

SONATEL

TELECOMMUNICATIONS

STUDENT: MANUEL LEAL COELHO

COMPANY REPORT

06 JANUARY 2017

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Following the leader

A company in a high growth sector

- **We rate Sonatel** with a given our FY15 price target of **XOF25,452** per share based on its promising valuation, which corresponds to an overall upside potential of **13.0%** compared to current price levels.
- **Mobile money and internet & data as an important revenue growth in the future.** This segments will represent almost 13% of total revenues in 2021, having a CAGR of 45% from 2016. Mobile money is leading the way in Africa, with over 56 million Africans currently having mobile money accounts.
- **No need to reinvent the wheel in Sierra Leone.** Sonatel group acquisition of Airtel SL could take advantage of being part of Orange group and utilise its expertise and momentum in terms of innovation and development of the digital ecosystem.
- **Dividend policy is looking attractive despite higher capex.** Sonatel's management will maintain its promising dividends policy (around 90%) despite the higher capex expected in 2016 due to investments in network and coverage. We also expect EBITDA margins to remain around 50% over the next five years.
- **Regulatory risks as the main concern.** We have a possible scenario of regulators increasing tariffs, negatively affecting the ARPU and increasing pressures on the company's performance.

Company description

Sonatel is the operating telecom leader in Senegal and it operates in more four countries: Mali, Guinea, Guinea-Bissau and Sierra Leone. The company's main segments are fixed, mobile, data & internet and mobile money. Its main shareholder is Orange group.

Recommendation: HOLD**Price Target FY17: 25,452 XOF****Price (as of 6-Jan-17) 24,300 XOF**

Bloomberg: SNTS BC

52-week range (XOF)	20,765-26,875
YTD change/%	-2,8%
Market Cap (XOFbn)	2,430
Outstanding Shares (m)	100

Source: Analyst's estimates



Source: Bloomberg

(Values in XOF billions)	2015	2016E	2017F
Revenues	863.29	954.85	1002.43
EBITDA	455.86	509.49	529.65
EBITDA Growth	6.9%	11.8%	4.0%
EBITDA Margin	52.8%	53.4%	52.8%
EBIT	327.79	384.18	373.79
Net Profit	221.09	249.93	245.65
EPS (XOF)	1932.61	2184.75	2147.33
DPS (XOF)	1667.00	2025.27	2008.46
EV/EBITDA	5.53x	5.00x	4.81x
EV/Revenues	2.92x	2.67x	2.54x
Net Debt to EBITDA	0.05x	0.14x	0.14x
Net Debt to Equity	0.03x	0.10x	0.09x
Dividend yield	6.7%	8.2%	8.1%
ROE	31.9%	33.8%	31.3%
ROIC	32.2%	34.3%	31.5%

Source: Analyst's estimates

THIS REPORT WAS PREPARED BY "STUDENT'S NAME", A MASTERS IN FINANCE STUDENT OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS, EXCLUSIVELY FOR ACADEMIC PURPOSES. THIS REPORT WAS SUPERVISED BY ROSÁRIO ANDRÉ WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (SEE DISCLOSURES AND DISCLAIMERS AT END OF DOCUMENT)

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Executive Summary

Sonatel is the leading telecom operator in Senegal, which represents 50% of its operations, along with the three subsidiaries where it is represented. The company's revenue CAGR over the last years 5 years was 8.3% spread by its diversified operations: mobile and fixed services, interconnection, internet & data and mobile money, reaching more than XOF800bn and around 50% of EBITDA margin.

The macroeconomic environment in Senegal is very stable. The economic overview has been strong, allowing Senegal to become the second fastest growing economy in Sub-Saharan Africa, just behind Ivory Coast. For the next half decade is expected a growth of Real GDP of about 5% and an inflation rate of around 1.2%.

The mobile market in Senegal has high penetration rates (around 108%). The market has two other players competing with Sonatel: Tigo and Expresso, but none has the same operation diversification as Sonatel. Fixed lines are suffering from the substitution effect and its usage is declining. Mobile lines ARPUs are shrinking, given the development of unlimited offers. Internet & data and mobile money are foreseeable as an important source of revenue growth in the future.

Considering the low banking penetration rates, Sonatel has room to develop its mobile money business. Orange Money's current product offering are both from money transfer and payment services.

The International markets are promising, despite of challenging exchange rates in Guinea. Steep penetration rates and good economic growth prospects will contribute positively within the future.

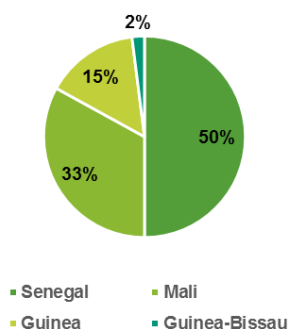
Sonatel should be able to maintain its high margins over the next five years as the company will focus on cost efficiency. Besides being the market leader, Sonatel is a well-managed company with a particular focus on careful cost management, thus being able to keep its costs under control.

Given the ability of Sonatel to generate cash, we believe debt will slightly decrease. The strong financial position of the company should handle a less leveraged capital structure. The company will also be able to deliver very attractive dividends throughout the next six years.

The cost of capital is around 10.5% and a conservative terminal growth of 2.5% was considered. We hand a recommendation to HOLD, and a target price of XOF25,452, implying a total return of 13%, which still makes the company appealing.

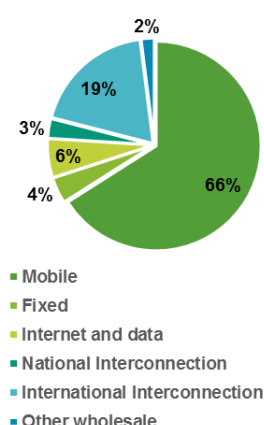
Company Overview

Exhibit 1 – Breakdown of revenues by country, in 2015 (%)



Source: Company's reports

Exhibit 2 – Breakdown of revenues by segment, in 2015 (%)



Source: Company's reports

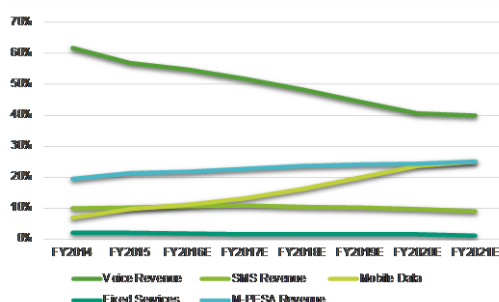
Company Overview

Sonatel is an integrated telecommunication operator leader headquartered in Senegal. Despite the strong presence in this country, the company has been internationalizing its operations, entering in other African markets such as Mali since 2003, Guinea and Guinea Bissau from 2007 and, nine years later, the company decided, along with the French Orange Group, to move ultimately to Sierra Leone¹. **Exhibit 1** shows the breakdown of revenues by country, revealing Senegal as the main market, representing 50% of total revenues, followed by Mali with 33%, Guinea with 15% and finally Guinea Bissau with 2%.

Nowadays the company's core business is mobile service, namely voice and SMS, which are both available either on contract or prepaid services and represent the biggest part of the total's group revenues. Additionally, the company operates in fixed services, internet and data services, which accounts for 10% of revenues and Interconnection (national and international) and other wholesale representing 24% of the Group's total revenue. Sonatel is also launching a new product within financial services (Orange Money²), allowing subscribers to do financial transactions from their mobile phones. **Exhibit 2** quantifies the breakdown of revenues by segment. The company is also involved in the construction of fiber optics networks in Africa and manages more than two thousand kilometers of fiber cable in Senegal.

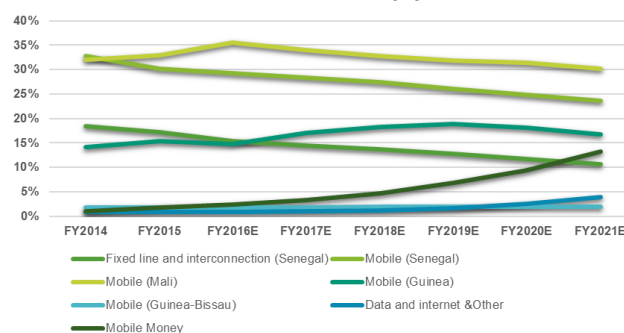
Safaricom³ is considered as one of the most established telecoms in the Sub-Saharan Africa (SSA) countries and Sonatel is expected to follow its lead. From **Exhibits 3 and 4** one can see the similarities of the business: the mobile (voice and SMS) and fixed line units are reaching a point of maturity and they are declining, whereas the mobile money and the internet & data business will be some important revenue drivers within the future.

Exhibit 3 – Revenue-mix of Safaricom (%)



Source: Analyst's estimates

Exhibit 4 – Revenue-mix of Sonatel (%)

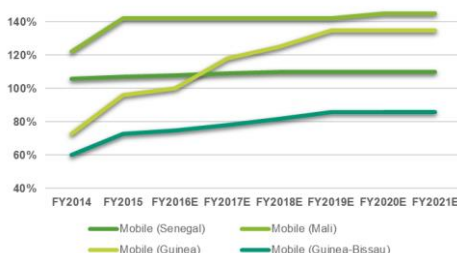


Source: Analyst's estimates

¹ Sonatel enter in this market in July 2016.

² Emi license ongoing to Sonatel launch this product.

³ Safaricom is a subsidiary of Vodafone's Group present in Kenya.

Exhibit 5 – Mobile Penetration Rates in Sonatel's subsidiaries (%)

Source: Analyst's estimates

Sonatel is following the trend of the SSA context. **Exhibit 5** illustrates the high penetration rates in all the countries where the company is present. This could be explained by the quick progress of technology, leading the company to increase its coverage in rural areas. Despite of this immense penetration, these sub-Saharan countries are displaying a lazy subscriber increase, given the increase of competitive strength and regulatory pressures.

Shareholder structure

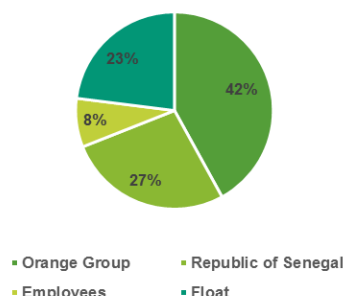
Orange Group PLC⁴ is the biggest shareholder of Sonatel Group, owning 42% of the company. This company is incorporated and domiciled in France and it is the 61st most valuable brand in the world. Orange Group allow to bring its expertise to Sonatel not only in terms of digital and technological innovation but also in terms of marketing and business strategy contribution.

The government of Senegal owns 27% of Sonatel's Group, and it is responsible to invest in infrastructures and to speed up and strengthen the company's activities, contributing to the development of the country. On the other hand, this also represents some challenges to Sonatel, since the State could bring some risks such as separate some of the cash-flow by taking the profits and delay its due payments, while Sonatel is paying due on time.

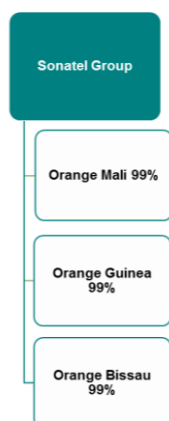
The existence of a Public-Private Partnership (PPP) offers a more adequate response to the needs and requirements than a purely public or private solution since they bring together efficiency, legitimacy and knowledge of the field. The infrastructure built allows the gap between rural areas and cities to be diminished, improving the population's access to health, education, etc. This would not be possible without working with public institutions. In addition, this PPP enables the creation of innovative ecosystems, by drawing on developments in the digital sphere to serve innovative services that benefit local populations.

Other important shareholder are the employees (8%) represented by the trade union, which should be taken into consideration, given the risk of possible strikes. The remaining shares (23%) are on free float. All the shareholder's structure is represented within the **Exhibit 6**.

Sonatel Group has different shareholdings in its international subsidiaries, owning 99% of Orange Mali, Orange Guinea and Orange Bissau. The participations of the Group are represented in **Exhibit 7**.

Exhibit 6 – Shareholders' Structure, in 2015 (%)

Source: Company's reports

Exhibit 7 – Sonatel's participations (%)

Source: Company's reports

⁴ Orange S.A., formerly France Telecom, is a French multinational telecommunications corporation.

Valuation

This valuation was performed based on nominal values and is valued in XOF (West African CFA Franc), thus implicating Senegal's inflation rate. The forecast period is until 2021.

Sonatel Group valuation was through a consolidated Discounted Cash Flow (DCF), including all geographical operations. These geography operations correspond to Senegal, Mali, Guinea, Guinea Bissau. The Sierra Leone⁵ subsidiary was valued through an EV/EBITDA multiple.

The Free Cash Flows (FCF) and terminal value were calculated and projected, being afterwards discounted using the WACC⁶. The price target is referred to December 2017. The Group's DCF represent about **33%** of total enterprise value (XOF 941.2bn), and Group's terminal value represents approximately **67%** (XOF 1904.1bn) (**Exhibit 8**).

The debt considered is the book value of net debt, comprised by short-term borrowing⁷, loans and bank overdrafts, and excluding the excess cash⁸. The company has 100m shares which imply a price target for the December 2017 of **XOF25,452** and an upside potential return of **13.0%**⁹.

The possible scenario of the government increasing tariffs was considered in order to estimate a proper country risk premium to the valuation.

Exhibit 9 – Summary of Company Valuation

	Method	Stake	Value to Sonatel Base Scenario =85%	Value Scenario 2 = 15% (Increase of tariffs issues)	Weighted Average Share Price Value
Sonatel Operations	DCF	100%	2 552 646	2 344 767	
Airtel SL Acquisition	EV/ EBITDA Multiple (7.9x)	50%	91 500	91 500	
Entreprise Value			2 644 146	2 436 267	
Net Debt			74 740	28 336	
Equity Value			2 569 406	2 407 931	
# Outstanding Shares			100	100	
Price target (end of 2017)			21 840	3 612	25 452
Current Price			..		24300
Upside Potential					13,0%

Unit: Million XOF, unless stated otherwise. Source: Analyst Estimates

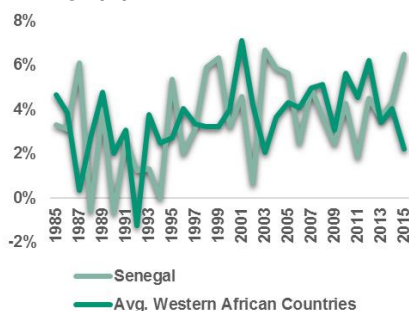
⁵ Since the acquisition was official in the middle of 2016, there is not enough information to consolidate the company acquired (Airtel SL) and, therefore, it was not possible to forecast this business. Thereat, we decide to value this business independently.

