

## Brazilian Telcos

### Outlook for Regulatory Changes and Implications for Consolidation

We review the most likely regulatory changes that are planned in Brazil and the implication for operators, with a focus on how they should help consolidation scenarios, as well as the profitability of the players. Our base case does not yet contemplate such changes, thus we could see upside for them if they are approved. Our favorite name remains TIM on a positive outlook for Brazil mobile coupled with impressive company performance.

- **Regulatory changes not needed but highly desirable for consolidation.** Under the current rules, one existing operator would need to return the spectrum of an acquired operator. Moreover, concessions will expire in 2025, with no clarity on what would happen afterward.
- **Anatel started a process to increase spectrum limits (caps).** Under current regulation, each frequency band (700, 800, 1800, 2500 MHz, etc.), has its own limits. That could change soon to only two restrictions (sub and above 1 GHz) as it is already under the current public consultation.
- **The long-awaited PL79 would be a major overhaul of the telco regulation . . .** especially for fixed-line concessions (Oi and to a lesser extent Vivo) as it would change that to renewable authorizations and would free capital from useless quality requirements into more desirable broadband.
- **. . . However, it is unlikely to be approved this year** given the short window until Senators focus on the coming elections. Also, any change in the project would require another vote by the Lower Chamber.
- **And it could be a mixed blessing for current operators** as it would also facilitate the entry of a foreign player in Brazil. We have highlighted the risk of Oi being acquired by China Telecom and subsequently increasing investments and making the market more competitive.
- **PGMU may help concessions, but that also does not seem likely in the short term.** The delay in the PL79 approval may hinder the PGMU (wireline voice universalization goals), which could reduce the quality requirements of concessions as Anatel cannot efficiently allocate the extra capital (for instance, into broadband).
- **The TAC was not a good indication for the companies** as Vivo failed to exchange fines for more investments following tough negotiations with Anatel and TCU. That could signal further difficulties on the additional investments once the PL79 is approved.
- **Bottom line: positive view on Brazil mobile (Tim top pick), but not driven by reforms.** We see a benign environment in mobile, partially driven by Oi underinvestment, which is helping the margins of other operators. If these reforms are approved, we could see additional upside for the companies coming from M&A synergies or cost savings.

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**Table 1: Valuation 2018E**

Ticker		EV/EB	FCF Y%
AMX	N	6.1	6.3%
ENTEL	UW	7.2	0.6%
MEGACPO	OW	8.3	3.7%
MIC SS	UW	5.9	NA
TEO	N	6.7	-1.5%
TIMP3	OW	5.8	3.3%
VIVT4	N	5.3	4.8%
<b>Median</b>		<b>6.1</b>	<b>3.7%</b>

Source: J.P. Morgan estimates. Note: Millicom (MIC SS) is covered by Arbuzov.

## Regulatory changes & consolidation

### Change not really needed but highly desirable

In our view, the key advantages of an in-market consolidation (i.e., reducing the number of mobile players from four to three) are as follows: market repair, better use of spectrum, capex synergies, and opex synergies. One could also add fiscal synergies in the form of goodwill amortization and higher tax-free interest on capital.

However, a market consolidation would have problems with spectrum as well as with expiration of fixed-line concessions.

#### **Spectrum limits**

The current regulatory environment, however, limits the amount of spectrum that each operator has in each frequency band, while operators are already near the limit (please see current holdings in Table 2).

As such, an acquirer would need to return a substantial part of the acquired spectrum and would then face difficulties to serve the combined subscriber base well. While this issue may not prevent an M&A transaction for the other reasons mentioned, it would reduce the attractiveness of a deal.

To address this point, Anatel is currently performing a public hearing (see next section) that would maintain only two restrictions (sub 1GHz and above 1GHz). That would allow the consolidation of spectrum holdings to three players vs. four today.

#### **Regulatory uncertainty on concession expiration**

Most of Oi's business, as well as part of Vivo's, is fixed line concessions that are set to expire by 2025, with no clarity on what would happen next—the concession assets could return to the government.

Again, anyone interested in acquiring Oi (Bloomberg news mentioned TIM and China Telecom as interested in Oi) would face the risk of unfavorable concession conditions seven years from now.

Of course, a possible acquirer could factor that risk into a price; however, that could also reduce the appetite for such large acquisition.

## Broader Spectrum Caps

Anatel is currently addressing a restriction for consolidation and even for increased investments in the sector, which are overly restrictive spectrum caps. The four largest operations are operating mostly at their caps, which prevents mergers without the loss of spectrum. The issue is being discussed in public hearing on 6/18, which started on 09-Mar-18 and should end on 23-Apr-18.

