Telecommunication

Spectrum Inquiry; The Word is Out

NEUTRAL
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Following the Malaysian Communications And Multimedia Commission's (MCMC) public inquiry on the allocation of the 700MHz, 2300MHz and 2600MHz spectrums, telco operators have provided feedback on their views regards to the respective spectrums on (i) award mechanism and timeline of assignment; (ii) optimum spectrum blocks per operator for assignment; and (iii) proposed assignment fees. Though similar positive merits are shared amongst the industry players on the release of the 700MHz band as a preferred enabler of expanding nationwide coverage of 4G LTE, opinions differ on the other aspects of the proposed allocation. Varying suggested price methodologies leave much to consider in determining a fair value for the spectrums' assignment. Our NEUTRAL call for the sector remains unchanged. However, we take this opportunity to re-rate TM (TP: RM3.95) to OUTPERFORM on its share price weakness subsequent to adverse market reaction on the fixed-line provider's decision to branch aggressively into the highly competitive and saturated mobile market.

Ideas open for consideration. The first public inquiry by the MCMC was initiated on 1st July 2019 to gather opinions from industry players and the public on questions with regards to the proposals on the timeframe, implementation, technical matters and spectrum fees for the upcoming allocation of the 700MHz, 2300MHz and 2600MHz bands. We see this also as a step-up for the MCMC in presenting a more inclusive and transparent positioning on spectrum matters, which greatly affects the success of National Fiberisation and Connectivity Plan (NFCP) agenda. This is reflective from the MCMC making the submissions publicly available after its deadline on 30th August 2019. For the purpose of this report, we do away with the highly technical question with regards to the mitigation of interference between FDD and TDD blocks to facilitate efficient spectrum utilisation in the 2600 MHz band.

Bumping heads. A total of 15 submissions came in response to the public inquiry. We gathered from the submissions that industry experts share differing views with regards to the subjects at hand. **The use of a beauty contest (comparative tender) approach** appears to be favoured by market leaders as a more merit-based method could lead to more effective use and implementation of the spectrum licenses. On the other hand, several others are of the opinion that this prevents smaller set-ups from participating, mainly due to their lack of scale, which discourages a more inclusive and competitive market environment. **In terms of timing,** most participants concurred with MCMC's proposed timeline to sort the (re)assignments to be readily available for public service. **With regards to spectrum allocation,** disagreement arises on whether there should be an equal distribution of bandwidth to let commercial and shareholder' interests be the main drivers to maximise consumer experience or concentrating allocation to a single or two operators in achieving the most optimal results in the shortest period of time. **On pricing,** several interesting propositions were made for MCMC's consideration, but common ground was laid in the sense that MCMC should keep pricing with an eye on: (i) operators' capital expenditure to deploy the spectrum, and (ii) declining ARPU rates, which may lead to operators requiring greater effort to recoup their investments.

(refer to the overleaf for details of the questions presented and excerpted feedback from key mobile network operators)

Weighing our thoughts on the matter. While we reckon that most of the feedback provided would have some aspects of guarding commercial interest, we share similar feelings with market leaders being pro-beauty contest approach as national interests remains paramount and regulators will need to ensure only the most capable operators can lead the forefront especially when setting foot on new terrain. We believe that timing of the assignment should be made as early as possible as market players should naturally be able to adapt and cope with new changes in the industry. Providing leeway could prevent the cream of the crop from realising their fullest potentials. On allocation, though there is merit in condensing the spread to a specific few operators to optimise infrastructure and enable participation by others through wholesale agreements, it may not be the best approach in encouraging market competition which ultimately would strive towards driving the best benefit to consumers. *(We break down our opinions further in the overleaf)*