⁶ Weighted Average Cost of Capital

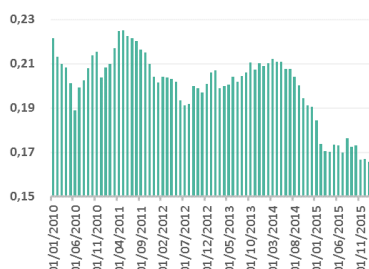
⁷ Despite of being part of current liabilities, the company incurs this type of debt repeatedly

⁸ From the book "Valuation – Mckynsey", it was performed a research in order to estimate operating cash and it was concluded that at least 2% of revenues is operating cash so we assume that our excess cash is the total cash minus the operating cash

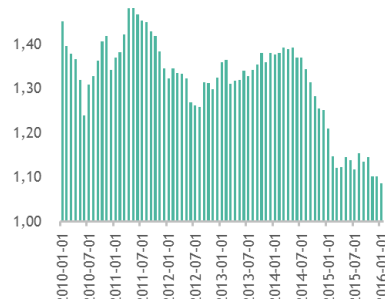
⁹ This return could be also explained by the fact that the company is entering in the Frontier Markets Index and, so, it will have more exposure and liquidity

Exhibit 10 – GDP Growth, percentage change (%)

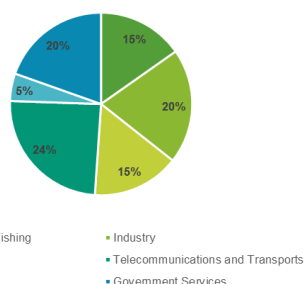
Source: International Monetary Fund (IMF)

Exhibit 11 – XOFUSD currency, monthly data

Source: Bloomberg

Exhibit 12 – EURUSD currency, monthly data

Source: Bloomberg

Exhibit 13 – Contributions of each sector in overall GDP, in 2015 (%)

Source: Senegalese Ministry of Economy and Finance

Senegalese Macroeconomic Overview

Senegal is showing promising indicators and is considered one of the strongest countries within the Western African¹⁰ countries. The country is showing a strong economic growth and a stable political environment in recent years. The **Exhibit 10** demonstrates the country's economic outlook with real GDP growth over the years, reaching a peak of 6.5% in 2015, making Senegal one of the fastest growing economy in West Africa.

Senegal shares its currency (XOF¹¹), which is pegged to the euro, with the WEAMU region¹². As a result, the **Exhibit 11** and **Exhibit 12** shows the devaluation from the XOF with respect to the U.S. dollar with similar movements of the euro with respect to the U.S. dollar, for several European phenomena, including the impact of the Greek elections.

In the primary sector, government programs and positive natural conditions help agriculture achieve strong results. Moreover, industry slowed somewhat despite strong performances in construction, chemistry and energy, while services, which represent 75% of the total, is still growing rapidly, thanks to advances in the transport and communications sectors¹³ (**Exhibit 13**). The trade sector is performing energetically with exports growing promptly, principally due to stronger output and exports from primary sectors, whereas on the external front, growing exports helped scale down the current account deficit (**Appendix II**), despite higher imports linked to stronger growth. Debt increased reaching approximately 57% of GDP in 2015, but remains stable.

GDP growth is lower than the required rates to reduce the poverty¹⁴, which still affects 47% of the Senegal's population. The creation of new jobs is confined by the growing reliance on capital-intensive exports rather than labour-intensive sectors. If poverty leads to lack of literacy, this could have negative impacts in the telecom sector in terms of technological receptivity. Inequality in Senegal is reasonable, and weaker when comparing with the Sub-Saharan African average. However, geographic disparities are very marked, with almost two thirds of poor residents in rural areas, especially in the south, versus one fourth in Dakar. Additionally, there has been progress on access to education, but a significant number of the youth only go to Arabic schools that are not aligned with the public

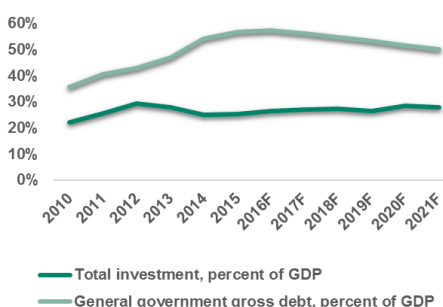
¹⁰ The West African Africa countries considered: Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria and Sierra Leone.

¹¹ XOF represents the The West African CFA franc currency of eight in West Africa: Benin, Burkina Faso, Guinea-Bissau, Ivory Coast, Mali, Niger, Senegal and Togo. The currency is issued by the BCEAO (Central Bank of the West African States), and it is nominally subdivided into 100 centimes but no centime denominations have been issued.

¹² West African Economic and Monetary Union.

¹³ Telecommunications along with the transports are the biggest contributors (24%) of the total GDP.

¹⁴ According to the World Bank, the coefficient of Gini of Senegal was 0.43 in 2013

Exhibit 14 – Total public investment, General government gross debt (% of GDP)


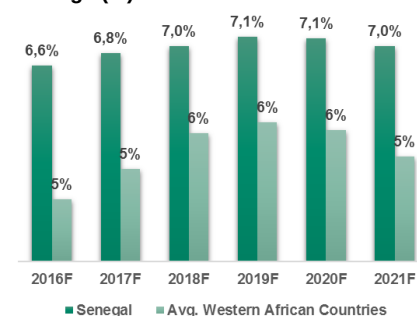
Source: International Monetary Fund

Exhibit 15 – Volume of imports/exports of goods and services (% change)


Source: International Monetary Fund

Exhibit 16 – Inflation, average consumer prices, (% change)


Source: International Monetary Fund

Exhibit 17 – GDP Growth, percentage change (%)


Source: International Monetary Fund (IMF)

school programs. Child begging related to some to these schools remains a problem and it will possible affect the future penetration rates, if measures are not taken.

Senegal has considerably strengthened its democratic institutions since its independence from France, 55 years ago¹⁵. In early 2015, Senegal held a referendum to strengthen its political system by shortening the duration of the presidential term from seven to five years. This will bring more stability to the country, by creating high standards for the democracy in Senegal.

In **Exhibit 14** one can see that the government has increased its debt to about 50% of GDP and the total investment is decreasing at the same time, given the fiscal discipline. The International Monetary Fund (IMF) foresees the reverse situation for the next years, since the country is showing positive signs regarding the stable inflation (**Exhibit 16**) and the GDP growth. This situation will have impacts on Sonatel, where the government is part of the shareholders' structure and the ongoing efforts to enhance the quality of public investment can create improvements in the investment climate, as more incentive will exist for further private investment. Additionally, oil and food prices are recovering faster than expected, thus pressuring the external balance as in **Exhibit 15**. Major trade partners confront their own growth challenges, which may affect Senegal's export¹⁶ and import¹⁷ expectations. The constant uncertainty linked to regional security issues may delay the recovery of tourism and restrict private investment. Still, new oil and gas reserves may stimulate foreign direct investment, enabling production and exports to be ahead of schedule.

In **Exhibit 17**, it is shown that the IMF forecasts a favourable economic outlook with a real GDP growth projected to 6.6% in 2016 and continued growth in subsequent years, reaching 7% in 2021. This could be explained by the expected recovery of oil prices, and the continued implementation of the Plan for an Emerging Senegal (PES), which intends to alleviate structural obstacles to growth and promote private initiative.

The improvement of the macro-economic situation in the West African sub-region¹⁸ was helpful for further development of the telecommunications, despite the possible effects arising from the introduction of new tax and adverse regulatory measures.

¹⁵ Since that time Senegal and France strengthen its relations, where France remains the largest bilateral donor and largest foreign investor in Senegal.

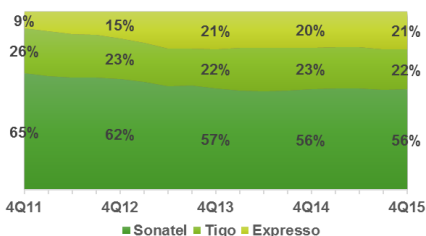
¹⁶ The top exports of Senegal are gold, non-fillet frozen fish, refined petroleum, cement and phosphoric acid. The top export destinations of Senegal are Mali, Switzerland, the United Arab Emirates, India, and France.

¹⁷ The top imports of Senegal are refined petroleum, crude petroleum, rice, packaged medicaments and wheat. The top import origins are France, China, the Netherlands, Nigeria and India.

¹⁸ Macroeconomic analysis from other countries of this region will be analyzed latter on this report.

The Telecom Sector in Senegal

Exhibit 18 – Mobile market-share in Senegal (%)



Source: Senegalese Regulator Authority, ARTP

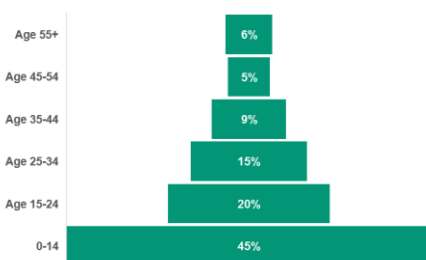
The telecommunications sector in Senegal was developed by the local postal service OPT¹⁹ until 1981. After this date, the creation of TéléSénégal led to a deep transformation within the telecom sector reform in Senegal. This resulted on a separation between national and international services, where national telephony remained under OPT and international telephony was committed to TéléSénégal.

In 1985, the World Bank and the IMF imposed structural adjustments programmes and reforms to Senegal, which was required to modify its legal environment to accommodate these recommendations. As a result, OPT was turned into a post and savings entity and gave up from the telecommunication industry and TéléSénégal was transformed in a new company, Sonatel²⁰. It remained under the control of the Senegalese government and was responsible for the national and international telecommunication service.

The need of improving management and of increasing technical innovations in order to keep side by side with potential competition were the major incentives for the Senegalese government to find a strategic partner to guarantee the sustainability of Sonatel's operations. Two companies were bidding, France Telecom²¹, and a consortium dominated by the Swedish firm Telia, including a Senegalese businessman operating in Britain on the other side. In the end, France Telecom won the bid, becoming the only player in Senegal on fixed and international telephony.

However, in 1999, Tigo, a subsidiary of Millicom International Cellular²² enters in the Senegalese Telecommunications market. The entrance of this player was very controversial, being alleged that the price that the company paid the licence was undervalued, the level of investment was below the standards, the terms of quality and coverage of its network had several failures, the information relating to financial and technical management of its licence was not proven and the capital structure of the company was highly leverage. Nevertheless, Sentel continued its activities normally. Additionally, in 2007, Expresso, a subsidiary of Sudatel²³, became the third player to operate as a telecom operator. In 2015, ARTP²⁴ required compliance obligations, namely customer identification,

Exhibit 19 – Age pyramid (%)



Source: International Monetary Fund (IMF)

¹⁹ Office of Post and Telecommunications

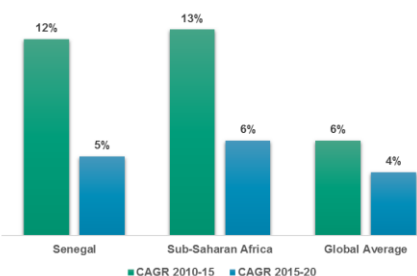
²⁰ Société Nationale des Télécommunications

²¹ Nowadays Orange Group

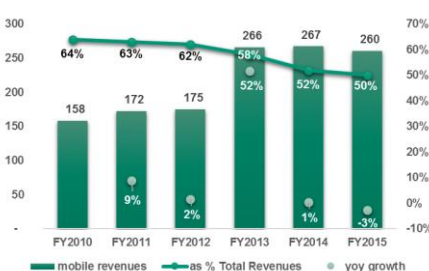
²² Millicom International Cellular is an international telecommunications and media company present in fourteen markets within Africa and Latin America

²³ Sudatel is a telecommunications and internet services provider with headquarters in Sudan

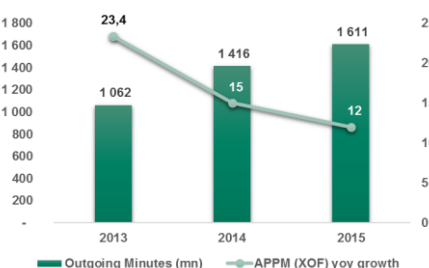
²⁴ Autorité de Régulation des Télécommunications et des Postes is the Senegalese telecommunications regulator

Exhibit 20 – Subscriber CAGR by region (%)

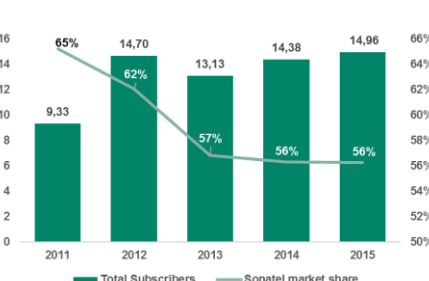
Source: GSMA, Analyst estimates

Exhibit 21 – Mobile revenues (XOFbn) (left-side), contribution to total revenues and yoy growth (%) (right-side)

Source: Company's reports

Exhibit 22 – Average Outgoing minutes (bn) (left-side), APPM (XOF) (right-side)

Source: ARTP Senegal, Company's reports

Exhibit 23 – Total subscribers (m) (left-side), Sonatel market-share (%) (right-side)

Source: ARTP Senegal

accompanied by a high level of commercial and quality requirements creating significant financial costs on Telecoms.

Moreover, other important factor to understand the telecom sector is to see the portion of Senegalese population per age group, as illustrated in the **Exhibit 19**. Unlike the developed countries, there exists a big weight of the number of young people per total Senegalese population, which provides an economic advantage for the telecommunications sector as they are more technological friendly, becoming more relevant for the future of telecoms in Senegal.

The Senegalese Segment

Mobile

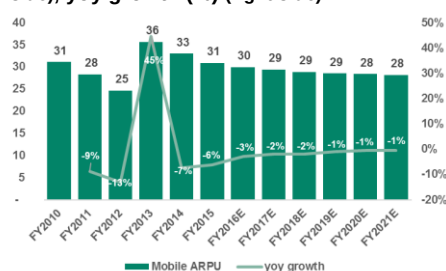
The mobile market has prospered, helped in part by poor fixed-line infrastructure in some rural areas. This segment is clearly an important revenue driver, for their contribution to the consolidate revenues of the company. However, in the next five years, Senegal along with other countries in the sub-Saharan Africa will achieve just under half the population to subscribe a mobile service, against a global average²⁵ of 60% (**Exhibit 20**). The slowdown in subscriber growth underlines the existence of significant obstacles to the upraise of mobile revenues. These include cost, coverage, and technical education and reliability for large areas of the population, particularly in rural areas where great part of the population lives.

