciones SENATEL, 2014). The decreasing traffic of voice and SMS is due to the growing use of data services. Nowadays, several mobile apps execute the same functions as voice calls or text messages. These apps offer unlimited usage because of the use of data connection to provide their services, meaning that the user is able to choose whether to use the data capacity contracted or to switch over a Wi-Fi hotspot if available.

All the details presented above may led to the conclusion that people in Ecuador, first, have their economic situation improved over the last decade and, second, the country has a lot

more communications infrastructure. The combination of those two factors may have an impact in how the companies view the country as a potential market.

Aside from raw economic factors, some social issues may affect the ability of the country to attract money investment in general and, in the telecommunications sector in particular. Some of those factors are related with the state control over media and the president's rhetoric towards critics.

According to the Human Rights Watch (Human Rights Watch, 2011, 2012, 2013, 2014, 2015, 2016, 2017), the administration of Rafael Correa, the current President of the Republic of Ecuador, has took over the state powers: executive, legislative, judicial, electoral and citizenship; what led to an expanded state control over media and civil society. The new Communications Law has raised concerns on journalism freedom and judicialization of the activity. Some of the harshest critics even say the administration harasses, intimidates, and punishes critics. Some of those issues may also have an impact on how the country is perceived as a destiny of investment.

## V. DISCUSSION AND CONCLUSION

In Table 1 it is observed that WACC values are very high in the first years of President Correa's administration which may be explained by the socioeconomic instability and high custom tariffs imposed to imports. These extreme measures conveyed investors to leave the country and take their capital with them. In 2012, presidential elections were held in Ecuador and as result Correa was elected once more but in his campaign, he promised openness for investments and introduced several public-private projects, giving some hope of change for foreign investors. Unfortunately, Mr. Correa continued with high taxations and retaliations to any person who freely opposed to his decrees. After his second term, WACC values started to decrease as a result of the later new business-friendly approach of his government.

Ecuador is currently seeing a significant change in the population's socioeconomic status. The improvement of quality of life regarding social, educational and economic aspects, validated by the raise of the HDI, has led to a better environment for business creation and investment. Meaning that the whole country is moving forward to the globalized world that might aid it become an emerging economy. The assessment of financial indicators do not mostly consider those factors, but they definitely have impact on the business climate of the country. Furthermore, the better conditions for investments, the greater the chances to develop a nation. The findings support the assumptions of a progressive development of Ecuador.

The massive improvement in the telecommunication infrastructure of the country and balanced regulation set up a good scenario for making prolific business in the communications sector in Ecuador. A great example of this comes up clear when the access to internet service is analyzed. It has experienced a big increase from 2010 to 2016, where the

fixed Internet users went from 24.77% to 76.91% of the Ecuadorian population, whereas the mobile Internet users went from 2.35% to 41.25% (Agencia de Regulación y Control de las Telecomunicaciones, 2016a). This huge growth of Internet users might contribute to the investor's decision to look forward to making business in the country.

Because of the infrastructure improvement, a steady increment of access to information technology devices such as mobile phones, laptops, communications gadgets in general to by the population in Ecuador makes a great scenario for companies to spark new business ideas and money investment especially in the technology sector that includes of course telecommunications. This is an important consideration to look at when trying to make business in the technology sector in Ecuador.

For regulation, it is compulsory that the ARCOTEL justify each criterion used to determine the WACC, including the model and parameters, for each telecommunication operator. In other words, the ARCOTEL must use the same criteria for all the operators avoiding cross subsidization in the WACC calculation.

This project does not consider other taxations like the Contribution to the Comptroller's Office 0.5% and the FODETEL (Telecommunication Development Fund) 1% to establish the Marginal Tax Rate since they are taxes charged to the income, and not to the profits.

Even though a presidential election always brings uncertainty to the business sector, it is very unlikely that conditions to make business will change for the worse in the country. On the contrary, depending on how friendly the new government stands towards the business sector, the expectation remains high that conditions will actually get better as communications infrastructure tends to make improvements every year, regulation on private – public partnerships multiply and the country climbs up the HDI ranking.

Further studies on the topic should be carried out in other Latin American countries in order to have a useful tool, for investors from developed countries, of the economic panorama of the region and the possible effects of investing in the telecommunication sector.

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