The Telecoms Sector in Mozambique

Going with the flow

A fast growing country
Mozambique has amongst the weakest telecommunications indicators in Sub Saharan Africa, having less than one fixed telephone per 100 inhabitants and a relatively low mobile penetration rate. These indicators are mostly explained by a long civil war and reflect the country’s GDP per capita of US$ 593 in 2013, making Mozambique one of the poorest countries in the region. However, recent mineral resource discoveries should make Mozambique one of the largest LNG and coal exporters before the end of the decade. These discoveries have created a very favorable economic outlook for Mozambique, with the country’s GDP growth expected to surpass 8% this year and average 7.8% in 2015-2019F (source: IMF).

And growing telecommunications
Despite the poor indicators regarding telecommunications, economic development should fuel the sector’s growth during the next few years. notwithstanding the competitive environment in the mobile sector that has driven prices down in the last couple of years, telecommunication costs remain relatively high for the majority of the population. However, economic growth should provide additional purchasing power to the population, increasing the number of telecommunications subscribers and allowing actual subscribers to spend more money in telecommunications services. Moreover, the sector is crucial for the country socioeconomic development and should be one of the authorities’ priorities.

New telecommunications law yet to be approved
The country’s basic telecommunication law dates back to 2004 and needs to be updated urgently. A new version of the law is under public consultation since 2013, but after several delays, expectations are that the law will only be approved during the first semester of 2015. The proposed law tries to enhance competition, mainly in the fixed segment, through unified licensing, to promote infrastructure sharing and promote quality of service. The new law identifies the sector’s main challenges and is a step in the right direction. However, some specific regulation still needs to be created or updated. For the new law to be successful it is necessary to have all specific regulation ready on time and to provide the regulatory authority the necessary means and powers to supervise the market efficiently and ensure that its decisions and all regulations are met.
EXECUTIVE SUMMARY

Mozambique is, like most of its African peers, a country characterized by a weak fixed telecommunication network and a relatively strong mobile network. The mobile network has been growing since its deployment and accelerated considerably with the introduction of a second and a third mobile operator in the country. On the other hand, the fixed line performance has been quite unstable in the last few years and unable to compete against the mobile operators. The percentage of individuals using Internet is also amongst the lowest in the region, 5.4% in 2013. Mozambique ranks 137th, out of 148, in the World Economic Forum’s Network Readiness Index (NRI).

Mozambique’s poor telecommunications indicators is mostly explained by the country’s long civil war. The civil war has taken its toll on country’s infrastructures and is also the main explanation behind the country’s low GDP per capita of US$ 593 (source: World Bank). However, recent mineral resource discoveries should make Mozambique one of the largest LNG and coal exporters before the end of the decade. These discoveries have created a very favorable economic outlook for Mozambique, with the country’s GDP growth expected to surpass 8% this year and average 7.8% in 2015-2019F (source: IMF).

Mozambique’s current telecommunications basic law dates back to 2004 and its revision is one of the sector’s main issues. In the authorities’ agenda since 2010, only in 2013 a proposed revision was placed under public consultation and expectations now are that the law may be approved during the first semester of 2015. The new law tries to address some of the sector’s challenges and technological changes. The main focus of the new law are: (1) unified licensing; (2) enhance competition; (3) assure networks interoperability and interconnection; (4) promote infrastructure investment and sharing; and (5) quality of service (QoS).

The wireline is one of the authorities’ concerns with just 0.3 fixed-telephone subscribers per 100 inhabitants. The fixed network has been unable to compete against mobile players, struggling with a poor infrastructure due to a long period of under maintenance and insufficient investment. The fixed operator has been under a restructuring process in an effort to be more market oriented and sustainable and has invested in wireless technologies, like CDMA, to expand its footprint. Nevertheless, until today its efforts to compete against the mobile operators have bear no fruits. For TDM to be able to compete with the mobile operators we believe that the company would have to expand its coverage aggressively and invest in its network modernization. Given the investment needed and unified licensing framework, a more logical scenario would be a selective roll out of the fixed network with modern technologies and a merger with the mobile operator mcel.

The mobile segment is the most successful segment with a CAGR 2003-2013 of 40%, going from 435,757 to 12.4 million subscribers. The mobile market has benefited from the poor fixed network infrastructure and the fact that it is easier and cheaper to expand a mobile network. Despite the considerable growth of the last decade, the mobile market should continue to be characterized by a strong growth due to: (1) the country’s economic growth; (2) favorable competitive environment; and (3) mobile broadband uptake. We expect the Mozambican market to end 2017 with around 18.5 million subscribers, implying 6 million net additions and a CAGR 2013-2017F of 10.5%.

Looking ahead, the sector’s main challenges are to increase: (1) service coverage; (2) service affordability; and (3) competition in the wireline. The authorities’ role is crucial to tackle these challenges. The approval of the new telecommunications act will be an important improvement in the country’s regulatory framework. However, it is also necessary to have all specific regulation ready on time. Specific regulation on issues like infrastructure sharing and sharing obligations would probably be one of the best ways to boost services’ coverage. At the same time such measures would decrease investment needs and costs, which would also benefit customers.
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MOZAMBICAN TELECOMMUNICATIONS SECTOR

Like in most of its African peers, the Mozambican telecommunications sector is characterized by a strong mobile segment and an increasing popularity of broadband. On the other hand, wireline accesses have been recording a negative performance in the last couple of years. Nowadays the telecommunications sector in Mozambique is composed by one fixed operator, three mobile operators and four Pay-TV operators.

### TELECOMMUNICATIONS INDICATORS

<table>
<thead>
<tr>
<th></th>
<th>Angola</th>
<th>Botswana</th>
<th>Mozambique</th>
<th>Namibia</th>
<th>South Africa</th>
<th>Tanzania</th>
<th>Zambia</th>
<th>Zimbabwe</th>
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<tbody>
<tr>
<td>Telephone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed telephone lines</td>
<td>214,950</td>
<td>174,165</td>
<td>77,566</td>
<td>183,532</td>
<td>4,835,690</td>
<td>164,999</td>
<td>115,762</td>
<td>304,162</td>
</tr>
<tr>
<td>Fixed telephone lines (per 100 people)</td>
<td>1.00</td>
<td>8.62</td>
<td>0.30</td>
<td>7.97</td>
<td>9.16</td>
<td>0.34</td>
<td>0.80</td>
<td>2.15</td>
</tr>
<tr>
<td>Mobile phones</td>
<td>13,285,198</td>
<td>3,246,787</td>
<td>12,401,290</td>
<td>2,538,584</td>
<td>77,826,065</td>
<td>27,442,823</td>
<td>10,395,801</td>
<td>13,633,167</td>
</tr>
<tr>
<td>Mobile cellular subscriptions (per 100 people)</td>
<td>61.87</td>
<td>160.64</td>
<td>48.00</td>
<td>110.21</td>
<td>147.46</td>
<td>55.72</td>
<td>71.50</td>
<td>96.35</td>
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</table>

| Internet               |        |          |            |         |              |          |        |          |
| Internet users (per 100 people) | 19.1   | 15.0     | 5.4        | 13.9    | 48.9         | 4.4      | 15.4   | 18.5     |
| Fixed broadband subscribers | 47,704 | 21,900   | 17,983     | 29,776  | 1,615,210    | 51,903   | 10,850 | 103,574  |
| Fixed broadband subscribers (per 100 people) | 0.22   | 1.07     | 0.07       | 1.29    | 3.06         | 0.11     | 0.07   | 0.73     |
| Secure Internet servers | 83     | 21       | 41         | 42      | 4,575        | 53       | 40     | 45       |
| Secure Internet servers (per 1 million people) | 3.87   | 10.39    | 1.59       | 18.23   | 86.35        | 1.08     | 2.75   | 3.18     |