### Current spectrum holdings

Table 2 shows the distribution (weighted by GDP) of spectrum holdings by operator. In general, Vivo and Claro have the largest holdings and more concentration in lower ranges, while Tim has a more mixed portfolio and Oi practically has no sub-1GHz spectrum. According to current regulations, spectrum caps are very narrow, establishing limits for individual players in each frequency range, and also within certain combinations of ranges, as shown in Table 2. Under the current cap structure, a combination of any of the four large players would result in spectrum loss.

**Table 2: Spectrum distribution (GDP-weighted)**

	Sub 1GHz				1-3 GHz			Total	Selected
	450 MHz	700 MHz	850 MHz	900 MHz	1.8 GHz	2.1 GHz	2.5 GHz		
Vivo	2	20	23	3	24	29	40	140	78
Tim	3	20	8	6	36	22	21	116	71
Claro	4	20	19	5	26	24	43	140	73
Oi				5	43	18	20	86	66
Nextel					14	20		34	34
<b>Total</b>	<b>9</b>	<b>60</b>	<b>50</b>	<b>18</b>	<b>142</b>	<b>113</b>	<b>124</b>	<b>516</b>	<b>323</b>
Cap	7	20	25	5	50	30	60		85

Source: Anatel (Mar-18) and J.P. Morgan estimates. Selected ranges include spectrum in the 850 MHz, 900 MHz, 1.8 GHz and 2.1 GHz, where there is a specific cap beyond the cap per range.

### Proposed spectrum caps

Under Public Hearing 6/18, Anatel is proposing to establish two caps for all spectrum below 1GHz and another two caps for spectrum between 1-3 GHz. Instead of absolute caps, the new caps would be defined as a percentage of the spectrum available. Breaching the first cap (35% of spectrum below 1GHz and 30% for the 1-3GHz range) would require Anatel's approval, while the second cap (40% for 1 GHz and 1-3 GHz) would be the maximum holding amount by a player.

We ran the following simulations on combinations of players, and the conclusion is that under the proposed system, any of the three large players would be allowed to buy Oi, although authorization from Anatel would be necessary for the 1-3 GHz range. On the other side, a combination of the top three players (Vivo, Tim, Claro) would require heavy divestitures in sub 1-GHz spectrum.

**Table 2: Combination analysis (Sub 1GHz, 35% limit)**

% of GDP covered by cities with spectrum to be returned

	Tim	Claro	Oi
<b>Vivo</b>	47%	72%	0%
<b>Tim</b>		63%	0%
<b>Claro</b>			0%

Source: Anatel and J.P. Morgan estimates.

**Table 3: Combination analysis (Sub 1GHz, 40% limit)**

% of GDP covered by cities with spectrum to be returned

	Tim	Claro	Oi
<b>Vivo</b>	36%	71%	0%
<b>Tim</b>		58%	0%
<b>Claro</b>			0%

Source: Anatel and J.P. Morgan estimates.

**Table 4: Combination analysis (1-3GHz, 30% limit)**

% of GDP covered by cities with spectrum to be returned

	Tim	Claro	Oi
<b>Vivo</b>	60%	74%	54%
<b>Tim</b>		44%	26%
<b>Claro</b>			62%

Source: Anatel and J.P. Morgan estimates.

**Table 5: Combination analysis (1-3GHz, 40% limit)**

% of GDP covered by cities with spectrum to be returned

	Tim	Claro	Oi
<b>Vivo</b>	0%	0%	0%
<b>Tim</b>		0%	0%
<b>Claro</b>			0%

Source: Anatel and J.P. Morgan estimates.

## Telco Reform

Regulators are seeking to modernize the telecommunications regulatory framework in Brazil through PLC 79, a bill currently in Congress that proposes to shift the focus from fixed voice to broadband. This is relevant for consolidation as it reduces uncertainties in the renewal of wireline concessions and spectrum in addition to allowing a secondary market for spectrum. However, the status of its approval is still uncertain.

### Changes

**Shift in the regulatory focus from fixed voice to broadband.** Under current regulations, fixed voice is considered to be the only “essential” telecommunications service, with concessions having universalization goals including the deployment of payphones. Under new regulations, goals should prioritize the deployment of fast internet networks.