First we analyse output of mobile revenues. In spite of mobile revenues are represented for approximately 50% of total revenues, it has experienced lower growth rates in recent years (**Exhibit 21**). For better understand this tendency, we will proceed a deep analysis at the main indicators of this revenue flow for Sonatel and other important Telco's in Africa. The main drivers are the penetration rates and the ARPU's²⁶, along with the average price per minute (APPM) and the outgoing minutes compounded in Minutes of Usage (MoU).

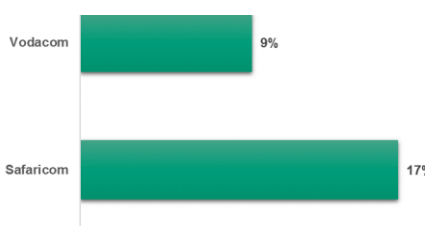
Exhibit 22 show the Sonatel's APPM decline from XOF23.4 to XOF12 (a 48% decrease), between 2013 and 2015, whereas the MoU's went up from 1062m minutes to 1611m minutes (corresponding to a 47% increase in MoU's). The traffic voice continues to increase favoured by the increase level of free offers arising from high level of promotional activities impacting the decrease of ARPU from voice. The more aggressive APPM declines, adding the presence of more competition, the more Sonatel's market share will suffer. The company has

²⁵ Global average takes into account the Northern America, European, Latin America, Asia Pacific and Northern Africa and Middle East Region

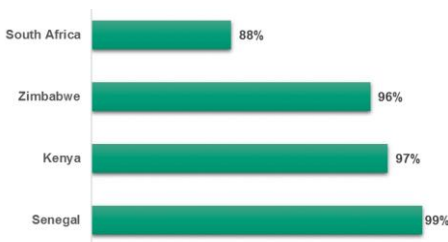
²⁶ ARPU is the Average Revenue Per User

Exhibit 24 – ARPU mobile (bnXOF) (left-side), yoy growth (%) (right-side)

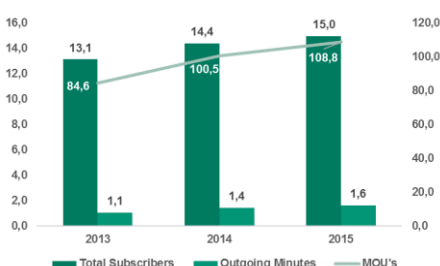
Source: Analyst estimates

Exhibit 25 – Churn rates, in 2015 (%)

Source: Company's reports

Exhibit 26 – Weight of Prepaid lines, in 2015 (%)

Source: GSMA, ARTP Senegal

Exhibit 27 – N° Customers (bn), and outgoing minutes(bn) (left-side), MOU (right-side)

responded with a pricing shifting which created positive impacts, especially in 2015, when the company's market-share stabilized (**Exhibit 23**). The recovery of the previously declining AAPM was mainly done by the prepaid subscribers, since they are more responsive to price variations.

This prospering and mature market led to the downward trend in ARPU. These circumstances are under the combination of several effects²⁷. In **Exhibit 24**, we can verify that the slight decrease of ARPU correspond to a CAGR²⁸ of -0.11%. We forecast that mobile ARPU will continue to slightly decrease in the next years, corresponding to a CAGR²⁹ of -1.20%. This downside could be enlightening by the fact of special taxation by the regulation, putting pressure on telecoms and in their margins to gain revenues from their customers. Additionally, the lower price levels, the lower income segments being penetrated and the customers spreading usage across multiple SIM's to maximise value from various tariffs are effects to affect the ARPU's negatively.

Voice

The number of Sonatel's customers is almost exclusively composed by prepaid lines, representing 99% of the total subscribers. This is aligned with other African markets, which presents with high percentages of prepaid line. As illustrated in **Exhibit 26**, the South African market is distant, when comparing with other African markets and it can gather more customer's loyalty and, therefore, less churn rates³⁰ (as in **Exhibit 25** with Vodacom). In contrast, when comparing with the Kenyan market, specifically with Safaricom, we can verify that with a bigger weight on prepaid lines, there exists higher churn rates as result of the sensitivity of customers to price variations and the satisfaction of their needs. In Senegal, we can infer³¹ that with the increase in competition in the market and the continuing growth in the size of the subscriber base, the market is expected to keep growing fast but suffering from price competition and subscriber churn rates. We assume that churn rates are approximately to the values of Safaricom.

Exhibit 27 one can see the number of subscribers growing faster than the total usage, resulting in a slight decrease of MoU. This means that customers that are leaving Sonatel are being replaced by new customers. Despite the total subscribers are increasing in quantitative terms, they consume less airtime on an

²⁷ The effects of the decrease of ARPU are, among others, the weak growth in the outgoing traffic revenue strongly impacted by the development of unlimited offers, the mitigation in part by revenue growth from mobile data and to value added services and the progress of the low income subscribers' categories in terms of contribution and the growth in mobile termination revenue favoured by heavy ultra-competitive offerings (call usable in all networks)

²⁸ Compound Annual Growth Rate for 5 years, between 2010 and 2015

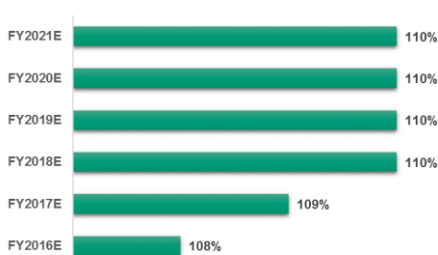
²⁹ Compound Annual Growth Rate for 5 years, between 2016 and 2021

³⁰ Churn rate is a measure of the number of individuals or items moving out of a collective group over a specific period. It is one of two primary factors that determine the steady-state level of customers a business will support.

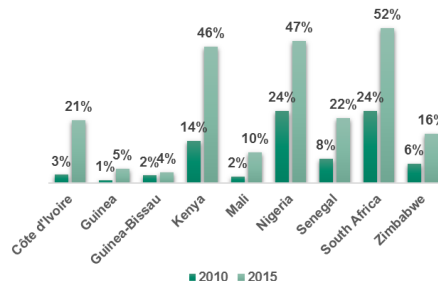
³¹ Given the high percentage of prepaid lines in other African countries, we will apply its churns rates to our company

Exhibit 28 – Forecast mobile revenues (bnXOF), yoy growth (%)

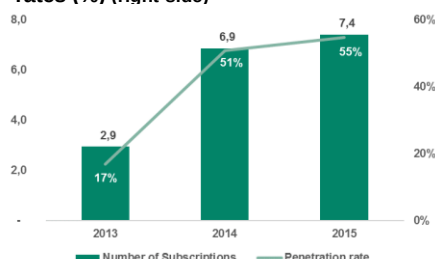
Source: Analyst estimates

Exhibit 29 – Penetration Rates in Senegal (%)

Source: ARTP Senegal, company's reports

Exhibit 31 – Percentage of individuals using internet (%)

Source: ITU

Exhibit 32 – Total Internet & Data subscribers (m) (left-side), Penetration rates (%) (right-side)

Source: ARTP Senegal

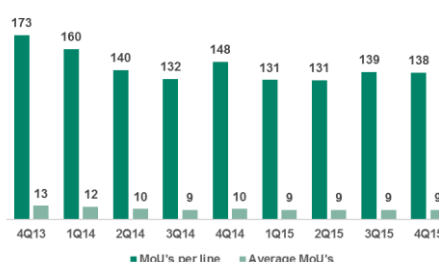
individual basis. In order to increase the MoU in the future, Sonatel must be able to preserve new users and reduce churn levels.

This situation will affect our forecast of revenues, causing a lower growth, when comparing with the former years. This mobile subscriber growth could be explained by the results of lowering call prices, through the marketing and sales promotion campaigns, the access gaining to lower income segments and the improve of network coverage in rural areas adapted to serving remote connectivity needs.

We forecast that the penetration rates will grow, reaching 110% in 2018 and remain at this rate in the following three years, following a trend within the sector in Sub-Saharan countries as a whole.

SMS

Regarding SMS³², the information given from the Senegalese regulator allow us to notice a downward trend (**Exhibit 30**). For the following years, we expect that this tendency will continue as a result of several factors such as the increasing popularity of online messaging and the variety of offers between operators.

Exhibit 30 – SMS MoU's (m), SMS MoU's per line

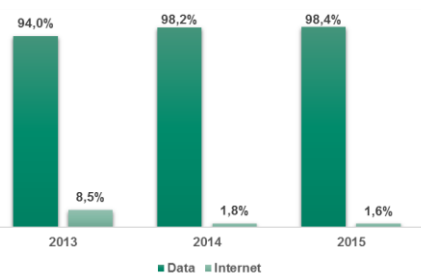
Source: ARTP Senegal

Internet and Data

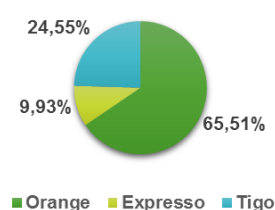
In this segment we incorporated internet (fixed connections) and data (mobile connections). Development of the internet market was hampered by Sonatel's monopolistic presence in terms of bandwidth on the only high-capacity international submarine fibre optic cable serving the country. However, the **Exhibit 31** shows that Senegal is below the line of other established African countries. This means that there is still room for Sonatel to grow in this segment.

³² There is a lack of information in this segment, so it is not possible to infer its revenues.

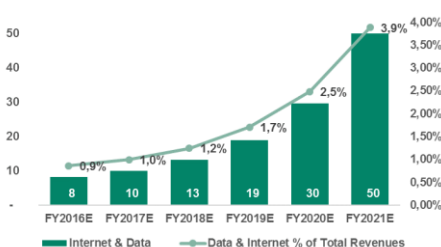
²⁵ The growth of 3G connections in Sub-Saharan Africa largely reflects the rising smartphone adoption rate, which has doubled in the last two years to 20% of total connections. In comparison, the global average is just over 40%. The adoption rate, which is set to accelerate further to one-third of connections by 2017 and more than half by the end of the decade, is benefitting from the increasing availability of low-cost devices.

Exhibit 33 – Breakdown of Internet & Data subscribers (%)

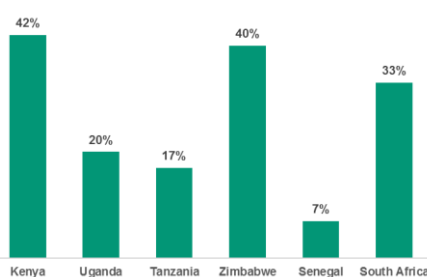
Source: ARTP Senegal

Exhibit 34 – Internet & Data market share (%)

Source: ARTP Senegal

Exhibit 35 – Forecast Internet & Data Revenues (bn) (left-side), Representation in Total Revenues (%) (right-side)

Source: Analyst estimates

Exhibit 36 – Banking Penetration Rate (%)

Source: BPI Capital Africa Research

There are more than 7 million fixed and mobile internet connections at the end of 2015, but noted the impressive growth between 2013 and 2015 of about 155% as we can see in **Exhibit 32**. The **Exhibit 33** illustrates that data accounted for 98,4% of the total connections at the year end, while internet took just an even smaller share (around 0.2% users). This distribution shows clearly the substitution effect from fix to mobile and the importance of the bound between mobile and data. Although it does not provide a breakdown by technology, Sonatel dominates the market with 65.51% of the total internet market, ahead of Tigo (with 24.75%) and Expresso (with 9.93%).

The number of high-speed fixed-lines, meaning ADSL, is decreasing due to competition allied to the development of 3G mobile Internet offers. The subscribers' base of fixed-lines is relatively stable compared with 2014, changing only minus 1.4%. This near-stabilization scenario, despite the strong competition from the mobile activity, is related to the development of new home telephony offers and internet.

The total revenues along with the respective ARPU is represented on the left side and it is clear that data and internet will be an important revenue driver in the future. In the next years, we forecast an increase of ARPU, along with the total subscribers, given the penetration rates and the introduction of new appealing packages (mobile+internet) from all the telecommunications companies. Additionally, the introduction of 4G and the coverage in rural areas will allow to increase the number of subscriptions along with an increase of usage per customer. This will lead to an increase in revenues, where internet and data will represent 2.5% of total revenues in 2021.

Orange Money

Sonatel intends to become the next M-Pesa³³ in the West African region. Orange Money's current product offering is not different from other mobile money³⁴ providers, aside from money transfer and payment services. Moreover, Orange Money is preparing to launch riskier banking products such as micro loans, which are currently scheduled to be launched in 2017.

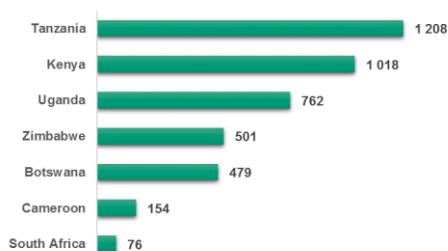
Banking penetration rates are very low in this region, when comparing with other African countries, as highlighted in **Exhibit 36**. The regional central bank, BCEAO³⁵, is keen to improve financial inclusion in the region by allowing telecom operators to be involved in financial transactions. Given that providing mobile

³³ M-Pesa is a mobile phone-based money transfer, financing and microfinancing service launch by Safaricom and Vodacom

³⁴ The idea behind is to use telecom's extensive reach to extend the ability for people to transact financially beyond the boundaries of bank's branch network

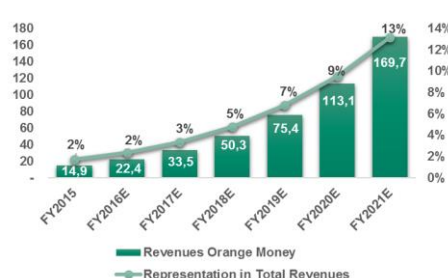
³⁵ Central Bank of West African States

Exhibit 37 – Number of registered mobile money accounts per 1,000 adults, in 2014



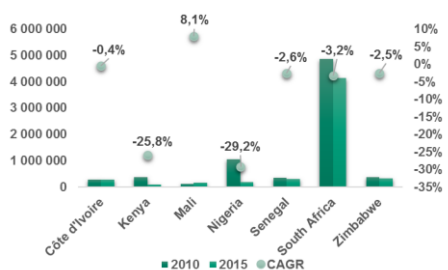
Source: GSMA

Exhibit 38 – Orange Money Revenues



Source: Analyst's estimates

Exhibit 39 – Fixed penetration rates (%)



Source: ITU

money services involves financial transactions, the supply of this service was too difficult to be done by a telecom operator without teaming up with a bank. Sonatel only obtained an electronic money issuer licence in 2015 for all countries where the group operates in West Africa.