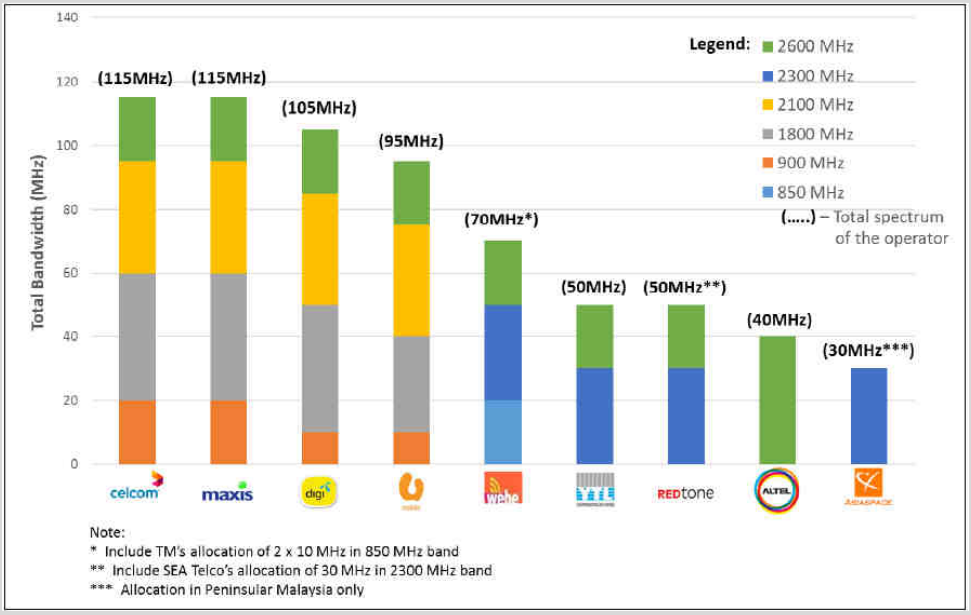
Maintain NEUTRAL on the telecommunications sector. We anticipate prospects within the sector to largely be driven by a race for cost efficiency. Celcos continue to be challenged by competitive pricing and the migration of subscribers towards more value-for-money packages while sector-wide operational cost fixing comprises mainly rationalising network and squeezing direct costs. While we leave our assumptions unchanged at this moment, we direct attention towards **TM (TP: RM3.95)** which saw huge selling pressures following the fixed-line operator's decision to heavily invest in the mobile business (Unifi Mobile) which is facing competitive headwinds while also being highly saturated, as mentioned above. While this is expected to crimp into any cost savings, it worked hard for (on greater infrastructure and marketing spending), we remain steadfast from assuming the worst given that it is not an entirely fresh venture for the group, with Unifi Mobile being in the market since Jan 2018. Further, it was anticipated that 2H19 would see lesser cost improvements as compared to 1H19 as the cost reduction quantum is typically highest during the initial stage of each rationalisation program. On this premise and that there could be an overreaction from the market, **we upgrade our call for TM to OUTPERFORM from MARKET PERFORM, leaving our DCF-driven TP of RM3.95** (based on WACC: 9.7%, TG: 1.5%) unchanged.

Preliminarily, it was in the MCMC's consideration to allocate the 700MHz band and reassignment of the 2300MHz band through a comparative tender process (beauty contest) as opposed to an auction process. Spectrum blocks are also intended to be kept at no less than 2x10MHz bandwidths for 700MHz and a channel bandwidth of 20MHz for 2300MHz.

- Recall that the availability of the 700MHz band is subject to the completion of the shutdown of analogue broadcasting services (or analogue switch-off, ASO) to move the transmission of free-to-air terrestrial television to digital transmissions. MCMC had targeted its conclusion by 3Q19, which our earlier industry checks deem to be achievable.
- Currently, the 2300MHz bands are utilised to support 4G LTE and WiMAX services and are limited to four operators owing to bulky bulks of 30MHz per operator. Trimming its allocation to 20MHz would enable greater participation in this space.

On the other hand, the 2600MHz bands are in consideration for a reassignment based on its actual utilisation by the mobile operators, given that key players resorted to sharing arrangements with the smaller outfits to operate efficiently.

Existing spectrum allocation



Source: MCMC

2600MHz allocation and actual utilisation

Operators	Frequency Range	Bandwidth
Redtone	2500 MHz to 2510 MHz paired with 2620 MHz to 2630 MHz	2x10 MHz
Maxis	2510 MHz to 2520 MHz paired with 2630 MHz to 2640 MHz	2x10 MHz
U Mobile	2520 MHz to 2530 MHz paired with 2640 MHz to 2650 MHz	2x10 MHz
Celcom	2530 MHz to 2540 MHz paired with 2650 MHz to 2660 MHz	2x10 MHz
Altel	2540 MHz to 2560 MHz paired with 2660 MHz to 2680 MHz	2x20 MHz
Digi	2560 MHz to 2570 MHz paired with 2680 MHz to 2690 MHz	2x10 MHz
TM/Webe	2575 MHz to 2595 MHz	20 MHz
YTLC	2595 MHz to 2615 MHz	20 MHz

Operators	Actual frequency utilisation	Bandwidth
Maxis (sharing arrangement with Redtone)	2500 MHz to 2520 MHz paired with 2620 MHz to 2640 MHz	2x20 MHz
U Mobile	2520 MHz to 2530 MHz paired with 2640 MHz to 2650 MHz	2x10 MHz
Celcom (Sharing arrangement with Altel)	2530 MHz to 2550 MHz paired with 2650 MHz to 2670 MHz	2x20 MHz
Digi (Sharing arrangement with Altel)	2550 MHz to 2570 MHz paired with 2670 MHz to 2690 MHz	2x20 MHz
TM/Webe	2575 MHz to 2595 MHz	20 MHz
YTLC	2595 MHz to 2615 MHz	20 MHz

Source: MCMC

The assignment process for the bands was initially earmarked to commence during 4QCY19, with the targeted completion of the 700MHz and 2600MHz band aimed by 2QCY20 and the 2300MHz band by 3QCY20. This should allow the bands to be available for service earliest in 3QCY20 and 4QCY20, respectively.