Table 6: Spectrum end of concession

2020	Vivo, 850 MHz - RJ
2020	Vivo, 900 MHz - MG
2022	Tim, 800/900/1.8 - PR
2023	Vivo, 850 MHz - RJ
2023	Vivo, 900/2.1 - Brazil
2023	Tim, 800/900/1.8 - SC, CE, PB, RN, AL
2024	Tim, 800/900/1.8 - PE, PI, Pelotas(RS)
2024	Tim, 2.5 GHz, PA, RJ, DF, PR
2027	Tim, 800/900/1.8 - BA, SE

Source: J.P. Morgan estimates, company data.

- **Transformation of concessions into authorizations, with investment goals in areas without significant competition.** Companies would have the option to migrate their concession contracts to authorization ones, where they would face investment commitments and deployment goals only for areas deemed by Anatel as not having enough competitive intensity. In other areas, companies would compete on equal terms to current authorization players.
- **End of renewal limits for wireline concessions.** Currently, wireline concessions are valid for 20 years, with only one renewal allowed, which should happen in 2025 for Vivo and Oi. After this period, a new auction should take place. Under the proposed rules, concessions might be renewed indefinitely as long as companies continue to meet their obligations.
- **End of renewal limits for wireless spectrum.** As with wireline concessions, the authorization of the use of frequencies currently lasts 15 years, with only one renewal allowed. Vivo and Claro should see the end of their concessions in 2020, when a new auction would be required under current rules. Proposed rules remove uncertainties regarding how to deal with licenses that are expiring, which should start taking place in 2020.
- **Secondary market for spectrum.** New regulations would enable companies to transact spectrum, which is not allowed today.
- **End of regulatory assets.** This should reduce uncertainties related to the composition of these assets and their fair value, which should be returned to the state after the concession ends. The change should also allow incumbents to better monetize real estate assets that are no longer in use but are considered part of the concession.

### Status of the bill

The bill was proposed on 28-Oct-2015 in the Lower House, being approved and sent to the Senate on 30-Nov-2016, where it was approved on 16-Dec-2016 by a commission. While the bill was approved by both Houses at the end of 2016, it was returned to the Senate by a determination of the Supreme Court to be voted on the floor, which has not taken place yet.

## PGMU: Universalization Goals

Another important topic under discussion and somewhat related to the telco reforms is the review of universalization goals, which currently place a substantial financial burden on incumbents related to outdated services with declining demand, such as payphones. Changes in the PGMU have to be NPV-neutral, thus savings for companies in some service must be compensated with benefits for the consumer in other service.

The PGMU is enacted through a presidential decree, on the advice of the Ministry of Telecommunications, which in its turn consults with Anatel. In 2017 Anatel presented a new version of the PGMU, which contemplated a reduction in obligations related to payphones, public service centers, and backhaul, generating savings of R\$3.5bn, but this plan was rejected by companies. A new calculation reduced the forecasted gains slightly to R\$3.3bn.

One of the issues related to the PGMU is how companies will have to compensate for the R\$3.3bn gain. Some of the options discussed by Anatel include:

- **Deployment of broadband backhaul in cities without access.** According to Anatel, these resources would allow the deployment in 2.1k cities, with 25m inhabitants. However, this implies investments outside wireline voice, which is the object of the concession, and it is unclear if this could be done under current legislation, that is, prior to the approval of PL 79.
- **Deployment of mobile network in rural areas.** Anatel estimates that it would be possible to deploy 3.3k mobile towers using the 450 MHz frequency. This alternative also has the issue of investment outside the concession scope.
- **Reduction in wireline voice rates.** This is the traditional compensation made by companies, and it was the first proposal of Anatel's technical area. However, news articles indicate that this is the alternative least liked by Anatel's board members given that regulatory trends include less focus on fixed voice and more on data.
- **Burying of telecommunications infrastructure,** which is aerial in most large cities in Brazil. There are a few issues with this solution, including the fact that it would prioritize large cities, where universalization has already happened. Also, Anatel's chairman believes burying infrastructure is a quality issue and should be funded by carriers' own resources.
- **Postpone the decision until new regulation comes,** namely the approval of PL 79, which would allow the investment of these resources in effective broadband programs.

In Oct-17, the Ministry of Telecommunications asked Anatel to provide in 90 days the projects that could be fit into the new PGMU, but no answer has been provided so far.

## Spectrum Auctions

Anatel is planning the auction of leftover spectrum in the 700 MHz range, which could be important for Oi to close its gap with competitors, which already acquired this spectrum in 2014, although we do not believe the company would have the financial capacity to make the necessary disbursement (~R\$3bn). Moreover, unless current restrictions on spectrum caps are lifted, Oi acquiring this spectrum would constitute an issue for potential consolidation as it would lose the spectrum if it merged with other local players.