Mobile money has become a key complement to traditional banking in expanding access to financial services. As in **Exhibit 37**, Sub-Saharan Africa registers the highest level of mobile money penetration and more than half of all telecoms in the region have already launched a mobile money service³⁶.

Before the release of Orange Money, Orange Group knew that they had to be cautious³⁷ with this new service. Orange not only aims to ensure the interests of their customers from fraud, but also to ensure that the service is working accordingly. Moreover, the company needed to control and manage its risks in order to improve the vulnerabilities of using the mobile money service. The introduction of micro loans will be challenging for the company, because it needs to arrange warranties among the low income level customers that have higher probabilities of default³⁸.

In 2015, XOF14.9bn was transacted through Orange Money. Currently Orange Money contributes with about 2% of total revenue, but we expect it to grow to 13% of total revenues in 2021 (**Exhibit 38**). This will be partly driven by the increase of subscriber numbers and usage as new products are joining to Orange Money. Sonatel will also benefit from being part of the Orange group, not only from the economies of scale, but also from the shared experience benefit, along with the performance mobile money product has shown in other countries. Orange Group is having successful mobile money products in Madagascar and Ivory Coast from which Sonatel has been able to learn from and put in to use in the markets it operates. Additionally, in our opinion, Orange's brand presence throughout Africa and Europe is a big advantage for money transfer, given the credibility of the brand, which should contribute to facilitate cross border and international money transfer as Sonatel is part of the Orange group.

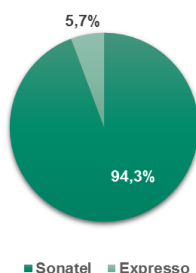
We believe that Sonatel could benefit further from regional remittances, for operating in countries that belong to the WAEMU³⁹ region. These countries share a common currency and central bank and have liberalised cross-border trade and migration, which the Sonatel group can take advantage. We expect cross border

³⁶ According to GSMA, in Kenya, access to financial services more than doubled over seven years to reach two-thirds of the population in 2013, helped by mobile financial services.

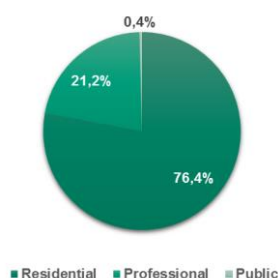
³⁷ While the commercial and marketing teams assess the potential benefit of launching mobile money, the corporate fraud and revenue assurance team needed to identify and assess the risks of a complicated new service.

³⁸ Since this service will be used to facilitate transactions from different sectors, the warranty hold is the regular usage basis from its customers

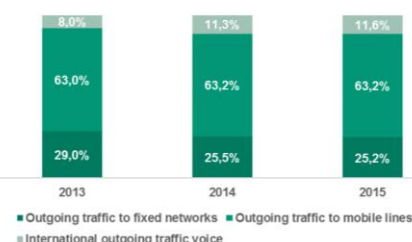
³⁹ West African Economic and Monetary Union

Exhibit 40 – Fixed market share (%)

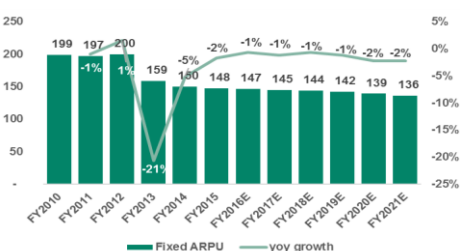
Source: ARTP Senegal

Exhibit 41 – Breakdown of Fixed lines, in 2015 (%)

Source: ARTP Senegal

Exhibit 42 – Distribution of outgoing fixed traffic (%)

Source: ARTP Senegal

Exhibit 43 – Fixed ARPU (XOFbn) (left-side), yoy growth (%) (right-side)

Source: Company's reports, analyst estimates

money transfer to grow strongly and boost Orange money revenues in the future. Mobile money is primarily used by low to medium income earners who often do not own a bank account, whereas Senegalese banks' typical clients are the middle to upper middle class, hence the banks lack of experience in dealing with the types of clients who will be the main users of Orange Money.

Fixed lines and Interconnection

Over the last years, the total number of fixed telephone lines in Senegal continued a downward trend following the tendency of Sub-Saharan Africa (SSA) context. There are no positive signs for the penetration rates, mainly because of the substitution effect fixed-to-mobile⁴⁰.

In this segment with approximately 7 million subscribers, there are only two players, being Sonatel clearly the dominant player of all lines in service (94.3%), while Expresso is trying to position itself in the market (5.7%). Moreover, this decrease was essentially due to a continuing decline not only in residential connections and fewer public phone booths but also the decrease of MoU⁴¹. The volume of fixed telephony calls fell to an estimated 62 million quarterly call minutes in the last quarter of 2015, down from 98 million minutes from the first quarter of 2012. The lack of fixed-line infrastructure raises the challenge of expanding broadband access in the region, since a significant part of the population in rural areas cannot compensate the investment done. In terms of average outgoing usage per line in minutes, there is a slight slowdown in the decrease of fixed-lines traffic, as a result of the gradual stabilization of the subscribers' base and uses favoured by the refocusing of offers around the flat-rate, and strengthening of proposed abundance in the new home fixed-lines. Fixed-line telephone segment not seems to seduce new entrants because of an inevitable decline of the sector growth and subsequently low potential of value creation. This poor quality of service leads to the declining of ARPU⁴².

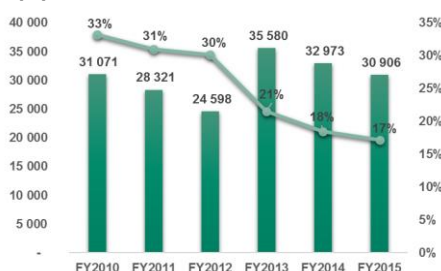
For the next years, since there is no incentive to invest and try to turnaround this segment, aligned with the appearance of other segments more favourable such as mobile money, we forecast that the fixed line subscriptions and the ARPU will continue to decrease. Therefore, we expect a slowdown decline in the fixed line revenues.

In terms of interconnection, the three operators have their own infrastructure and direct access to its customers. There is a balanced interconnection where each

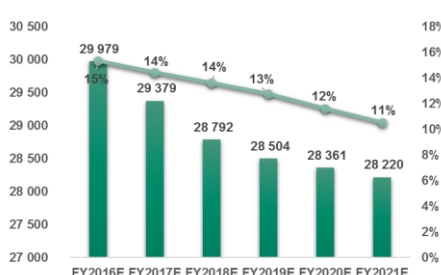
⁴⁰ Unlike the developed countries, where fix and mobile services serve as a complementary service, in countries like Senegal, both services offer similar prices. Moreover, the installation of the mobile network is easier and the functionality in areas where the assess of fixed lines is weak or non-existent will define the customer's preferences.

⁴¹ Minutes of Usage

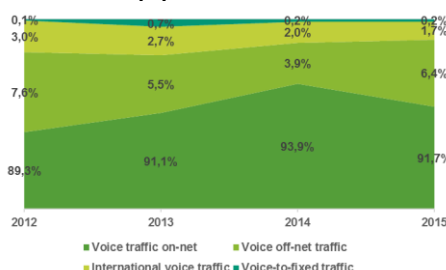
⁴² Average Revenue Per User

Exhibit 44 – Fixed and Interconnection Revenues(XOFm) (left-side), yoy growth (%) (right-side)

Source: Company's reports

Exhibit 45 – Forecast Fixed and Interconnection revenues (XOFm) (left-side), yoy growth (%) (right-side)

Source: Analyst estimates

Exhibit 46 – Evolution of voice traffic by destination (%)

operator can terminate⁴³ its customer's calls in its own network⁴⁴ and its competitors'⁴⁵ network. The main goal of the Senegalese regulator is to avoid price distinction between on-net calls and off-net ones for the purpose of increasing the development of the market and providing a balance among competitors. ARTP is implementing a new tariff⁴⁶ in order to impose a symmetry in the interconnection pricing between on-net calls and those off net⁴⁷.

Each operator offers regular and aggressive promotions, where Tigo was the leader, until the entrance of Espresso, and Orange behave as a follower on some products and services. When Tigo launched « Tawfeh one day », Orange launched a new offer service such as « Illimix S'cool (day) ». These promotional offers allow each operator to maintain its market share and increase its on-net traffic. The supremacy of on-net traffic over the off-net one will benefit the operator leader, in this case Sonatel, which can increase its overall domination of the sector. As the operators are in direct competition, this type of interconnection makes them much closer in terms of QoS⁴⁸. Furthermore, to benefit from promotional offers of operators and poor regulation of interconnection, the Senegalese consumers have adopted the multi-SIM phenomenon⁴⁹. This type of consumer behaviour reflects the failure of the regulator to effectively stipulate a good interconnection between mobile operators.

The inflowing international traffic registered a decrease with the development of alternative channels augmented by the Over-the-Top phenomenon⁵⁰. In contrast, the outflowing national traffic recorded a sharp increase resulting by ultra-abundant actions of competitors.

Exhibit 47 – Offer services from the players within the Senegalese market (XOF)

	Sonatel Illmix S'Cool (day)	Tigo Tawfehk one day	Espresso Chrono 24
Voice	60mins (CUG)	2hrs	2hrs
SMS	Unlimited (CUG)	240	200
Data	50	300	2hrs
Cost (XOF)	490	600	590

Source: Deutsche bank

⁴³ On this termination or interconnection market, whenever an operator wants to convey and / or end the call from a client to another one from another network, he must pay a transit and / or termination charge of fare.

⁴⁴ Definition of on-net calls

⁴⁵ Definition of off-net calls

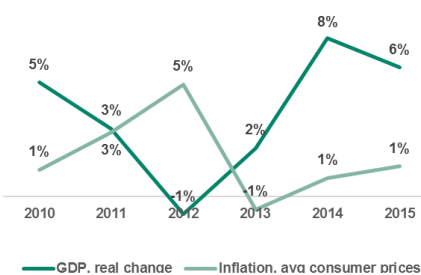
⁴⁶ It is important to note that each operator has a full power termination on its network, therefore, we note that in this type of market we are in a monopolistic competition.

⁴⁷ For example, if Orange made 50 to 100% rebates on all charges with prepaid cards, Tigo is unlimited calls to favourite numbers and / or discounted rates for calls to customers on the same network. As for Espresso, it offers bonus between 100 and 200%. The Exhibit 46 shows the decrease of on-net calls in 2015, showing some evidence of the regulator to oppose to the "club effect".

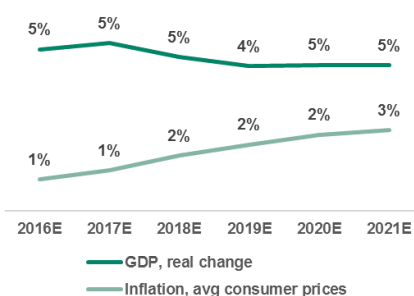
⁴⁸ Quality of Service

⁴⁹ At least one SIM card from each operator

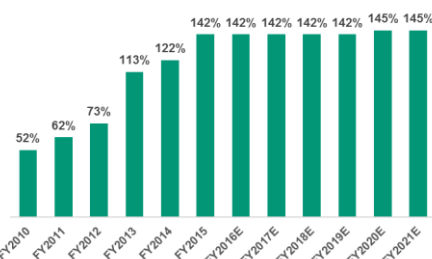
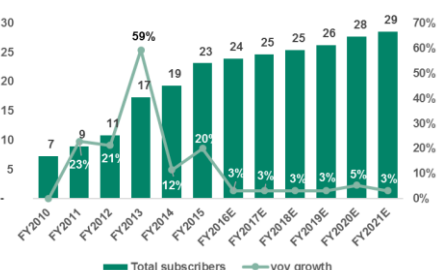
⁵⁰ Third parties providing instant messaging services as an alternative to text messaging services provided by a mobile network operator, particularly WhatsApp and Skype

**Exhibit 48 – GDP, real change (%),
Inflation, average consumer prices (%)**

Source: International Monetary Fund

**Exhibit 49 – Forecast GDP, real change
(%) and Inflation, average consumer
prices (%)**

Source: International Monetary Fund

Exhibit 50 – Penetration rates (%)Source: Analyst estimates
estimates**Exhibit 51 – Total subscribers (m) (left-
side), yoy growth (%),**Source: Company's reports, analyst
estimates

The International Segment

Mali

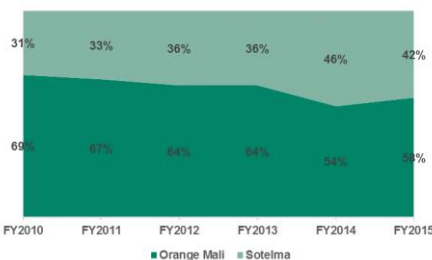
Mali's economic growth has been affected by several external shocks. the country's real GDP growth rate was around 6% over the last years (**Exhibit 48**), fuelled by the rapid growth in labour supply, coupled with tertiary sector development. The GDP structure has remained relatively strong since the 1990's with the primary and tertiary sectors⁵¹, each contributing 35% and 40%, respectively to GDP. In contrast, economic growth often diverges from this constant state trajectory as a result of climate, political, and price impacts. Following the financial crisis, security and political instability generated wide domestic fluctuations, in particular a keen drop in GDP growth as a result of infrastructure destruction, population outflows, interruption of economic activities, and a crash in aid and tourism. The alleviation of security tensions and the progressive recovery of constitutional order in 2013 allowed a revive aid.

As in **Exhibit 49** Mali's economy is forecasted to grow by around 5% a year in the coming years, regressing to normality and showing a progressive recuperation after the recent push from international support. It is expected that all economic sectors to contribute to growth, especially the tertiary sector, including telecommunications, which is creating positive impacts in Mali's economy⁵². Although Mali's favourable economic outlook, it must be taken into consideration the downside risks. The most critical are the termination of the peace agreement and the reappearance of insecurity throughout the country, corruption, climate shocks, and the price drop from the two major export products of Mali, gold and cotton.