According to the Mozambican authorities in 2013 there were 0.3 fixed lines, 48 mobile accesses and 0.07 fixed broadband accesses per 100 inhabitants. However, despite the low penetration of fixed broadband, around 5.4% of the Mozambican population uses the Internet on a regular basis.


Mozambique ranks 137th out of 148 in the World Economic Forum’s Networked Readiness Index (NRI) for 2014. This index measures the degree to which economies across the world leverage on ICT for enhanced competitiveness. The NRI helps policymakers and stakeholders to identify the strengths and weaknesses that each country faces on ICT. The structure of the NRI is composed of four sub-indexes: (1) environment; (2) readiness; (3) usage; and (4) impact.

### NETWORKED READINESS INDEX

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<th>Networked Readiness Index (out of 148 countries)</th>
<th>Angola</th>
<th>Botswana</th>
<th>Mozambique</th>
<th>Namibia</th>
<th>South Africa</th>
<th>Tanzania</th>
<th>Zambia</th>
<th>Zimbabwe</th>
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<tr>
<td>Environment subindex</td>
<td>147</td>
<td>61</td>
<td>124</td>
<td>59</td>
<td>31</td>
<td>115</td>
<td>60</td>
<td>133</td>
</tr>
<tr>
<td>Political and regulatory environment</td>
<td>145</td>
<td>40</td>
<td>113</td>
<td>37</td>
<td>20</td>
<td>85</td>
<td>59</td>
<td>122</td>
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<tr>
<td>Business and innovation environment</td>
<td>147</td>
<td>107</td>
<td>126</td>
<td>112</td>
<td>53</td>
<td>132</td>
<td>63</td>
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</tr>
<tr>
<td>Readiness subindex</td>
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<td>118</td>
<td>142</td>
<td>116</td>
<td>98</td>
<td>123</td>
<td>126</td>
<td>97</td>
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<tr>
<td>Infrastructure and digital content</td>
<td>146</td>
<td>109</td>
<td>137</td>
<td>106</td>
<td>68</td>
<td>120</td>
<td>130</td>
<td>128</td>
</tr>
<tr>
<td>Affordability</td>
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<td>97</td>
<td>129</td>
<td>117</td>
<td>106</td>
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<tr>
<td>Usage subindex</td>
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<td>131</td>
<td>103</td>
<td>70</td>
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<tr>
<td>Individual usage</td>
<td>133</td>
<td>79</td>
<td>144</td>
<td>101</td>
<td>78</td>
<td>137</td>
<td>123</td>
<td>107</td>
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<tr>
<td>Business usage</td>
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<td>122</td>
<td>113</td>
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<td>104</td>
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Mozambique’s low score and ranking reflects the country’s economic profile and the civil war from 1977 to 1992. The civil war led to a long period without investment and under maintenance of the country’s main infrastructures. The telecommunications infrastructure has been one of the most affected and its recovery is a lengthy process that requires considerable investments.

The fixed segment is the most affected by the lack of proper telecommunication infrastructures. The fixed network coverage is very limited, being concentrated in Maputo and other major cities and its services are perceived as unreliable and expensive. Hence, this created a very favorable environment for the mobile segment.

The mobile segment has grown considerably during the last decade from 435,757 subscribers in 2003 to 12.4 million in 2013. The mobile segment benefits from the fact that it is easier and cheaper to expand its coverage, despite the infrastructure constraints, and from the competitive environment created by the existence of three mobile operators disputing the market.

The telecommunications regulatory authority is the Instituto Nacional das Comunicações de Moçambique (INCM), established in 1992. Its main responsibilities are: licensing, spectrum management, numbering, regulation of tariffs and quality. The INCM is an autonomous entity under the administrative supervision of the Ministry of Transportation and Communications.

The mobile market has been liberalized since 2001, while the fixed market was liberalized in 2007. While the mobile market liberalization has been a success, currently there are three players disputing the market, the fixed market continues to be a monopoly. Even after the government stated that it was ready to study and approve investments in the country’s fixed network, until today no company has shown any interest in doing so.

The current telecommunications act dates back to 2004 and a newer version is currently under public consultation. The new telecommunications act aims to develop the ICT sector by addressing, among other issues: (1) the need to assure a competitive environment; (2) a more efficient usage of the telecommunications infrastructure; (3) infrastructure sharing; and (4) quality of service. Expectations are that the new telecommunications act will be submitted to the government and approved during the first half of 2015.

Sub-Saharan Africa is considered one of the most interesting regions in the world by the ICT industry, due to its demographic characteristics and growth prospects. Moreover, Mozambique is an especially appealing country given its fast growth, even when compared with its peers. The discovery of coal deposits in the Tete province and huge off-shore gas fields in the Rovuma basin, will make Mozambique one of the largest exporters in the world before the end of the decade. Hence, fueling the country’s growth prospects and creating a very favorable outlook with real GDP growth expected to surpass 8% this year and average 7.8% in 2015-2019F (source: IMF). The telecommunications sector is seen as crucial to support the country’s development and investment in the sector’s infrastructures and services should accelerate in the coming years.

REAL GDP GROWTH (%)
TELECOMMUNICATIONS ACT

Mozambique’s current telecommunications law dates back to 2004 and its revision is one of the sector’s most relevant issues. The revision of the current telecommunications act has been in the authorities’ agenda since 2010, but has been postponed without any explanation, or apparent reason, several times. Only in May 2013 the authorities disclosed a proposed revision for the country’s basic telecommunications law and placed it under public consultation. According to some press reports, the new telecommunications act has been discussed by the government in June 2014 and the initial expectations were that it could be approved before the end of the year. Expectations now are that it should be approved during the first semester of 2015.

The 2004 telecommunications act’s major concerns had to do with the expansion of the telecommunications network, its coverage and the liberalization of the fixed market. In the telecommunications act it was set a transitional period until the end of 2007, in which TDM would be the only operator authorized to provide fixed phone services and to deploy network infrastructures for the fixed services.