It is important to highlight that recent statements to the press from Anatel members suggest that the auction might take place as late as the end of 2019 and that it might include other spectrum in the ranges of 1.5 GHz, 2.3 GHz, and 3.5 GHz. Before the auction takes place, Anatel should initiate a public hearing on the auction format, which has not taken place yet.

In the 2014 auction, companies paid a total of R\$3.1.bn each (R\$1.9bn for the spectrum, R\$1.2bn for cleanup) for a 20 MHz block. Assuming the same price in a new auction would imply a total expenditure of R\$2.9bn (R\$1.9bn for the spectrum and R\$888m for cleaning).

Table 7: Results of the previous 700 MHz auction (2014)

Block	Area	Ranges (MHz)	Size (MHz)	Min. Price (R\$m)	Cleaning (R\$m)	Winner	Bid (R\$m)	Cleaning (R\$m)	Total (R\$m)
1	Brazil	738-748 / 793-803	20	1,928	904	Claro	1,947	1,199	3,146
2	Brazil	718-728 / 773-783	20	1,928	904	Tim	1,947	1,199	3,146
3	Brazil	728-738 / 783-793	20	1,928	904	Vivo	1,928	1,199	3,127
4	Brazil, ex-5 & 6	708-718 / 763-773	20	1,893	888				
5	Algar area	708-718 / 763-773	20	30	14	Algar	30	18	48
6	Sercomtel area	708-718 / 763-773	20	5	3				
<b>Total</b>			<b>80</b>	<b>7,712</b>	<b>3,616</b>		<b>5,852</b>	<b>3,616</b>	<b>9,468</b>

Source: Anatel, Teleco, and J.P. Morgan estimates.

Some of the key issues in the 700 MHz auction include:

- **Oi's capacity to participate:** Oi would be a natural buyer for the spectrum, considering that it did not participate in the auction in 2014 for financial reasons. However, the company's financials are still under pressure given the need for high capex.
- **Participation of Vivo/Claro/Tim.** There is debate in Anatel about allowing players who won blocks in the 2014 auction to participate in the new auction.
- **Pricing.** Anatel would like to reduce prices to foster investment, while there is pressure from the government to price up and improve primary surplus. Moreover, a lower pricing in this auction vs. the 2014 one could result in complaints to the Audit Court.
- **Spectrum caps under discussion.** There is an ongoing public hearing that is discussing a loosening in spectrum caps, which are highly restrictive today. This could increase companies' willingness to bid for spectrum.

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TIM Participacoes (TIMP3.SA/R\$15.33/Overweight)

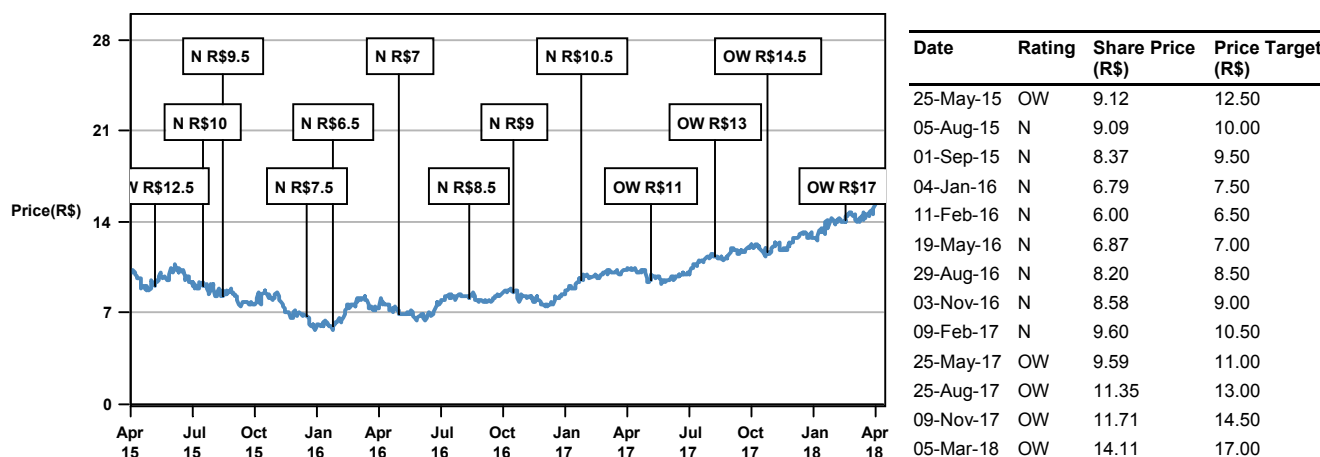
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