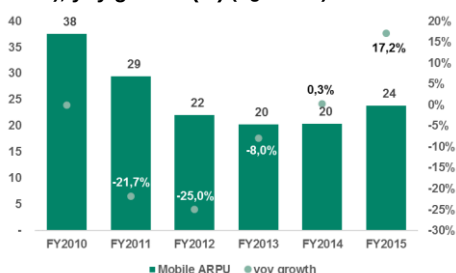
In Mali, the downward trend in the growth of subscriber bases is due to execution of client compliance development work over identification criteria required by the Authority (**Exhibit 51**). However, the penetration rates are being able to increase (**Exhibit 50**) reaching 142% in 2015 following a tendency of the Sub-Saharan region.

Moreover, Orange Mali has been able to improve its market share volume. The decline in ARPU until 2014 results from the increase of subscribers' base scope by welcoming customers of lower contribution, resulted by the effects of abundance promotions in the level of free and lower average price invoices uses. However, the ARPU is showing a turnaround and growing in the last two years.

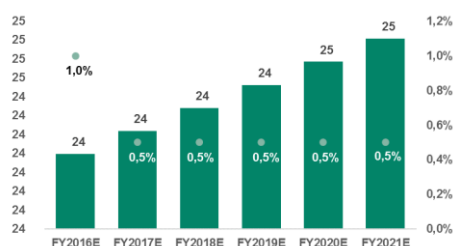
⁵¹ Namely trade, transport and communications⁵² According to Telecom Advising Services, LLC, the telecommunications sector contributes more than 5% for total GDP and it is proved that the increase of penetration rates results in an increase of GDP

Exhibit 52 – Mali market-share (%)

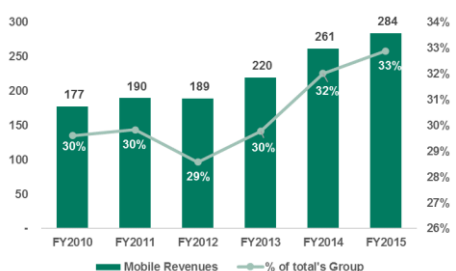
Source: Company's reports

Exhibit 53 – Mobile ARPU (XOFbn) (left-side), yoy growth (%) (right-side)

Source: Company's reports

Exhibit 54 – Forecast Mobile ARPU (XOFbn) (left-side), yoy growth (%) (right-side)

Source: Company's reports

Exhibit 55 – Mobile Revenues (XOFbn) (left-side), Representation in total's Group (%) (right-side)

Source: Company's reports

The volume of incoming international traffic dropped, impacted by the development of the use of Over-The-Top and SIMBOX fraud⁵³. The growth of mobile Internet use continues favoured by the expansion of 3G network coverage.

The mobile subscribers' base has experienced a decline of sim cards in 2015 following to the identification requirements of subscribers and the induced effects of the acquisitions promotions over the pace of recruiting new subscribers. However, the penetration rate of mobile market continues to show good results reaching 142% in 2015. Orange Mali is the market leader in a less competitive environment with only two players presently⁵⁴ with a subscriber market share of 57.9%, against its only competitor SOTELMA⁵⁵⁵⁶, and the company accounted a mobile subscribers' base of around 11.9 million prepaid active customers (representing 99.9%). The main uses are mobile voice and SMS, but mobile data usage and high debit mobile have been developed correlatively to the further expansion of 3G coverage. The broadband internet subscribers' base users of 3G keys, WiMAX⁵⁷ and flyboy⁵⁸ account over 167,000 subscribers at the end of 2015, thanks to the increased of VPN access to banks and multi-sites institutions.

The development of mobile Internet offers with the expansion of 3G coverage and the volume of outgoing traffic of subscribers of Orange Mali could explain this growth. The national incoming traffic is also experiencing an increase reflecting the level of the very aggressive offers from competitors. International incoming traffic of Orange Mali is experiencing a decrease due to the development of alternative ways of vulgarization of Over-The-Top solutions favoured by the penetration of smartphones and 3G.

We expect a slower but still high penetration rate in Mali for 2016 accounting with 133% and we foresee that penetration will continue increase until 2021, reaching 145%. We predict the entrance of another operator over the next 24 months, resulting in about 2.9% lost in market share for Sonatel in 2021. ARPUs should remain fairly stable over the next half decade as the recent subscriber registration exercise introduced by the Malian telecom regulator led to a clean-up of non-active Orange Mali subscribers, resulting in an increase in revenues within the next years.

⁵³ Calls made via the internet are sent to Simboxes (machines that house SIM cards) which redirect this illegal VoIP traffic into mobile networks.

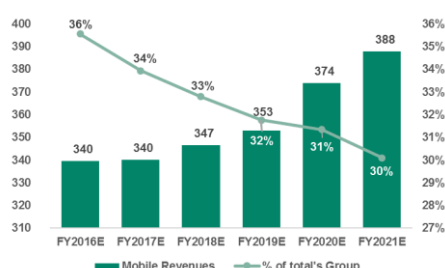
⁵⁴ Versus three in Senegal, four in Guinea Conakry and three in Guinea-Bissau.

⁵⁵ Maroc Telecom subsidiary

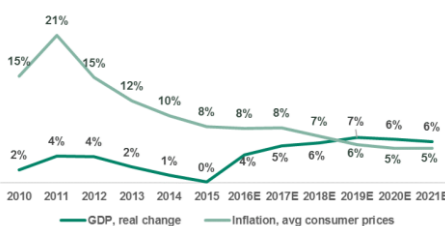
⁵⁶ A new entrant, Alpha Telecom (Atel) obtained the third licence in Mali at the end of 2012 and has since failed to officially launch its services in Mali as it has suffered from numerous delays, mainly due to financing issues.

⁵⁷ It is similar to wi-fi standards, but adds more recent knowledge and resources for better communication performance, allowing speeds greater than 1Gbit/s.

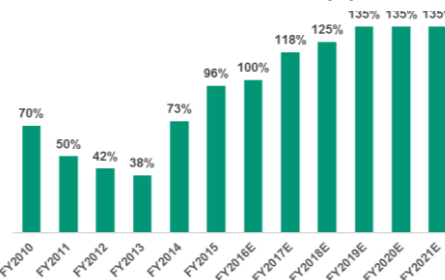
⁵⁸ Flybox transforms the 4G network to connect devices to the internet via WiFi or an Ethernet cable. It requires a sim card

Exhibit 56 – Mobile Revenues (XOFbn) (left-side), Representation in total's Group (%) (right-side)

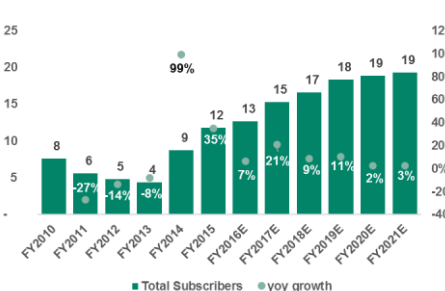
Source: Company's reports

Exhibit 57 – GDP, real change (%), Inflation, average consumer prices (%)

Source: International Monetary Fund

Exhibit 58 – Penetration rates (%)

Source: Company's reports, analyst estimates

Exhibit 59 – Total Subscribers (m) (left-side), yoy growth (%) (right-side)

Source: Company's reports, analyst estimates

As mentioned earlier, Orange Mali benefits from the fact that Mali is effectively a duopoly. Although Alpha Telecom obtained a licence to operate in Mali since 2012, it only started to build its network in 2014 and until now has failed to officially launch its activities. Recent news also indicated that the Malian government is looking to issue a fourth licence as they are getting increasingly frustrated with the continued delays in Alpha Telecom launching⁵⁹ in Mali. Furthermore, Sotelma is unlikely to start a price war, as its parent company, Maroc Telecom, is very mindful of its margins and its strategy has never been to compete on pricing.

Guinea

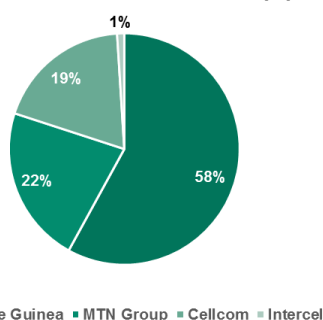
Guinea is still recovering from the impacts of Ebola and low commodity prices that negatively affected its economy in 2014 and 2015. After stagnating in 2015, it is expected GDP growth over the next years, increasing from 4% in 2016 to 6% in 2021. This GDP growth is due to a projected increase not only in the bauxite and gold production, but also in the agricultural sector. The secondary and tertiary sectors continue to stagnate in the aftermath of Ebola. The IMF review was successfully concluded in September 2016 (a first in the country's history), emphasizing the country's return to good management and observing an improvement in revenue flows, reflected by policy measures and associated with a reduction in expenses⁶⁰.

Guinea is a country full of potential for Sonatel as mobile penetration is relatively low (96%). Guinea does not have a common central bank and currency⁶¹ as the other countries where Sonatel is present, which makes certain transactions such as cross border money transfers more difficult to manage. The uptake potential is still strong and it should be taken into consideration the exchange rates. However, Orange Guinea is the leading operator in Guinea with a 58% subscriber market share. The mobile subscribers' from Orange Guinea has transcended the 5.2 million active customers through strong business momentum, despite a hiring pace impacted by constraints related to the subscribers' identification and the device to fight against the SIMBOX fraud. Orange Guinea managed to become the market leader ahead of MTN Group thanks to investment in its network and expanded coverage. In fact, Orange Guinea is the only telco whose 2G network

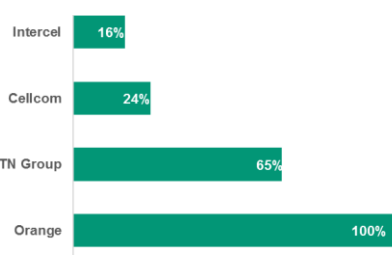
⁵⁹ We do not expect the upcoming launch of Alpha Telecom to have a major impact on the telecom market in Mali as it is not backed by an international group such as MTN or Bharti. In fact, Alpha Telecom has had financing issues in the past and in our opinion does not have enough financial backing to be aggressive on the pricing side.

⁶⁰ According to a World Bank and IMF Debt Sustainability Analysis (DSA) from 2015, Guinea continues to be assessed at a moderate risk of debt distress. The moderate rating is based on Guinea's vulnerability to adverse shocks to growth, exports, FDI inflows, fiscal performance, and delays in the implementation of mining projects. The World Bank and IMF teams are working closely with authorities to ensure that all new loans in 2016 and onward are contracted with a high degree of concessional and a strong development impact.

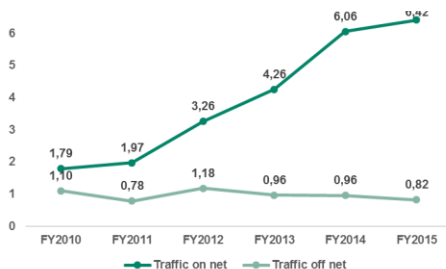
⁶¹ The currency is the GNF (Guinea Franc) issued by the local Central Bank of Guinea

Exhibit 60 – Guinea market-share (%)

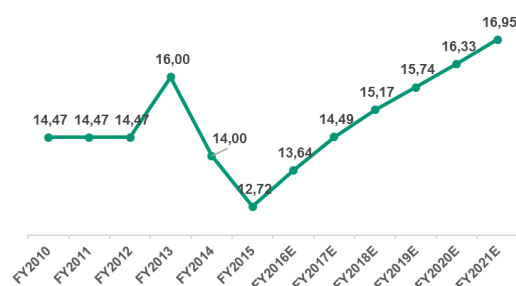
Source: ARTP Guinea

Exhibit 61 – Rate of coverage (2G&3G) of prefecture and sub-prefecture centers per operator (%)

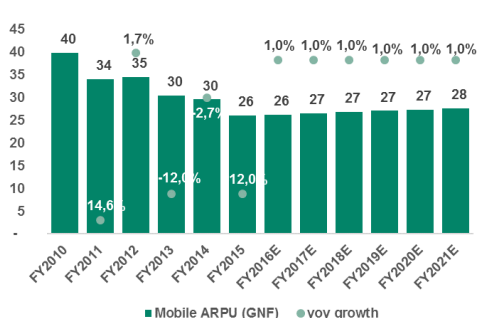
Source: ARTP Guinea

Exhibit 62 – Breakdown of distribution of traffic (m)

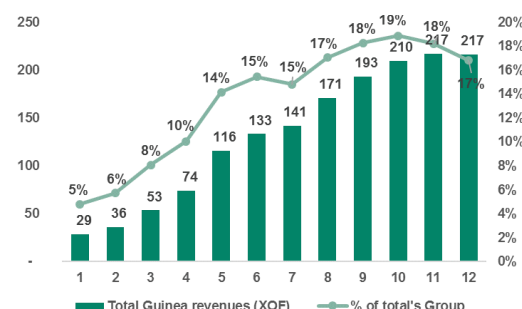
Source: ARTP Guinea

Exhibit 63 – Exchange Rate XOF/GNF

Source: Analyst estimates

Exhibit 64 – Mobile ARPU (GNFbn) (left-side), yoy growth (%) (right-side)

Source: Company's reports, Analyst estimates

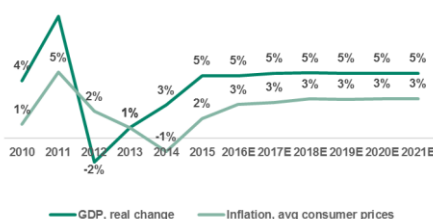
Exhibit 65 – Mobile Revenues (XOFbn) (left-side), Representation in total's Group (%) (right-side)

Source: Company's reports, Analyst estimates

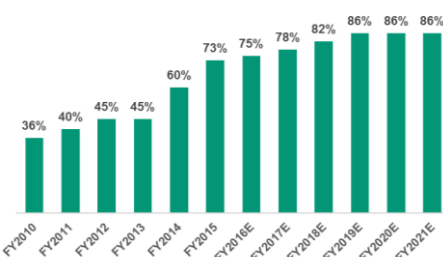
⁶² When consumers tend to have a preference for a network with a large pool of subscribers in order to benefit from the possibility to call and be called at a lesser calling price by the largest possible number of subscribers.

⁶³ The exchange rate for each year was predicted, being the exchange rate of Year_{n-1} the base and then multiplying the differential of inflations between Senegal and Guinea.