One of the biggest expectations of the law approved in 2004 was that it would bring competition to the fixed segment that, consequently, would lead to coverage expansion and price decreases. The liberalization of the fixed market was already contemplated in the previous law, but it was conditional to the privatization of the country’s incumbent operator. Despite the market expectations, as today the incumbent has not been privatized and it continues to be the only fixed operator in the country.

The new version of the telecommunications act focuses on:

- Unified licensing;
- Enhance competition;
- Assure networks interoperability and interconnection;
- Promote infrastructure investment and sharing;
- Quality of service (QoS).

Taking into account the emergence of convergent services and networks, the new telecommunications act abolishes the previous licensing regime, where different licenses were needed for each segment. Instead, the new law will contemplate unified licenses that will only differ depending on the service’s geographic coverage. According to the version under public consultation there will be national, provincial and local licenses.

The interoperability, interconnection and infrastructure sharing are addressed together in chapter V of the version under public consultation. In terms of interconnection and interoperability, the most relevant changes are related with the adaption of the law to the sector’s technological evolution. Regarding infrastructure sharing, the proposed law states in a very clear way that infrastructure and investment sharing should be promoted with the goal of creating a more competitive environment and to decrease deployment costs, allowing a quicker and cheaper network rollout. This applies not only to new infrastructures but also to the existing ones.

The proposed law is also more demanding in terms of quality of service monitoring. The current law states that the INCM can demand operators to provide data related with their network’s and service’s performance. The proposed law demands all operators and service providers to publish and make available to the regulator and to consumers updated information about their network’s and service’s performance. INCM defines the services’ parameters that should be measured and how that information should be published, its format and content. Additionally, it can define quality certification mechanisms to assure that the information provided is clear, complete and comparable.

It is our opinion that the new telecommunications act can be a big step forward for the sector. However, some details raise concerns about how effective the new law will be. First, the successive delays in updating the law. Since 2010 that the market has been calling for a revision of the previous law, but only in May 2013 a draft version was made available to public consultation and has not been approved until today. There were expectations that the law would be approved until the end of the year, but expectations now are that the law may be approved during the first half of 2015. Second, several items of the new law refer to specific regulation that
still needs to be done or must be revised. We believe that it is crucial for the success of the new law to have all relevant regulation ready on time. Third, it is not clear if the regulator, INCM, has the means and powers to monitor the implementation of the new law and enforce its fulfillment. Fourth, INCM will also have to start monitoring the operators’ quality of service, which will demand an additional effort from the regulator.

A final note to a law approved in 2010 that forces mobile subscribers, pre and postpaid, to register their SIM cards. According to the law, its objectives are: (1) to build a database containing the data of all SIM card owners that can be accessed by the operators and the authorities; (2) allow some state related operations to be done through the phone; (3) protect the citizens from criminal acts done through the phone; and (4) promote the responsible usage of the SIM cards and support the public order. The law also states that only persons over 14 years old are authorized to acquire SIM cards and each person cannot have more than three cards of each operator. However, according to local sources, despite the sanctions and penalties in the law, the rule is not fully respected.
SECTOR DESCRIPTION

WIRELINE

The wireline segment is one of the biggest challenges that Mozambique’s telecommunications sector faces. The wireline is relatively underdeveloped, with a very weak geographic coverage and perceived by users as having very poor quality standards. This is mostly explained by the civil war that led to a long period of under maintenance and low investment, which have taken their toll on country’s telecommunication infrastructures, namely outside urban centers.

According to the national authorities there were c. 77,568 fixed-telephone subscribers in 2013, which means 0.3 fixed-telephone subscriptions per 100 inhabitants. The penetration rate figures in Mozambique are concerning not only because they are among the lowest penetration rates in Sub-Saharan Africa, but also because of the declining trend registered in 2013.

![Graph showing fixed telephone subscriptions and per 100 inhabitants over years]

Source: ITU.

Looking at the graph above, we notice that the two periods where the number of accesses declines occurs was when a new mobile player entered in the Mozambican market. First, in 2003, the number of accesses has decreased 11% year-on-year, when Vodacom entered the market. Second, Movitel started to operate in 2012 and in 2013 the number of accesses declined 12% year-on-year.

The fixed operator has been struggling to compete against the mobile operators and as the number of mobile operators increased the competition has become even fiercer. As we will explain in more detail ahead, each time a new mobile players arrived mobile prices decreased, while the geographic coverage and the range of services available increased. Due to the growing competitiveness of mobile operators some people, and even companies, have chosen to give up their fixed telecommunication services.

The wireline segment in Mozambique has only one player, the incumbent: Telecomunicações De Moçambique (TDM).

TDM

TDM was created in 1981, from the separation of the telecommunications services from the postal services, and in 1992 TDM became a public company. TDM was the only telecommunications provider until 1997 when mcrl was established. However, competition was limited as TDM had a 74% stake in mcrl and fully consolidated it.

In 2003 TDM’s and mcrl’s assets were fully separated by government’s decision and TDM deconsolidated mcrl. In the same period, the regulator increased fixed-mobile interconnection rates by 52% and the second mobile operator started its operations creating a more competitive environment. All these effects caused a 27% and 59% year-on-year decrease in TDM’s revenues and EBITDA, respectively.
Since 2003, due to higher costs and more aggressive competition, TDM’s KPIs and financial results started to deteriorate and between 2004 and 2006 TDM registered negative earnings before interests and taxes (EBIT). In 2004, the company announced a strategic plan for the three year period 2005-2007 made in collaboration with Detecon. The strategic plan defined two main objectives:

- First, “consolidate TDM into a financially viable and sustainable company, fulfilling its role in the market and satisfy the expectation of its shareholders”;
- Second, to “increase the value of the company in order to allow its growth to be sustainable”.

According to the company’s strategic plan, to achieve these objectives TDM’s priorities were to complete the national telecommunications backbone transmission network and adopt technologies that would optimize the usage of the backbone and allow the creation and development of new products and services. In its 2004 annual report it is stated that it is fundamental that TDM becomes more market oriented and aggressive, being necessary to transform the existing systems, structures and business model.

The national telecommunications backbone transmission network deployment was initiated in 2000, connecting Maputo to Beira. The first stage aimed to connect all the provincial capitals and was concluded in 2009. The second stage focused on building redundancies through “rings” and has been concluded in 2011. TDM’s backbone is composed by 7,500km of fiber and microwave links. All the provincial capitals are connected through fiber-links, with microwave links being used to connect several secondary cities. Currently, TDM’s voice and data services reach 103 districts, out of 128. The full project implied an investment of around US$ 100 million.
In 2005, TDM started to use Code Division Multiple Access (CDMA) technology, in the 450 MHz band, to expand its footprint. CDMA is a wireless technology that enables TDM to provide voice and broadband services to customers that are out of their fixed infrastructure’s coverage. Despite the drawbacks of using wireless technologies and terminals as substitutes of the traditional fixed service, like slower speeds and less bandwidth, it is an acceptable substitute. It is an easy and quick way for TDM to expand its coverage and reach more customers with much less investment than it would be necessary to expand its fixed network. In 2007 TDM announced that it would start migrating from the 450Mhz to the 800Mhz band and to introduce Evolution-Data Optimized (EV-DO), a telecommunications standard that improves data transmission.