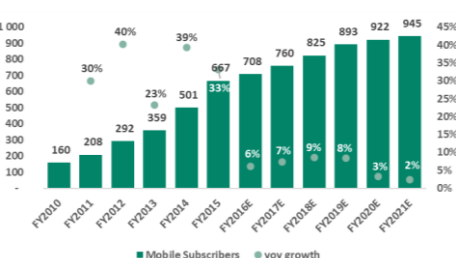
Guinea-Bissau

Exhibit 66 – GDP, real change (%) and Inflation, average consumer prices (%)

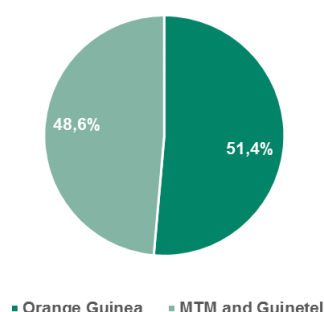
Source: International Monetary Fund

Exhibit 67 – Penetration Rates (%)

Source: Company's reports, analyst estimates

Exhibit 68 – Mobile Subscribers (thousands) (left-side), yoy growth (%) (right side)

Source: Company's reports, analyst estimates

Exhibit 69 – Bissau market-share (%)

Source: ARN, Guinea-Bissau regulator

The graph from the left clearly demonstrates the fragility of Guinea-Bissau's economy, where funded projects were suspended and inabilities in public expenses were causing some volatility within the country's performance until 2014. However, it is noted an increase of the economy from that date, given the consolidation in central government operations in response to the suspension of grants. Following a real GDP growth change of 4.7% in 2015, GDP growth is expected to be around 5% in the coming years. Inflation is expected to slightly increase to around 3% with the pace of economic activities. The budgetary situation is still tensed due to the political instability and the suspension of budget support.

Penetration rates are lower than the other countries where Sonatel is present, mainly because the mobile market in Guinea Bissau has experienced relative stagnation in the number of sim cards. The constraints related to subscribers' identification measures have an influence on the rate of recruitment of new subscribers. At the same time, the penetration rate of mobile is still relatively stable at around 73%, For the next years it is expected that penetration rates will grow faster than other Sonatel's subsidiaries, as a consequence of the launch of the 4G⁶⁴ and of the improvement of the QoS.

Despite the smaller penetration rates, the total mobile subscriber has been growing to around 667,000 subscribers, which corresponds to an impressive CAGR of 33.04% (between 2010 and 2015). Moreover, Orange Bissau was able to reconquer its leadership, with a market share estimated at the end of 2015 of 51.4%, corresponding to a more than 600 thousand subscribers' base in late 2015. Although slowed, the identification constraints of subscribers enable Orange Bissau to rebuild its market share. Orange Bissau does not have great impact in Sonatel's revenues, since it only contributes with 2% in total revenues and the importance will remain the same over the next years.

The downward decline in ARPU is continuing in 2015 as a result of the company trying to reach a subscriber base by welcoming lower contribution customers and by the effects of multiple promotions on the decrease of average price invoices. The outgoing traffic for Orange Bissau subscribers has experienced a sharp increase, given the growth of the subscribers' base to promotional offers made to customers during weekends. Furthermore, the positive development refill levels carried by heavy promotions result in an increase of use with direct repercussions on the traffic evolution. The international outgoing mobile traffic

⁶⁴ Orange Bissau, in late 2015, was the first country within the Sonatel subsidiaries with the 4G launched.

decreased by the readjustment of international outgoing tariff to certain destinations.

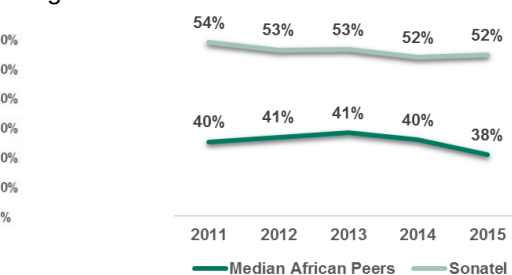
Expenses

Costs and Margins

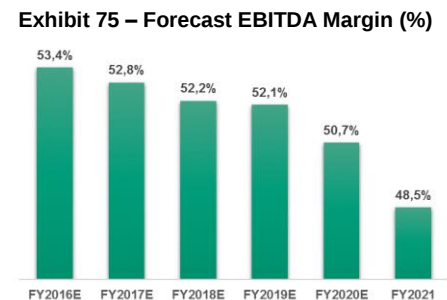
Despite the competitive environment, the group's operating expenses have been stable over the last 5 years. This solid performance is carried respectively according to their relative weight by staff costs. Sonatel Group continues to increase personnel within its company and, from the **Exhibit 72**, one can see the proportional increase of staff cost and number of employees except in 2015, where the company decrease its costs. As it can be seen from the **Exhibit 73**, the operating expenditures of Sonatel have been stable. This means that the company is being able to access networks and inter-operators efficiently. The main expenses are international terminations, pay-outs for roaming, expenses of national call termination, rental expenses and charges recorded by networks.

Sonatel should be able to maintain its high margins over the next five years as the company will focus on cost efficiency. The **Exhibit 74** shows the attractiveness of the EBITDA margins of the company over its competitors⁶⁵, which is impressive. The company has been able to keep its margins high relative to other telco players in SSA due to the following reasons: (i) The company is a well-managed company with a particular focus on careful cost management, and (ii) it is able to keep its costs under control thanks to its cost rationalisation and cutting initiatives, such as using solar energy instead of diesel fuelled generators in rural areas as a source of energy for its base stations. We believe that EBITDA margins will diminish, not only because the inflation lead to prices to increase and the continuing ability from management to cut costs, but also because the Return on Invested Capital (ROIC) is much bigger than WACC (35% vs 10.5%) and probably the company could not handle this situation for a long time. **Exhibit 74 – EBITDA Margin (%)**

Exhibit 75 – Forecast EBITDA Margin (%)

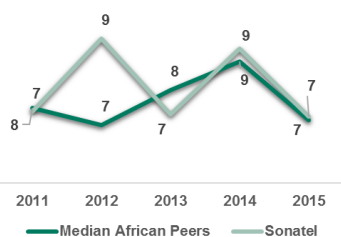


Source: Company's reports, Bloomberg

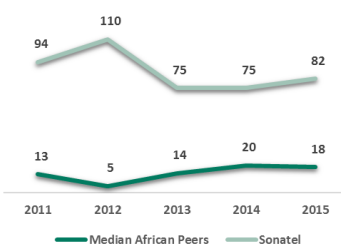


Source: Company's reports, Bloomberg

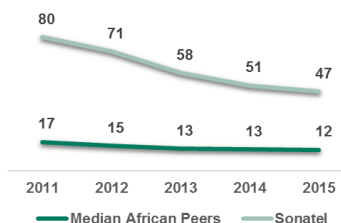
⁶⁵ The EBITDA margins from the comparables in the final year of 2015 were 37% to Vodacom (South Africa), 40% to MTN Group (South Africa), 42% to Safaricom (Kenya) and 36% for Econet (Zimbabwe)

Exhibit 76 – Industry comparison - inventories turnover (days)

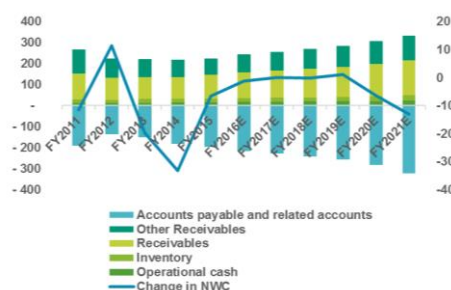
Source: Company's reports, analyst estimates

Exhibit 77 – Industry comparison - payable period (days)

Source: Company's reports, Bloomberg

Exhibit 78 – Industry comparison - receivable period (days)

Source: Company's reports, Bloomberg

Exhibit 79 – Net Working Capital (XOFbn) (left-side), Change in net working capital (XOFbn) (right-side)

Invested Capital

Net working Capital

The net working capital (NWC) is the cash used for the daily basis of Sonatel's business. The Sonatel's NWC is composed by, from the assets side, inventory, receivables and other related accounts and operating cash, whereas from the liabilities side, accounts payable and other related accounts.

The biggest challenge is the lack of information for each item, but over the last years one can see the ability of the company to generate cash. The days in inventory period is aligned with its peers and we expect that it will continue for the next years, given the stability of the inflation and of the exchange rate, as is it not expected that Sonatel will have any surprise in future purchases⁶⁶. The company is being able to improve the receivable period⁶⁷, whereas its comparables' performance remained stable. This could be explained by the fact that Sonatel has a big percentage of prepaid cards, which means that the company is able to receive the payments before the customer's use. This type of service is an advantage rather than having contract's, since the latter has the possibility of their clients not paying the services used and creating some issues to the company in collecting cash. Other important component is the accounts payables period, where the company is showing results much higher than its peers.

We forecast that Sonatel could manage and guarantee both receivable period and accounts payable period within the future, given the revenue growth and the dominate position in the market. Regarding net working capital, the company is being capable to be efficient and we foresee a profoundly stable company in the following years. The NWC evolution over the last 5 years along with our forecast is shown on **Exhibit 79**.

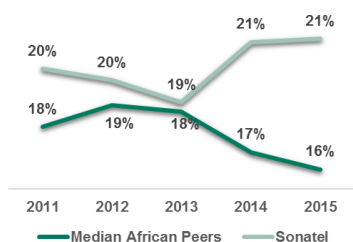
Capital Expenditures

Investment is demanding for mobile operators in Africa because telecoms need to adapt for the fast growth on mobile usage, so it needs to increase the network capacity in order to satisfy its needs. The fewer competitive infrastructures will makes it more challenging in emerging markets to deliver their own services.

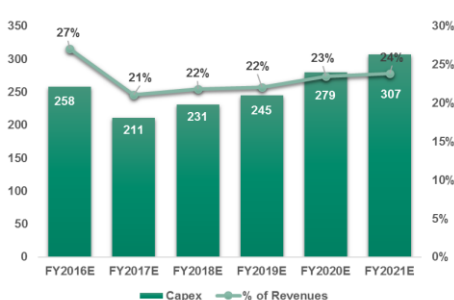
Source: Analyst's estimates

⁶⁶ Despite the different currency in Guinea, the biggest challenge for the company is to be able to manage its inventories as a whole

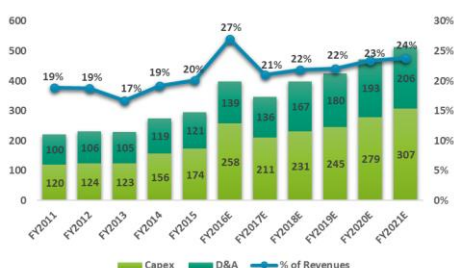
⁶⁷ The receivable period decreased around 30 days since 2010

Exhibit 80 – Industry comparison - CAPEX/revenues (%)

Source: Company's reports, bloomberg

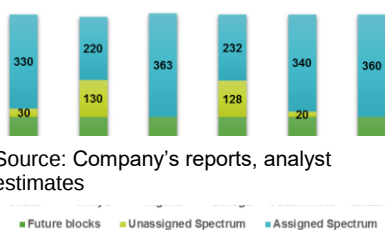
Exhibit 81 – Capex (XOFbn) (left-side), % of total Revenues (%) (right-side)

Source: Company's reports, bloomberg

Exhibit 82 – Capex and D&A (XOFbn) (left-side), % of total Revenues (%) (right-side)

Source: Company's reports, bloomberg

Spectrum

Exhibit 83 – Quantity of spectrum assigned to IMT mobile services in Sub-Saharan African countries (number of MHz)

Source: Company's reports, analyst estimates

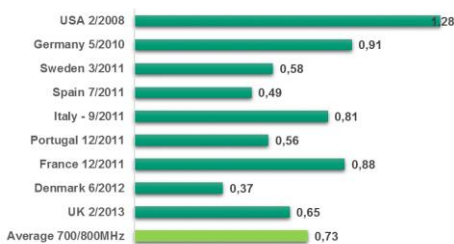
Source: GSMA

As we can see from the **Exhibit 80**, the average of the consolidated⁶⁸ Sonatel's capital expenditures (capex) over the last 5 years is around 20% of revenues. The company is showing an uptrend of its capital expenditures from 2013, against its peers, focusing on the mobile access network in Senegal with the acceleration of the RAN RENEWAL project, the renewal of mobile access network and transmission in Mali, the acquisition of the license 3G / 4G in Bissau, and the continued investment on the invoice collection and the data centre in Senegal.

The networks investments realized were done on essentially in the Ran Renewal project by upgrading the mobile network access with the latest generation of equipment facilitating the deployment of 3G ready to support the LTE and manage the BTS, BSC, LTE obsolescence. Other actions focused on improving the QoS, the mobile switching and the 2G densification with continued deployment in rural and the compliance with the coverage requirements (roads, etc.) derived from measurements made by the regulator. The gradual replacement of 2G equipment by those of 3G / LTE and acceleration of mobile broadband coverage to settle the issue of ineligibility of ADSL have continued within the overall framework of the all-IP network transformation. Outside networks investments were concerned with the construction of the data centre and archive centre, land and buildings acquisition, rehabilitation projects of information systems and vehicles.

We foresee a slightly increase in capex in 2016 (from 20% to 27% of total revenues), resulting from the implementation of mobile services in its subsidiaries along with the construction of new infrastructures in order to reach the remote areas. We also expected that the capex intensity will persist between 21% and 24% of total revenues for the next years, given the launch of the 4G in Senegal and Mali, the spectrum release and the growth prospectus within these markets.

⁶⁸ Capital expenditures in Senegal, Mali, Guinea and Guinea-Bissau.

Exhibit 84 – 700/800MHz auction prices paid per MHz per capital (USD)


Source: Coleago consulting report

realistic pricing levels for spectrum. Reciprocally, access to more spectrum helps telecoms to gain economies of scale, reducing the cost of carrying each unit of traffic. With demand for widely available and high-quality mobile services, the mobile industry needs access to a mixture of low frequency and high frequency spectrum.

In Senegal, Sonatel, Tigo and Expresso stayed out of the first auction process (performed in 2015) claiming the spectrum was too expensive at the initial reserve price of XOF30bn⁶⁹ for a 20-year licence for spectrum in the 700 and 1800 MHz frequency bands and no spectrum reframing. The regulator ARTP will auction the 700 MHz spectrum separately, which will be an additional cost to Sonatel and the other operators Tigo and Expresso. Once the digital switchover is complete, the whole bandwidth 2×30 MHz will be available to be assigned to 4G networks. Ideally, Senegal should also use the internationally harmonised 800 MHz frequency band to extend mobile broadband coverage, but this band is partially occupied by CDMA operators. As a result, only 2×20 MHz of spectrum in the 800 MHz band is available to be assigned for 4G services.