In 2006, TDM started to commercialize broadband solutions to its customers through asymmetric digital subscriber line (ADSL). ADSL registered a strong uptake, going from 1,702 subscribers in 2006 to 12,741 by the end of 2009. Despite the lack of official figures from TDM since 2009, looking at ITU’s fixed broadband statistics, TDM should have around 18,000 subscribers at the end of 2013. From ITU’s statistics we also notice that the number of fixed broadband subscriptions has been decreasing since 2012 and declined around 12% in 2013, probably due to mobile broadband competition.
The Telecommunications Sector in Mozambique

We believe that TDM’s priority should be the modernization of its infrastructure and products, given: (1) the fierce competition from mobile operators; and (2) The country’s new regulatory framework. First, mobile operators are in a more advanced development stage and can easily offer products that are almost perfect substitutes of the fixed line services. Second, the new telecommunications act will allow mobile operators to start providing fixed services, through the unified licensing regime, and it is crucial that TDM starts to protect its customer base.

Nevertheless, to modernize TDM’s infrastructure carries two challenges: (1) the technology leapfrogging; and (2) the investment necessary. First, TDM should adopt the most modern technologies without going through prior or intermediate technologies. If not, we believe TDM may be wasting resources as it will be relatively easy for mobile operators to deploy technologies that match or outperform TDM. Technology leapfrogging would also allow TDM to take advantage of less costly technologies. However, technology leapfrogging also carries a high risk of bad implementation and execution. Second, implementing such technologies demands a considerable investment and it is not clear if TDM has the necessary financial firepower. In our opinion, TDM should make a selective roll-out of these modern technologies in the most interesting areas, political and economic centers, focusing in the corporate segment.

TDM has several telecommunication-related subsidiaries:

- Mcel: Mobile telecommunications provider;
- Teledata: Internet Service Provider (ISP) and data communications services;
- TV Cabo: Cable TV and broadband provider;
- Televisa: Deployment and maintenance of telecommunication infrastructures;
- Listas Telefonicas de Moçambique: Telephone directories;

**TDM STRUCTURE AND SUBSIDIARIES**

<table>
<thead>
<tr>
<th>State</th>
<th>Employees</th>
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<tbody>
<tr>
<td>80%</td>
<td>20%</td>
</tr>
</tbody>
</table>

- **Mcel**: 74% owned by TDM
- **tv cabo**: 50% owned by TDM
- **Listas Telefonicas de Moçambique**: 50% owned by TDM

Source: TDM, Eaglestone Securities.

All in all, without a major modernization process TDM seems to have a fragile business case. We believe that if TDM decides to adopt intermediary technologies, it will be easy for mobile operators to match it or to be one step ahead. Moreover, given the new telecommunications act, TDM will be much more exposed to competition. The economic prospects of Mozambique should fuel the demand for modern telecommunication solutions and if TDM is not able to fulfill that demand, it is now much more likely that someone else will.
**MOBILE**

The mobile market is the most successful segment in Mozambique, fuelled by the weak fixed infrastructure and the lower investment needed to expand its coverage and deploy new services. In the last decade this market recorded a CAGR 2003-2013 of 40%, going from 435,757 subscribers to 12.4 million.

The Mozambican mobile market is composed by three operators: (1) mcel; (2) Vodacom; and (3) Movitel. Mcel was the first mobile operator in Mozambique, founded in 1997, while Vodacom started operating in 2003 and Movitel in 2012.

**MOZAMBIAN MOBILE SUBSCRIBERS (MILLION)**

![Graph showing the growth of Mozambican mobile subscribers from 2009 to 2017]

Source: Mcel, Vodacom, ITU, INCM and Eaglestone Securities.

Mozambique has one of the lowest mobile penetration rates amongst its peers, around 48% in 2013, which can be partially explained by the country’s low GDP per capita. However, we believe that Mozambique’s penetration rate should increase significantly in the next few years due to the country’s favorable economic outlook and the segment’s competitive environment.

We also believe that the number of subscribers (SIM cards) in the country does not show us the whole picture. The number of subscribers (SIM cards) can be misleading as it is not synonymous with the number of users. According to the GSM Association (GSMA), there were 502 million subscribers in Sub-Saharan African in June 2013, but only 253 million “unique mobile subscribers”, which imply a penetration rate of just 30.8% instead of 61%.

Despite the lack of official figures about “unique mobile subscribers” in Mozambique, we believe there is in fact a great difference between the number of SIM cards and “unique mobile subscribers”. There are two main reasons for this difference: (1) Mozambicans’ are very price sensitive; and (2) the geographic coverage of each operator.

The Mozambican consumers are usually very price sensitive and it is important to bear in mind that the cost of telecommunications in Mozambique is relatively high for the population’s income. Looking at Vodacom’s annual report for the year ended 31 March 2014, ARPU stood at MZM 172 (US$ 5.5), below SSA and World average of US$13.6 and US$25, respectively. However, Vodacom’s ARPU weight over Mozambique’s 2013 Gross National Income (GNI) per capita stood at 11.2%, well above the 3% to 5% values observed in other developing markets. Given the high cost of telecommunications in Mozambique, subscribers try to minimize their expenditures by having multiple SIM cards. This way consumers try to take advantage of the best price plan available for each particular type of calls (for instance one card for “on-net” and another for “off-net” calls) by holding more than one SIM card.

The other main reason is related with the geographic coverage of each operator. In Mozambique none of the operators covers the whole country, thus some subscribers have more than one SIM to be able to reach all their contacts.
Mobile broadband will be another major growth driver for the Mozambican market. As it happened with the traditional voice services, mobile broadband will become the most common and popular way to access the Internet, whether through mobile handsets, tablets or USB dongles. Mobile broadband will also benefit from the fixed network limited coverage and from the fact that it is easier for mobile operators to upgrade to faster technologies like 4G. GSMA estimates that the number of mobile broadband connection in Sub Saharan Africa will register a CAGR 2012-2016 of 47%.

MOBILE PENETRATION RATE AND GDP PER CAPITA PPP (US$)

Source: IMF, ITU and Eaglestone Securities.

We expect the Mozambican mobile market to be characterized by a strong growth in the coming years, backed by the following trends: (1) economic growth; (2) favorable competitive environment; and (3) mobile broadband uptake.

According to our estimates, Mozambique should end 2017 with around 18.5 million mobile subscribers, achieving a penetration rate of 65%. This implies around 6 million net additions in 4 years, which means a CAGR 2013-2017 of 10.5%. Nevertheless, taking into account the powerful mix of competition and growing purchasing power, it is possible that the market outperforms our expectations.

MCEL

Mcel was founded in 1997 as a joint-venture between TDM (with a 74% stake) and Detecon (with the remaining 26%) called Telecomunicações Móveis de Moçambique (TMM). It started its operations in September 1997 with an initial investment of US$ 10 million, using the GSM standard and covering the metropolitan area of Maputo.

Until September 2000 mcel had only post-paid price plans. The introduction of pre-paid price plans was an important growth driver for mcel. The company had 51,065 subscribers at the end of 2000 and during 2001 its subscriber base almost tripled to 152,652 subscribers.

During 2002 and 2003 the company went through a transformation process. First, TMM was fully separated from TDM and adopted a new corporate structure. Second, TMM was renamed mcel – Moçambique Celular. Third, mcel became a limited company and Detecon sold its stake. Mcel is, since then, 74% owned by TDM and 26% owned by Instituto de Gestão das Participações do Estado (IGEPE, “Institute for the Management of the State Holdings”).

Despite the increasing competitiveness of the Mozambican market, mcel has always managed to keep its leadership position. By the end of 2011, before the third operator started its operations, mcel had a market share of c. 56%. In the end of 2013 mcel had a market share of 47%. According to mcel, the company focus is to maintain its leadership position and its biggest growth opportunity lies in the data services.
The Telecommunications Sector in Mozambique

VODACOM

Vodacom Mozambique is part of the South African Vodacom International, which in turn is controlled by the British Vodafone. Vodacom Mozambique shareholder structure is composed by: (1) Vodacom International (85%); (2) EMOTEL (1.99999%); (3) Intelec Holdings (6.5%); (4) Whatana Investments (6.5%); and (5) Other shareholders (0.0001%). In 2008, when Whatana Investments acquired its stake in Vodacom, the press reported that Vodacom was planning to sell more equity, but it would always keep a controlling stake. Nevertheless, no more transactions were made.

Vodacom has been awarded a mobile telecommunications license in August 2002 and started its operations in December 2003. According to some press reports, Vodacom was supposed to start operating in early 2003, but several issues related with tariffs and interconnection rates caused the launch to be postponed and some reports even suggest that Vodacom was considering giving up its mobile license.

Vodacom started its operations announcing lower prices, especially on international calls, which triggered a price reduction by the remaining operators. Since 2003 that Vodacom’s subscriber base has been growing consistently. The exception was the period between the last quarter of 2012 and first of 2013 where Vodacom’s growth decelerated considerably due to the introduction of the third mobile operator. At the end of June 2014 Vodacom had around 4.6 million customers, growing 39% year on year. In 2010 Vodacom launched its 3G service with an investment of MZM 170 million (US$ 5.2 million).

According to Vodacom’s “Annual Results 2014”, its growth strategy is focused on increasing penetration rate of data and financial services. Vodacom states that mobile data is the company’s biggest growth opportunity given the low penetration levels of smartphones and tablets. Financial services are an opportunity given the high levels of financial exclusion and limited financial infrastructure.

MOVITEL

In November 2010 Movitel was awarded the third mobile license after paying US$ 28 million. Movitel had the second highest bid and ranked first in the technical assessment. Movitel is a joint-venture between the Vietnamese company Viettel, with a 70% stake, and the Mozambican companies SPI and Ivespar with stakes of 20% and 10%, respectively.

When the license was awarded the company planned to invest up to US$ 465 million and to have around 85% of the population covered in five years. When the operation was launched, in May 2012, Movitel claimed to have already deployed an optical fiber backbone with around 12,500 km and 1,800 base stations, which according to the company were more than 50% of all the base stations in the country. By then, Movitel had invested US$ 117 million, covered 105 of the 128 districts and around 43% of the population. By the time operations started Movitel already had 415,000 subscribers.

Movitel entered in Mozambique using an unusual approach. Unlike other operators that focus their coverage in the urban areas, Movitel has begun by reaching the rural populations. This strategy implied the acquisition of subscribers that usually carry lower ARPU, when compared with the urban population. For Movitel’s strategy to payoff the company focused on fast costumer acquisition, to gain scale and to take advantage of its monopoly in several rural areas. Important for this strategy is the fact that only c. 31% of the Mozambican population lives in urban areas (source: United Nations).

Movitel is said to have set its prices at around 10% below the market average and at the end of 2012 it already had 1.4 million subscribers. According to some news flow, Movitel’s success is not only explained by previously unconnected customers, but also by customers switching from mcet or Vodacom to take advantage of Movitel’s better coverage. This strategy has been praised by several entities due to its positive impact in the community and Movitel won several international awards: (1) Africom’s “Rural Telecoms Award” in 2012; (2) Frost & Sullivan Award for Competitive Strategy Leadership in 2013; and (3) Mobile Innovation Award’s “Judges’ Award”, in 2014.
By mid-2014 Movitel had 2,800 base stations and its optical fiber backbone had around 25,000 km. Movitel’s aggressiveness is visible on its door-to-door sales strategy and, according to local sources, it currently dominates certain rural areas with c. 80% of market share. Also according to press reports, Movitel signed an agreement with “Electricidade de Moçambique” (EDM, “Electricity of Mozambique”), the national power company, to have access to the rights of way of EDM power lines. Such deal would facilitate and make possible a faster network expansion.

We believe that Movitel should focus on assuring the current customers’ loyalty and gradually shift its commercial aggressiveness to urban areas. Hence, Movitel would increase its customer base and acquire higher ARPU clients, by leveraging on its competitive pricing, coverage and rural market share. Movitel ended 2013 with c. 2.5 million subscribers.
INTERNET SERVICE PROVIDERS

According to the INCM, there are 27 data service and Internet Service Providers (ISPs) licensed in Mozambique. However, not all licensed operators are currently active and it is unclear how many of them are currently active. Of the active ISPs, the majority is based in Maputo and their offers are mostly directed towards the corporate segment.

Countries like Mozambique with a weak fixed infrastructure have very favorable conditions for the business model of ISPs to succeed. Through the usage of wireless technologies (like WiMax, VSAT, CDMA, etc.) these providers position themselves as substitutes of the fixed network in the areas outside its coverage.

With the success of over-the-top (OTT) applications data providers have the chance to be almost perfect substitutes of fixed operators by offering the same services. Examples of OTT successful applications goes from Voice over IP (VoIP) applications like Skype to simple messaging applications like WhatsApp or Viber and not forgetting the numerous open source applications available. The telecommunications future seems to be about OTT applications, which creates a very interesting opportunity for data providers.

In Mozambique two data operators stand out: Teledata and Intra.

Teledata is currently fully owned by TDM, after Portugal Telecom sold its 50% stake to TDM in 2010 for US$ 174,781. Teledata provides internet through dial-up, ISDN and WiMax. Teledata has dial-up points of presence (POP) in all provinces, an ISDN POP in Maputo and WiMax coverage in Maputo, Matola, Beira, Nampula and Nacala. Teledata also provides VSAT connections, leased lines and data services like webhosting, web design, domain registration and other data related services.