Exhibit 85 – Current comparables EV/EBITDA and P/E multiples

	EV/EBITDA	P/E
MTN Group	6,50x	18,93x
Vodacom	8,09x	17,26x
Safaricom	7,86x	17,39x
Econet	1,84x	14,01x
Telkom	7,23x	20,98x
	6,30x	17,71x

Source: Bloomberg

M&A – Airtel SL Acquisition

After almost a decade since it last entered a new market, Sonatel, together with Orange Group, added Sierra Leone (SL) to its portfolio, acquiring 100% of the mobile operator Airtel SL⁷⁰, the leading mobile operator in Sierra Leone with over 1.3 million customers and a total population of 6.3 million people in one of SSA's most underserved, underinvested and uncompetitive markets.

This presents an opportunity to Sonatel and justify the 7.9x EBITDA⁷² (25% premium to SSA peers⁷³) paid for the asset, since Sierra Leone offers considerable growth potential, particularly at a time when significant investments are underway to extend the operator's 3G network⁷⁴, and Sonatel will grow Orange SL's EBITDA at a higher rate than what the market expects for peers and what Airtel was capable of achieving. **Exhibit 86** shows the stock reaction after the release: the stock was in a downtrend reaching XOF22,00 and after the announcement of the acquisition the stock went up to 22,700 in one day.

Exhibit 86 – Stock reaction after the announcement (XOF)


Source: Bloomberg

⁶⁹ According to the Exhibit 84, for the spectrum release (700MHz), assuming the population given by the World Bank in 2016 (15.4m) and assuming the exchange rate of USDXOF at the date of the announcement (31st October 2016) of (1USD=604.55XOF) the value of the auction should be around 20.1bn.

⁷⁰ Airtel SL was a subsidiary of Bharti Airtel, an Indian telecom company with operations in Africa

⁷¹ Likely to be renamed 'Orange SL'.

⁷² The only information available was the price paid and the EV/EBITDA multiple, so we were unable to incorporate the Sierra Leone business together with the others subsidiaries

⁷³ Seems more expensive given that SSA peers currently trade at 6.3x as it is shown in Exhibit 85,

⁷⁴ This network, which already offers good coverage in Freetown and other major towns in Sierra Leone, is set to provide internet access to customers living outside major urban areas

The investments planned in the coming years will enable customers in Sierra Leone to benefit from the support of the Sonatel group and take advantage of the Orange group's expertise and momentum in terms of innovation and development of the digital ecosystem. Utilising Orange's economies of scale in equipment procurement, we anticipate Sonatel will invest in lowering transmission costs (energy and backhaul) especially for data which will be crucial to winning market share. We also expect Sonatel to tackle high energy costs by investing in solar and diesel-hybrid power generators for their base stations. Building on the lower cost base, we see Sonatel deploying rapid penetration strategies, especially for their mobile data offerings. The introduction of competitive packages and promotions, low cost feature phones sourced through Orange procurement, accompanied by marketing campaigns targeting the broader base of speed/price trade-offs will be necessary to winning over subscribers who are mostly price-sensitive. Given that mobile broadband penetration is still low⁷⁵, we believe a large segment of Sierra Leone's population will find Sonatel's overall services as highly appealing.

Sonatel acquired Airtel's Sierra Leone asset shortly after the Leone lost 28% against the XOF⁷⁶ (**Exhibit 87**). Given that we saw the decline as a result of policy concerns ahead of the general elections in 2017, the existence of a post-Ebola recovery and an ongoing FDI into the mining and agricultural sectors will cause a positive effect on the Sierra Leone currency in the near future.

If this acquisition of Sonatel succeeds in implementing the aforementioned strategy and achieving the success that it has in other subsidiaries, then the company will be encouraged to future M&A deals within the future.

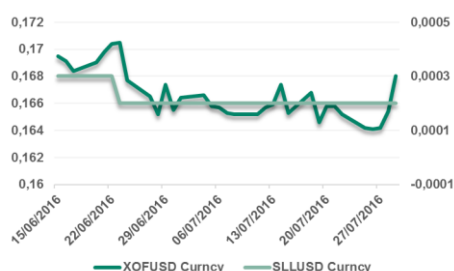
Capital Structure and Cost of Capital

Target D/E

The financial structure of Sonatel is more leverage than its comparable (**Exhibit 88**). For the final year of 2015, the debt-to-equity ratio in book values of the company was 39% against a median of comparable of 22%⁷⁷.

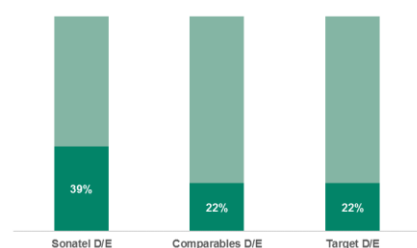
When analysing the target debt-to-equity, we believe that current Sonatel's capital structure is exaggerated and within the future, the company will reduce its leverage. The reasons behind this view are the fact that Sonatel has its operations very stable in a context with a favourable economic outlook⁷⁸.

Exhibit 87 – XOFUSD currency vs. SLLUSD currency



Source: Bloomberg

Exhibit 88 – Capital Structure (%)



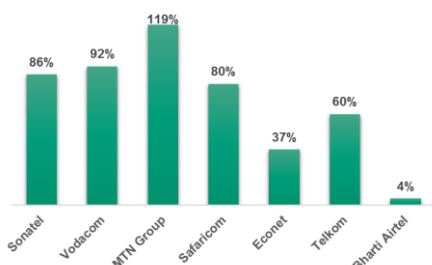
Source: Analyst estimates

⁷⁵ 10% vs. 22% for SSA

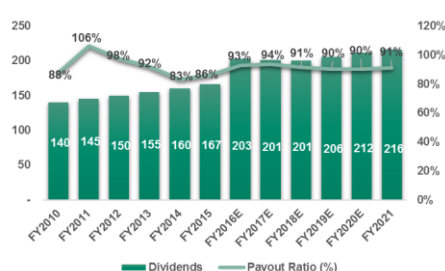
⁷⁶ 30% against the USD to SLL5,494

⁷⁷ This corresponds approximately to 21.3% [Debt/(Debt+Equity)] and 78.7% [Equity/(Debt+Equity)] for Sonatel.

⁷⁸ The Senegalese government is committed to reduce debt ratios over the medium term

Exhibit 89 – Dividend payout ratio, 2015 (%)

Source: Analyst estimates, Bloomberg

Exhibit 90 – Dividends paid (XOFbn) (left-side), payout ratio (%) (right-side)

Source: Analyst estimates

Moreover, the company would seek an optimal Debt-to-Equity ratio as a result of reducing its cost of capital. Also, although the increase of Capex, the company is still able to fund its needs with a lighter capital structure. Since the company is highly leveraged, the company could use the excess cash to pay its debt in order to decrease its leverage. We believe this target will converge to the average of its comparables and we consider a capital structure of 22% debt-to-equity ratio.

In terms of dividends, Sonatel has been delivering very promising dividends to its shareholders, when comparing with its peers (**Exhibit 89**). In 2015, the dividend pay-out ratio was close to 86%. In the future we expect pay-out ratio will increase its levels. We believe that it is preferable from the strategically point of view to deliver dividends rather than to keep the cash within the company because this latter situation could complicate matters with its shareholders. **Exhibit 90** shows historic and forecasted dividends along with the historic attractive dividend yield expected to continue increasing in the next years, reaching values around 8%.

Cost of Capital

For the computation of the cost of capital, it was used the Weighted Average Cost of Capital (WACC) approach. Moreover, our analysis should take in consideration the emerging market nature of Sonatel's operations.

Exhibit 91 – Sonatel's Cost of Capital

WACC	
Cost of Equity	11,28%
risk free-rate	1,69%
Market Risk Premium	6,18%
Beta Unlevered	0,75
Beta Relevered	0,86
Country Risk Premium	4,27%
Risk-free Proxy	1,69%
10y GOVT USA	2,09%
Inflation rate Senegal	1,60%
Inflation rate USA	2,00%
Cost of Debt (after-tax)	4,52%
Risk free-rate	1,69%
Rating-based Default Spread	5,05%
Tax Rate	33%
Capital Structure	
D/E	22,25%
D/(D+E)	18,20%
E/(D+E)	81,80%
WACC (after-tax)	10,05%

Source: Analyst estimates

In order to compute the cost of equity we used the CAPM⁷⁹ to get a proxy of this value. The first step was to calculate the risk-free-rate proxy. A risk-free rate on a 10-year US government bond was used, which corresponds to a yield of 2.09%. Then, we also took into account the inflation rates of both US and Senegal, being 2.00% and 1.60% respectively and we computed this risk-free rate proxy through an inflation differential⁸⁰. After that we calculated levered betas for comparable companies. The criteria to choose the peers was based on companies that provide similar services⁸¹ in Africa.

The **Appendix III** shows the peers used for the cost of capital, along with their estimation. After that, prices for the peers were withdrawn in USD⁸² in order to regress the respective returns against the MSCI ACWI Index⁸³. This index was chosen because we assume that an investor has a diversified portfolio between developed and emerging markets. Levered betas were obtained, being then unlevered using proxies of debt-to-equity ratios⁸⁴ and the local corporate taxes.

⁷⁹ Capital Asset Pricing Model

⁸⁰ The following expression was used: $Rf_{Senegal} = (1 + Rf_{US}) * (1 + \pi_{Senegal}) / (1 + \pi_{US})$

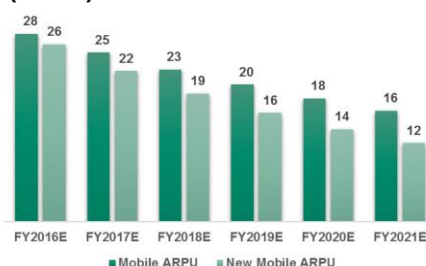
⁸¹ Fixed, mobile, internet and mobile-money

⁸² Since the currency of Senegal is pegged with the Euro, the choose of using prices in USD is to evaluate the operating leverage and the systematic risk of the business

⁸³ MSCI ACWI Index captures equity returns in 23 developed and 23 emerging markets

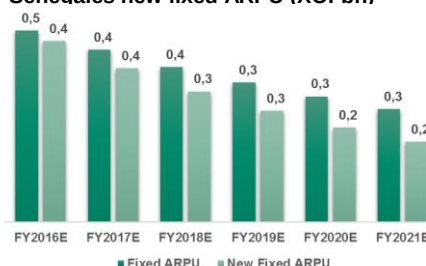
⁸⁴ Market cap and net debt, as a proxy to market value of debt.

Exhibit 92 – Senegalese mobile ARPU vs. Senegalese new mobile ARPU (XOFbn)



Source: Analyst estimates

Exhibit 93 – Senegalese fixed ARPU vs. Senegalese new fixed ARPU (XOFbn)



Source: Analyst estimates

Exhibit 94 – Target price (Scenario)

Current Price (XOF)	24300
Target Price	24087
Dividend Yield	7,5%
Total Return	6,1%
Recommendation	HOLD

Source: Analyst estimates

The average of the unlevered betas yielded an industry beta of 0.75. This beta was relevered to incorporate Sonatel's target capital structure of 22.25%.

The market risk premium was assumed 6.18%.⁸⁵ Moreover, we computed a country risk premium (CRP)⁸⁶ based on the difference between a 10-year dollar Senegalese bond in USD and a 10-year long term US government bond and the difference between inflations. Our CRP corresponds to 4.28%.

For the cost of debt (after-tax) computation, an indirect method was used because the company does not have publicly traded debt. We use the risk-free rate proxy already mentioned and the rating-based default spread⁸⁷ of 5.05%. Since the effective tax-rate of Sonatel is 33%, our final Cost of Debt (after-tax) is 5.12%.

Finally, the WACC was calculated, given the aforementioned values and the output was 10.05%.

Scenarios

As mentioned in our valuation, we have included in our model a scenario analysis in order to better consider the potential risks Sonatel could face in the future, given its emerging markets exposure, more likely to volatile events. The scenario that we consider was the increase of tariffs from the Senegalese government. The probability of this scenario is 15%, due to the knowledge of high returns that this latter entity receives from telecoms. In order to better understand the effects of this situation, a research was conducted on one of Sonatel's comparable, Econet Group, who went through this scenario in early 2015.

Senegalese Regulator increase tariffs

In most African countries with extensive informal sectors, governments are largely unable to collect income tax from informally employed individuals and informal businesses. In these countries, governments often use the telecommunication industry to collect taxes. Most informal business operators have access to a mobile phone for communication and financial transactions. The governments in these countries apply taxes to airtime, handsets as well as mobile money transactions, thereby reaching all mobile phone users.

Our revenue model for Sonatel is not driven by tariffs, but rather by ARPU. Nonetheless, adjusting tariffs will have a negative impact on ARPU (all else being

⁸⁵ According to the paper of Damodaram "Equity Risk Premiums (ERP): Determinations, Estimation and implications). For Damodaram:" the equity risk premium of stocks between 1928 and 2015 was 6.18%

⁸⁶ The incorporation of a CRP was taking into account the fact that Sonatel belongs to an emerging market category.

⁸⁷ According to Damodaram, it was used the Senegalese currency sovereign rating (B1) from the and it was estimated the default spread for that rating based upon traded country bonds over a default risk-free government bond rate.

equal) due to the decline in Voice Traffic. In other words, the decline in tariffs is no longer being compensated for the increase of volume traffic, creating a downward pressure on Sonatel's ability to grow revenues. We have therefore reduced our ARPU assumptions for FY2016 having a negative effect of -7.1% in mobile, and -20% in fixed and interconnection revenues. This decrease will last until 2021, reaching a change of -25% in mobile ARPU and around -33% in fixed ARPU.

We are not forecasting a decline in costs to match the decline in revenue, meaning that this will place a downward pressure on Sonatel's ability to grow profits, thus, we expect the EBITDA margins to come under pressure. Exhibit 92 and 93 illustrates how the negative outlook of this scenario will affect Sonatel's ARPU and Exhibit 94 shows the new target price.

Final Valuation Considerations

ROIC and Terminal Growth

The high-level of Return on Investment Capital (ROIC) between Sonatel and its peers, as illustrated in Exhibit 95, demonstrates the high growth of telecoms in this region. The ROIC of Sonatel accounts for 32% and it is aligned with its peers Vodacom and Safaricom (with 34% and 30%, respectively). Sonatel is common referred as the next Safaricom, which means that it is reasonable to assume that the company will be able to follow Safaricom's efficiency at allocating the capital under its control to profitable investments.

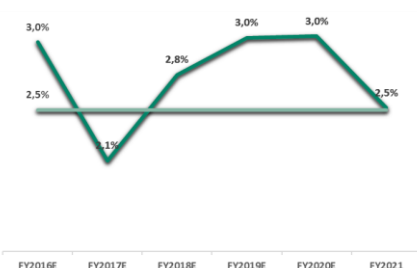
The growth rate for terminal values calculated for Sonatel's investment case was 2.5% and corresponds to the sustainable growth of Sonatel during the last year of forecast (2021). We do so, because the forecast of inflation for the next six years is around 1.2% and we believe that in the long-run, telecoms operating in African emerging markets still has plenty room to grow as several growth opportunities are identified in the markets Sonatel operates. Having said this, we consider our long-term growth rate forecast relatively conservative but we decide to perform a sensitivity analysis to this variable, as we will explain in the next chapter. The growth decreases in 2021 given the decrease of ROIC, which is tending to the WACC. The forecast of the company's sustainable growth along with its average is represented on Exhibit 96.

Exhibit 95 – ROIC of comparables (%)



Source: Analyst estimates, Bloomberg

Exhibit 96 – Sustainable growth estimates and its average (%)



Source: Analyst estimates

Sensitivity analysis

Since the growth rate is an important component of the terminal value (accounting for 67% of the enterprise value) we performed a growth rate and WACC sensitivity analysis (Exhibit 97). We see that the share price is naturally

more responsive to Growth rates comparative to the WACC. Notwithstanding, the optimistic scenario, where WACC and long-term growth rate at 9.05% and 3.76%, respectively, presents an upside potential of 52% in the share price while the downside scenario with a WACC and a growth rate of 11.55% and 0.51%, respectively, registers a -6% price loss.

Exhibit 97 – Sensitivity Analysis WACC vs Terminal Growth (%)

		WACC					
		9,05%	9,55%	10,05%	10,55%	11,05%	11,55%
Terminal Growth Rate	0,51%	23 666	22 367	21 204	20 157	19 209	18 348
	1,01%	24 809	23 370	22 090	20 944	19 912	18 978
	1,51%	26 105	24 498	23 079	21 817	20 688	19 671
	2,01%	27 584	25 775	24 192	22 793	21 550	20 436
	2,51%	29 290	27 235	25 452	23 891	22 513	21 287
	3,01%	31 278	28 917	26 891	25 134	23 595	22 237
	3,51%	33 626	30 879	28 551	26 554	24 822	23 305
	3,76%	34 967	31 986	29 480	27 342	25 498	23 890

Source: Analyst estimates

Multiples Valuation

Finally, we compute a relative valuation⁸⁸, using the median EV/EBITDA multiple and the median P/E multiple. The computed median EV/EBITDA multiple was 4.88x, and the median P/E multiple, 14.25x. These values compare with the 4.07x and 11.35x respectively from our valuation, showing that our implicit share price are within the same range between the EV/EBITDA and P/E. Moreover, we have also analysed the median transaction multiple in terms of EBITDA from sector, 5.84x. Being this multiple higher than our multiples EV/EBITDA confirms the premium paid over the value of companies on M&A deals. Despite the existence of this premium, we believe our relative valuation seems acceptable. **Exhibit 98** illustrates our relative valuation through multiples.

Exhibit 98 – Multiples valuation comparison

	EV/EBITDA	P/E	Transactions
Own	4,73x	11,35x	4,73x
Median	4,88x	14,25x	5,84x
Implicit SP	25 073 XOF	30 628 XOF	29 885 XOF
Difference	-1%	20%	17%

Source: Analyst estimates, Bloomberg

⁸⁸ Both EV/EBITDA multiple and P/E multiple were used the best estimate next year from bloomberg

Appendix I. Financial statements

Income Statement

(In million XOF)	FY2014	FY2015	FY2016E	FY2017E	FY2018E	FY2019E	FY2020E	FY2021E
Revenues	816 020	863 291	954 848	1 002 430	1 057 024	1 111 404	1 192 919	1 288 281
Consumed purchases	52 444	52 334	62 941	66 814	70 984	74 760	82 824	94 084
External services and other consumptions	280 122	308 334	330 439	350 775	372 665	392 488	434 828	493 940
Cost of Sales	332 566	360 668	393 380	417 589	443 648	467 247	517 652	588 023
Gross Profit	483 454	502 623	561 468	584 840	613 375	644 157	675 266	700 258
Staff Costs	76 908	74 119	82 117	86 209	90 904	95 581	102 591	110 761
Immobilized production	2 288	3 426	3 093	3 405	3 653	3 716	4 018	4 460
Other operating income	17 400	23 926	27 049	27 613	25 675	26 336	28 630	30 919
EBITDA	426 234	455 856	509 493	529 649	551 799	578 628	605 323	624 875
D&A	121 466	138 736	135 985	166 532	180 186	193 300	206 344	221 885
Recovery of Provisions	- 11 182	- 10 671	- 7 671	- 8 136	- 8 515	- 9 202	- 9 229	- 8 904
EBIT	315 950	327 791	381 178	371 253	380 128	394 530	408 209	411 894
Financial Income	8 900	11 522	3 301	3 554	3 793	4 121	4 289	4 160
Financial Expense	- 5 308	- 8 510	- 12 276	- 7 431	- 7 880	- 8 386	- 8 935	- 9 510
Net Finance Income	3 592	3 012	- 8 975	- 3 877	- 4 087	- 4 265	- 4 646	- 5 350
Non Operating Profit	226	- 1 811	- 1 811	- 1 811	- 1 811	- 1 811	- 1 811	- 1 811
Result before tax	319 768	328 992	370 393	365 565	374 229	388 454	401 751	404 733
Income Tax	101 553	107 902	122 230	120 636	123 496	128 190	132 578	133 562
Net result of the consolidated companies	218 215	221 090	248 163	244 928	250 734	260 264	269 173	271 171
Minority Share	26 224	27 829	31 237	30 830	31 560	32 760	33 881	34 133
Part of consolidated company	191 991	193 261	216 926	214 099	219 173	227 504	235 292	237 039

Balance Sheet

(In million XOF)	FY2014	FY2015	FY2016E	FY2017E	FY2018E	FY2019E	FY2020E	FY2021E
Assets								
Fixed Assets								
Intangible assets	28 536	31 150	35 466	34 418	33 665	32 870	32 684	33 376
Tangible assets	530 360	565 288	687 490	731 774	782 198	833 553	906 618	991 976
Financial assets	130 966	141 977	96 608	103 311	110 766	117 926	116 925	114 585
Total Fixed Assets	689 862	738 415	819 564	869 502	926 628	984 349	1 056 228	1 139 937
Current Assets								
Inventory	16 327	15 645	17 244	18 305	19 448	20 482	22 692	25 776
Receivables	105 589	114 983	122 953	129 080	136 110	143 112	153 609	165 888
Cash & Cash Equivalents	224 073	266 027	109 893	118 814	126 456	136 760	142 563	140 575
a) Excess cash	209 307	249 707	92 627	99 717	106 408	115 620	120 335	116 716
a) Operational cash	14 766	16 320	17 266	19 097	20 049	21 140	22 228	23 858
Other Receivables	82 044	77 995	86 329	90 631	95 567	100 483	107 853	116 475
Total Current Assets	428 033	474 650	336 419	356 829	377 580	400 838	426 716	448 714
Total Assets	1 117 895	1 213 065	1 155 982	1 226 332	1 304 209	1 385 187	1 482 944	1 588 651
Liabilities								
Non Current Liabilities								
Differed taxes	239	225	264	270	288	301	324	349
Loans and financial debts	2 922	2 191	16 738	14 395	12 491	11 120	11 513	13 755
Financial provisions for contingencies and charges	42 346	53 404	36 340	38 802	40 809	42 060	42 294	42 285
Bank Overdrafts	27 271	37 867	28 606	28 459	29 375	32 250	32 013	35 257
Total	72 778	93 687	81 949	81 926	82 963	85 731	86 144	91 646
Current liabilities								
Accounts payable and related accounts	182 606	195 411	215 551	228 816	243 095	256 026	283 645	322 205
Short-term Borrowing	207 489	231 727	119 171	131 603	143 798	154 451	167 014	173 748
Total	390 095	427 138	334 721	360 419	386 893	410 477	450 659	495 952
Total Liabilities	462 873	520 825	416 670	442 344	469 856	496 207	536 803	587 598
Equity								
Total Equity	655 022	692 240	739 312	783 987	834 352	888 980	946 141	1 001 053
Total Liabilities + Equity	1 117 895	1 213 065	1 155 982	1 226 332	1 304 209	1 385 187	1 482 944	1 588 651

Cash Flow Statement

(in million XOF)	FY2014	FY2015	FY2016E	FY2017E	FY2018E	FY2019E	FY2020E	FY2021E
EBIT	315 950	327 791	381 178	371 253	380 128	394 530	408 209	411 894
Adjusted taxes	-100 340	-107 508	-125 789	-122 513	-125 442	-130 195	-134 709	-135 925
+ D&A	121 466	138 736	135 985	166 532	180 186	193 300	206 344	221 885
Operational Gross CF	337 076	359 019	391 375	415 271	434 872	457 635	479 843	497 854
Capex	-156 062	-173 664	-258 187	-210 815	-230 610	-244 655	-279 409	-307 243
Change in NWC	33 204	6 588	1 292	- 56	219	- 1 114	6 456	12 943
Changes in Other Assets	- 1 588	- 13 625	41 054	- 5 655	- 6 702	- 6 365	1 186	1 649
Change in Other Liabilities	1 685	11 044	- 17 025	2 468	2 026	1 264	256	17
Operational Investing CF	-122 761	-169 657	-232 867	-214 059	-235 067	-250 871	-271 510	-292 634
FCF	214 315	189 362	158 507	201 212	199 804	206 764	208 333	205 220
Change in Excess Cash	- 42 039	- 40 400	157 080	- 7 090	- 6 691	- 9 212	- 4 715	3 619
Interests	3 818	1 201	- 10 786	- 5 688	- 5 898	- 6 076	- 6 457	- 7 161
Tax Shield	- 1 213	- 394	3 559	1 877	1 946	2 005	2 131	2 363
Change in Debt	1 720	34 103	-107 270	9 941	11 207	12 156	12 720	12 219
Change in Equity	-176 601	-183 872	-201 091	-200 253	-200 369	-205 636	-212 012	-216 260
Financing CF	-214 315	-189 362	-158 507	-201 212	-199 804	-206 764	-208 333	-205 220

Appendix II. Macroeconomic Factors

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Guinea	Total investment, Percent of GDP	9%	13%	25%	20%	9%	10%	21%	34%	42%	57%	60%	57%
Guinea	Volume of imports of goods and services, Percent change	9%	31%	27%	-11%	11%	8%	-1%	35%	18%	41%	3%	4%
Guinea	Volume of exports of goods and services, Percent change	-10%	8%	-9%	-12%	5%	-2%	6%	1%	6%	6%	6%	6%
Guinea	Population (m)	10,876	11,162	11,451	11,745	12,044	12,345	12,654	12,97	13,294	13,627	13,967	14,317
Guinea	General government gross debt, Percent of GDP	100%	79%	35%	40%	43%	48%	48%	45%	43%	41%	39%	38%
Guinea	Current account balance, Percent of GDP	-9%	-25%	-26%	-27%	-26%	-22%	-14%	-25%	-31%	-49%	-48%	-45%
Guinea-Bissau	Total investment, Percent of GDP	7%	5%	7%	7%	11%	11%	11%	12%	12%	13%	13%	13%
Guinea-Bissau	Volume of imports of goods and services, Percent change	0%	10%	-27%	7%	21%	18%	18%	8%	4%	7%	8%	3%
Guinea-Bissau	Volume of exports of goods and services, Percent change	-19%	14%	-25%	58%	-14%	9%	6%	4%	4%	4%	4%	3%
Guinea-Bissau	Population (m)	1,587	1,624	1,661	1,699	1,738	1,777	1,818	1,859	1,901	1,945	1,989	2,034
Guinea-Bissau	General government gross debt, Percent of GDP	67%	49%	52%	54%	55%	58%	49%	46%	44%	43%	41%	40%
Guinea-Bissau	Current account balance, Percent of GDP	-9%	-4%	-12%	-7%	-3%	-1%	2%	-1%	-2%	-4%	-5%	-5%
Mali	Total investment, Percent of GDP	27%	19%	19%	25%	28%	24%	25%	24%	24%	24%	23%	22%
Mali	Volume of imports of goods and services, Percent change	32%	7%	6%	24%	16%	7%	9%	5%	3%	3%	2%	2%
Mali	Volume of exports of goods and services, Percent change	-2%	5%	9%	11%	1%	2%	1%	4%	-1%	3%	8%	6%
Mali	Population (m)	13,986	14,417	14,854	15,302	15,791	16,295	16,817	17,355	17,91	18,483	19,074	19,685
Mali	General government gross debt, Percent of GDP	25%	25%	25%	26%	31%	36%	35%	36%	37%	38%	39%	39%
Mali	Current account balance, Percent of GDP	-11%	-5%	-2%	-3%	-5%	-3%	-4%	-4%	-6%	-7%	-7%	-6%
Senegal	Population (m)	12,951	13,331	13,722	14,125	14,54	14,966	15,406	15,858	16,323	16,803	17,296	17,804
Senegal	Current account balance, Percent of GDP	-4%	-8%	-11%	-10%	-9%	-8%	-6%	-6%	-6%	-6%	-5%	-5%

Source: International Monetary Fund

Appendix III. Comparables

Comparables for WACC

	Beta Levered MSCI World 5y daily data	Beta Unlevered	Tax Rate	Net Debt / Equity
Vodacom	1,33	1,26	28%	8%
Safaricom	0,33	0,34	30%	-4%
Econet	0,36	0,45	26%	-25%
MTN Group	1,08	0,95	28%	19%
Average	0,78	0,75		
Median	0,72	0,70		

Comparables for Relative Valuation

	EV/EBITDA	P/E
MTN Group	5,68x	14,74x
Vodacom	7,16x	14,62x
Safaricom	6,75x	13,87x
Econet	1,74x	10,35x
Telkom	6,98x	16,99x
Oman Telecommunications	3,99x	9,54x
Ooredoo Qsc	3,19x	3,69x
TIM	4,07x	25,89x
Average	4,95x	13,71x
Median	4,88x	14,25x

Disclosures and Disclaimer

Research Recommendations

Buy	Expected total return (including dividends) of more than 15% over a 12-month period.
Hold	Expected total return (including dividends) between 0% and 15% over a 12-month period.
Sell	Expected negative total return (including dividends) over a 12-month period.

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