KWIKNET (TELEDATA) WIMAX PACKAGES

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<th>Price without antenna (MZN)</th>
<th>Installation (MZN)</th>
<th>Bandwidth (kbps)</th>
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Source: Teledata website.

Intra, one of the main ISP in Mozambique, was founded in 2001 and was one of the first wireless ISPs in the country. In 2009 the South African companies Dimension Data and Convergence Wireless Networks acquired a 68.5% stake in Intra, 38.5% and 30.0% respectively. Intra is since then managed by Dimension Data’s subsidiary Internet Solutions, a Pan-African telecoms service provider.

The changes in Intra’s shareholding structure allowed it to expand its coverage beyond Maputo and to connect to the Seacom African cable system. From Internet Solutions’ standpoint, the investment in Intra allowed it to expand its footprint to Mozambique that is an excellent base from which to deliver services to various landlocked East African countries and leverage its investment in the Seacom cable. The brand Internet Solutions is now used for the corporate segment, which is the company’s main focus, while the brand Intra is used for the personal consumer segment.

Internet Solutions has been awarded by PMR.Africa, in 2014 for the fourth consecutive year, the Diamond Arrow for being the best ISP in the business category in Mozambique. According to Internet Solutions, the main reason for their success is the fact that their network is deployed and managed by their own teams, their service is totally transparent and the network’s redundancy and reliability.  

Most ISPs are based in Maputo and focused on the corporate segment

Mozambique has very favorable conditions for the ISPs business models

OTT applications allow data providers to be almost perfect substitutes of the fixed operator

Teledata provides Internet through dial-up, ISDN and WiMax

Intra is managed by the Pan-African telecom provider Internet Solutions

After being acquired the company expanded its coverage in Mozambique and connected to the Seacom African cable system

Internet Solutions has been awarded the best ISP in the business category in Mozambique four years in a row
PAY-TV

The Pay-TV market in Mozambique is disputed by four players: (1) Digital Satellite Television (DStv); (2) TV Cabo Moçambique; (3) Zap; and (4) StarTimes. However, there is few information about the Pay-TV market and operators’ KPIs and financials.

According to Mozambique’s Instituto Nacional de Estatística (INE), in 2002/3 just 6.3% of the households had a TV set. However, this figure should have grown in the last few years and, according to local sources, nowadays should stand at c. 15% and is expected to reach 30% to 35% by 2020. The Mozambican Pay-TV market seems to have an enormous potential due to the expected growth of TV sets penetration and, despite the existence of 12 free to air channels (FTA), the strong demand for international content that is only available through Pay-TV.

DStv was the first Pay-TV operator to enter Mozambique in 1995. DStv is a product of the South African company Multichoice, fully owned by Naspers. DStv is the biggest Pay-TV operator in Sub-Saharan Africa, having a big array of channels, some of them produced in Africa and dedicated to African content. Moreover, DStv has also the exclusive broadcasting rights of important sports content like the UEFA Champions League, the Premier League and the FA Cup through Multichoice’s channel Super Sport. DStv is distributed through Direct-To-Home (DTH), covering the whole country.

TV Cabo Moçambique started deploying its infrastructure in 1998 and started operations in 2000, being the first and only cable TV operator in the country. TV Cabo is a joint-venture between TDM and the Portuguese company Visabeira, each owning a 50% stake. TV Cabo makes uses of TDM’s backbone, but it deploys and owns the remaining infrastructure, the last mile. Currently uses a Hybrid Fibre-Coaxial (HFC) architecture, but it should start migrating to Fiber to the Home (FTTH) in a selective way in the short term. Besides other technological advantages, the absence of active elements that need to be connected to the power grid is probably one of the main reasons behind the migration. TV Cabo is currently a double-play operator providing TV and broadband.

Zap arrived in Mozambique in the beginning of 2011, operating through DTH. Zap is a joint-venture between the Angolan businesswoman Mrs. Isabel dos Santos, with a 70% stake, and the Portuguese telecommunications operator NOS, with the remaining 30%. Zap’s offer is characterized by a strong presence of Portuguese and Portuguese-speaking content. Moreover, Zap has the exclusive distribution rights of Sport TV Africa, which has the exclusive broadcasting rights of the Portuguese football league and cup in Africa. According to NOS’ 2Q14 report, the company has eight own stores in Mozambique and during the first semester Zap, including Angola, had revenues of US$ 130 million. According to company statements and local sources, we believe that Mozambique should weigh more than 10% of Zap’s results.

StarTimes started its operations in April 2011, through terrestrial digital video broadcasting (DVB). StarTimes Mozambique is part of the Chinese multinational StartTimes International, which owns an 85% stake while the remaining 15% are held by the Mozambican company Focus 21. StarTimes International, founded in 1988, is headquartered in Beijing and started to expand to Africa in 2007. According to the company’s website, they are currently present in 12 African countries with over 4 million subscribers. In Mozambique, StarTimes is seen as an entry level Pay-TV solution, with an aggressive pricing but a less interesting content offer.

In the Pay-TV segment, competition is made around pricing and content. TV Cabo due to its service characteristics, smaller geographic footprint and the capacity to bundle broadband and TV, has always tried to differentiate itself from the remaining operators. TV Cabo prefers to be seen as a premium Pay-TV operator and its marketing is centered in its double play offers. DStv and Zap’s channel packages are available through TV Cabo, thus content is not a differentiating factor. This also indicates that DStv and Zap do not see TV Cabo as a direct competitor.

Regarding price, StarTimes is the most aggressive operator, with prices starting at MZM 300 (US$ 9.7). In the case of DStv and Zap, we believe that price is not what drives subscribers’ choice. TV Cabo’s “only TV” packages have very similar prices to DStv and Zap.
Regarding content, the main battle is between DStv’s African content versus Zap’s Portuguese-spoken content. Given the size of the South African and Portuguese expat community in Mozambique, this is one of the most important determinant characteristics. Moreover, there is also a considerable battle around sports content. In this area, DStv has the upper hand as it broadcasts the most important European football leagues and major competitions, like the UEFA Champions League. On the other hand, Zap has the exclusive transmission rights over the Portuguese football league and cup, which are much appreciated by the Portuguese community and by Mozambicans as well.

TV Cabo uses its capacity to deliver Pay-TV and Broadband to position itself as a premium operator and focuses its marketing in its Double Play bundles. We believe that in the short term TV Cabo may start to offer voice, becoming a Triple-Play operator, to be more competitive. Moreover, it represents an opportunity to monetize the existing infrastructure, given that it is not technically complex and would not require a significant investment to start providing voice service. On the other hand, TV Cabo would become a perfect substitute of TDM, one of its main shareholders, in the areas where both are present.

We believe that the Pay-TV market should grow considerably in the next few years as the Mozambican households gain purchasing power. Prices are already relatively low in Mozambique, thus the main battle field should be around content. We believe Zap, due to its shareholding connection with NOS, will always be stronger regarding Portuguese content, while DStv, due to its scale, will always have the upper hand regarding international content, like major sport events. In the long term we believe that a deeper relationship between TV Cabo and TDM should also be considered due to its shareholding relationship and the complementarity of their services and network.
BROADBAND AND DATA

Mozambique’s indicators regarding connectivity and broadband are among the lowest in the world and the improvement of these indicators should be amongst authorities’ top priorities. According to ITU, in 2013 Mozambique ranked 185th, out of 208, in “percentage of individuals using the Internet”. Connectivity and broadband can have a considerable impact on the socioeconomic development of a country and can be an important tool to close the gap between urban and rural areas.

We expect Mozambique to witness a substantial growth of broadband subscribers during the coming years mainly due to two factors. First, demand should increase as the population’s disposable income grows fueled by the country’s economic growth. Second, authorities should also try to make broadband services more affordable and accessible to everyone.

According to Cisco Visual Networking Index, the Middle East and Africa should be the fastest growing region in the world, in terms of IP traffic, registering a CAGR 2013-2018F of 38%. Business IP traffic is expected to register a CAGR 2013-2018F of 23%, while consumer IP traffic should grow 44% in the same period.

The importance of broadband and data services is quantified in several studies that try to measure its impact in a country’s productivity and GDP. For instance, GSMA estimates that doubling mobile data usage leads to an impact of around 0.51% in GDP and a 10% substitution from 2G to 3G has an impact of 0.15% in GDP. The World Bank estimates that a 10% increase in Broadband connections in developing countries has, on average, a positive impact of 1.3% in economic growth. The impact in GDP comes not only from the supply side, but also from productivity gains and social inclusion.

Broadband is key to make information exchange easier, which potentiates entrepreneurship and innovation. It is also one of the most effective ways to close the gap between urban and rural areas and to increase population access to government services easier.

One of the key points that Mozambican authorities must address is the affordability of broadband and data services. One of the reasons why broadband is so expensive in Mozambique has to do with the high cost of domestic and international links. Recently, in April 2014 in the AITEC Southern African ICT summit, Mr. Hermann Woithe, Internet Solutions’ CEO, made a presentation about “Rural connectivity” where it identified cost as the biggest hindrance to rural connectivity. In its presentation, Mr. Woithe has shown the positive impact of Seacom in the price of international bandwidth as well as the impact of Movitel’s in domestic bandwidth prices. From the presentation we see that currently it is much cheaper to have a 1 Mbps link between Maputo and London than between Maputo and Beira.

INTERNATIONAL AND DOMESTIC CONNECTION COST PER MBPS (US$)

Source: Internet Solutions Mozambique.
The evolution of the connectivity costs per Mbps in Mozambique is characterized by two events. First, the Seacom submarine cable went live in 2009 connecting Mozambique to South Africa, Kenya, Tanzania and Uganda. This event led to a price reduction of around 60% against the previous year. Second, Movitel entered the Mozambican market in 2012 and, due to its 12,500 km fiber backbone, caused prices to drop by almost 40%.

According to Telegeography, the median monthly price of a 10 Mbps link between London and New York is around US$ 652. While the median price of a link with the same characteristics between Los Angeles and Tokyo is c. US$ 1,863. These figures compare with around US$ 500 for a 1 Mbps link between Maputo and London. We believe the main reason behind the high prices is the limited competition. Currently there are only two submarines cables with landing points in Mozambique: (1) The Seacom, a 17,000 km route that links South Africa to Mumbai in India and Marseille and London via Kenya, Tanzania, Mozambique and Madagascar, which went live in 2009 with a capacity of 1.28 Tbps; and (2) The EASSy, a 10,000 km submarine cable that links South Africa with Sudan via landing points in Mozambique, Madagascar, the Comoros, Tanzania, Kenya, Somalia and Djibouti, which went live in 2010 with a capacity of 10 Tbps.

Unlike what would be expected, the cost per Mbps is higher for domestic links than it is for international links. Despite the existence of three backbones in the country and the decreasing prices, a domestic link continues to be more expensive than a link between London and Maputo. Operators tend to protect their businesses and are reluctant to open their networks to competition, alternative operators or ISPs, which explains the high cost of a link between Maputo and Beira.

We believe that this is an issue where the regulator may have to step in order to create a more competitive environment.

Broadband and data services represent not only an incredible opportunity for the telecommunications sector, but are also a powerful tool to promote economic development. In Mozambique there is a considerable gap between the number of people with a cell phone and the number of people with access to some basic services, like financial services, healthcare or education. This represents an opportunity also for other ICT players, besides operators, that can take part in the development of solutions that can bring further development to rural regions and to the most disadvantaged population.

It is estimated that only about 20% of the Mozambican population has a bank account and in some rural regions the access to financial services is not possible at all or extremely difficult. Given that around 48% of the population has a mobile phone and this figure is expected to increase considerably in the coming years, this represents a very interesting opportunity for mobile money (mMoney) and other mobile financial services. Through mMoney it is possible to do cash transactions, such as payments or transfers in a digital way, which is more convenient and more secure, pushing greater financial inclusion. Probably the best example of the opportunity these kind of services can represent for the operators is M-Pesa. This service was introduced by Safaricom in Kenya in 2007, is the best known mMoney service in Africa and accounts for 18% of Safaricom’s total revenues.

**SAFARICOM’S M-PESA REVENUES (KSH MILLIONS)**

Source: Safaricom annual reports and Eaglestone securities.
In Mozambique there are two mMoney services available: (1) mKesh, provided by mcel; and (2) M-Pesa, through Vodacom. Both services try to provide a suite of financial services and to target those that do not have a bank account. In general both services are similar, allowing to deposit and withdraw money, transfer money to other users, top-up the cell phone and pay some bills. However, neither Vodacom nor mcel provide KPIs about their mMoney services in Mozambique.

Data services can also have a very important role in education, healthcare and in the agricultural sector, just to name a few. In education, mobile applications make the distribution of educational content easier, may be used for teacher training or even to address shortage of teachers in rural regions. In healthcare, several applications allow to collect information about patients in remote areas, allowing real-time diagnosis, surveillance and data collection. In the agricultural sector, several applications now provide an easy access to information about production, plagues, demand and product’s market prices.
REGULATION

Regulation is one of the issues that the authorities should tackle in the short term. To increase the affordability and availability of telecommunication services are the sector’s main challenges and regulation can play a very important role to achieve these objectives. In our opinion, for the ICT sector to develop it is necessary to have a strong and independent regulator. Hence, it is also fundamental that the government provides the necessary powers and means to enforce the fulfillment of its rules and decisions.

One important first step would be, in our opinion, the approval of the new telecommunications act. The document tries to address some of the challenges that the sector is currently facing and to adapt the 2004 law to the sector’s technological development. The most relevant topics addressed in the new law are:

- Unified licensing;
- Competition;
- Network interoperability and interconnection;
- Infrastructure investment and sharing;
- Quality of service (QoS).

The new law identifies some of the sector’s main challenges, but it will not solve them alone. Several points of the new law refer to specific regulation still to be written. It is crucial to have the specific regulation ready on time to avoid loopholes in the new law or references to outdated regulation. The new telecommunications act has been under public consultation since May 2013 and at the time the expectation was that it would be approved before year end. Nevertheless, expectations now are that the law may be approved in the first semester of 2015.

It is also necessary to increase INCM’s powers and means at its disposal. It is not clear if INCM has the means to work on all specific regulation that must be elaborated and updated. Moreover, the market feeling is that independently of the new regulation, INCM does not have the means to supervise if all the market players are complying with the new law and regulation.

There are a few topics that must be addressed in the specific regulation that seem, in our opinion, fundamental for the sector’s development. Regarding the unified licensing, we believe that its main objective is to boost competition in the fixed network since the mobile segment already has a competitive environment. Additionally, it is important to recall that both TDM and mcel are owned by the Mozambican government. Given this, with unified licensing one of the most logical scenarios may be the merger of the two companies.

If authorities really want to promote competition in the fixed network, more than a unified licensing scheme is needed. If the only change is the legal framework of the operating licenses, few things will change since deploying a fixed network demands a huge investment. In the best case scenario, current mobile operators would take advantage of the unified license to try to address the corporate segment selectively. To promote competition in the fixed network, we believe that authorities must create regulation regarding network sharing obligations, like local-loop unbundling (LLU) and stipulate a fair price for the use of the incumbent’s network. However, it is important that the fair price stimulates competition but also allows an appropriate return on investment.

Also related with infrastructure, we believe that further regulation about its deployment is urgently needed. It would be in the best interest of the country and the sector that authorities create legislation in order that all new construction is prepared to receive telecommunication infrastructures. This would allow an easier, faster and cheaper deployment of telecommunication services. New legislation should also contemplate transport infrastructures, like highways and railways, given the role that these infrastructures can play in connecting the country by being equipped with telecommunication ducts. The access to existing ducts must also be regulated to allow access to competitors’ ducts, at a fair price stipulated by the regulator. These measures would allow a faster and quicker deployment of telecommunication infrastructures, making easier to expand coverage and would avoid wasting resources in duplicated investments. This would mean less cost for the operators, hence for the subscribers.
At last, under the scope of the regulator is spectrum management, which is especially relevant now that Mozambique is starting the migration from analogue to digital broadcasting. The migration to digital broadcasting allows a better usage of the radio spectrum currently occupied by analogue transmissions, as each analogue channel uses as much spectrum as it is needed for six digital channels. Besides, digital broadcasting has better quality and allows to implement extra features like video guide. The migration to digital will free up spectrum currently in use by the analogue transmissions, the “digital dividend”, that can be used for other purposes, namely to mobile broadband.

The migration process is being conducted by StarTimes Software Technology, a subsidiary of StarTimes International. After several delays, the contract for the migration has been awarded in April 2014. Despite the delays, authorities claim that digital broadcasting will be available to the whole country by June 2015, the deadline set by ITU. However, it is still unknown when the analogue switch off will take place. It is important to bear in mind that it is necessary to inform the population about the migration process since that after the switch off it will be necessary to have a digital TV or a digital decoder to watch TV.

The analogue switch off process is complex, lengthy and can also be extremely bureaucratic given the necessary cooperation and coordination between several players and entities in the region. Moreover, the process should be monitored very closely by the regulator to assure that the migration is a smooth process, that the service coverage is adequate and, in the end of the process, that the whole population is ready for the digital broadcasting.

According to some news flow, the authorities will license the digital dividend (the 700MHz and 800MHz band) to mobile operators that should allocate it to mobile broadband. In fact, during 2013 INCM announced an auction of rights of use of frequencies in the 800MHz band. However, none of the operators has shown interest in the auction due to: (1) the lack of visibility about when those frequencies would be available; and (2) the operators think it is too soon to invest in frequencies for 4G, when not even 3G is available in the whole country nor its usage consolidated.

The Mozambican regulator seems to be on the right track and to know which topics must be addressed to promote the sector’s development. To increase competition in the fixed segment, expand the coverage and affordability of telecommunication services, as well as to assure minimum quality levels, are the regulator’s top concerns. However, despite the regulator’s good intentions we believe that INCM lacks the necessary means to supervise effectively the sector and monitor the fulfilment of the sector’s regulation, its decisions and the analogue switch off.
GOING WITH THE FLOW

Mozambique is a fast growing economy with several opportunities ahead and the telecommunications sector is no exception. The development of telecommunications networks and services should be one of the country’s priorities given its importance to support the country’s growth and its socioeconomic development. However there are also some challenges ahead.

Mozambique has amongst the weakest telecommunications indicators in the region and in the world, ranking 137th, out of 148, in the World Economic Forum’s Network Readiness Index. These indicators reflect the country’s poor infrastructures and its economic development. Today the main challenges that the sector faces are to increase: (1) service coverage; (2) service affordability; and (3) competition in the wireline.

We believe that the authorities’ role is crucial to tackle the sector’s challenges and is key to achieve the sector’s objectives. One of the first steps should be the approval of the new telecommunications act that seems to deal with some of the sector’s key issues, but awaiting for approval since 2013. Specific regulation on certain issues, like infrastructure deployment and sharing, represents an effective way to boost coverage and expansion and to decrease costs and investment needs.

Despite the authorities’ intentions to boost competition in the fixed segment, we believe that further measures are necessary. The unified licensing regime will not bring major changes as the biggest reason behind the lack of interest to invest in the fixed segment is only one: the necessary investment. We believe that a measure that could attract mobile operators or some new operator to address the fixed segment would be to create sharing obligations. The unified license regime makes a merger between TDM and mcel a logical scenario and would allow to improve their cost structure.

On the mobile segment, the entrance of the third operator gave the sector an important boost. Movitel created a very competitive environment that made prices come down and increased the country’s coverage considerably. We do not expect to see more entrants in Mozambique, as three operators seems the right figure for a country with 23.4 million inhabitants. The number of subscribers should register a CAGR 2013-2017F of 10.5%, implying 6 million net additions.

We believe that the sector’s biggest growth driver will be the country’s economic growth. As the population’s purchasing power increases we believe that the demand for telecommunication services will increase considerably. Mobile ARPU in Mozambique, using Vodacom as a proxy, stands at US$ 5.5, which is a relatively low level. However, when we calculate its weight on GNI per capita, standing at 11.2%, we see that telecommunication prices are still relatively expensive for the majority of the Mozambican population.

All in all, we expect the telecommunications sector’s growth to accelerate in the coming years backed by the country’s positive economic prospects and favorable regulation. Regulation is crucial to maximize the sector’s potential by decreasing costs and avoiding duplicated investments, which in turn benefits final consumers and allows a greater proportion of the population to benefit from the sector’s development. Moreover, we believe the sector will become more strategic for the authorities given its role in the country’s socioeconomic development and importance to close the gap between urban and rural populations.
The Telecommunications Sector in Mozambique

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