Questions posed by the MCMC with regards to the 700MHz, 2300MHz and 2600MHz bands were:
(i) views on the proposed allocation plan for the bands, in particular, on the award mechanism and timeline for assignment;
(ii) views on the optimum spectrum block per operator for assignment/re-assignment of the 700MHz/2300MHz band; and
(iii) views on the appropriate range (per MHz) for spectrum assignment fees (price component and annual fee component) and the rationale for the proposed fees for the bands.

Excerpted feedback on 700MHz from key players

<table>
<tr><th rowspan="2">Operator</th><th colspan="3">Concerns</th></tr>
<tr><th>Award mechanism and timeline for assignment</th><th>Optimum spectrum block/operator</th><th>Spectrum Assignment Pricing</th></tr>
<tr><td>Celcom (AXIATA)</td><td>➢ Celcom concurs with the beauty contest approach as assignment to able mobile operators could allow the efficient deployment of the spectrum, with a proposed scoring criteria as follows:<table><tr><th>Proposed Scoring Criteria</th><th>Weightage</th></tr><tr><td>Track record e.g. network rollout, efficiency, capacity to serve</td><td>40%</td></tr><tr><td>Financial strength e.g. ability to raise funds for network rollout & maintenance and spectrum fees</td><td>30%</td></tr><tr><td>Roll-out plan</td><td>20%</td></tr><tr><td>Commitment to network sharing</td><td>10%</td></tr><tr><td>Total</td><td>100%</td></tr></table>Celcom added to suggest imposing substantial penalties to those unable to deliver the desired coverage roll-out.
➢ Celcom also agrees with the tentative timeline of assignment, for the process to commence in 4QCY19, to be completed by 2QCY20 and initiate service by 3QCY20.</td><td>➢ Celcom agrees with the allocation of four blocks of no less than 2x10MHz but recommends assigning in three blocks of 2x15MHz. Celcom views this allocation to allow for more optimal cost efficiency than the 2x10MHz block assignment. Though this limits the rights of the spectrum to only three providers, wholesale agreements could still allow other operators to participate within the space as well.
➢ Celcom does not recommend a 2x20MHz block assignment. While this assignment would be the most cost efficient allocation, restricting to only two operators could lower competitive forces.</td><td>➢ In Celcom's view, the total cost of spectrum must be sustainable in relation to mobile operator service revenue. In determining the price component and the annual fee component for each band, the following could be considered:
o The cost of existing spectrum assignments (SA) for 900, 1800, and 2100MHz spectrum, including the price component and annual fee component paid.
o The price component and annual fee component for spectrum on the roadmap for the next few years, including the 700, 2300, and 2600MHz bands
o And also, future assignment plans for the next five years (i.e. the C-Band (3.5GHz) and mm wave spectrum (26GHz)).
Given Malaysia's digital development policy goals and MCMC's specific objectives, Celcom recommends that the total cost of spectrum, including the annualised cost of the price component and the annual fee component of spectrum, for all mobile operators should not increase materially.
➢ Celcom recommends the following price structure per MHz:
o Price component = RM6.5m/MHz
o Annual fee component = RM0.3m-RM0.7m/MHz</td></tr>
<tr><td>DIGI</td><td>➢ DIGI is supportive of the beauty contest approach, to make the spectrum to be fully used by mobile operators to support achieving NFCP targets and improvement of quality of service.
➢ DIGI suggested on stretching the spectrum assignment license validity to 20 years, being the maximum period in accordance to Spectrum Regulations 2000.</td><td>➢ DIGI agrees with the assignment of no less than 2x10MHz for the spectrum. DIGI also agrees with the bandwidth allocation across 4 blocks.</td><td>➢ No pricing suggestions were made public by DIGI. Although DIGI recommended that the total cost impact on spectrum acquisition should consider the below principles:-
o Setting modest spectrum prices for upfront and annual fees, at the level to continue incentivising investments and allowing for financially sustainable operations over the long-term; and
o Avoid determining unnecessary license terms and conditions (i.e. excessive roll-out obligation) and take them into account when setting prices.</td></tr>
<tr><td>MAXIS</td><td>➢ MAXIS is supportive of the beauty contest approach, suggesting the following elements to be considered:
o Allowing a 2 year delay in service rollout and coverage targets post-spectrum award;
o Keeping assignment to be technology agnostic on its 4G, 5G and above utilisation;
o Flexibility for operators to meet service rollout and coverage on a multiband approach;
o Allow recalibration of speed requirements;
o Emphasising on operator track record and financial capabilities in committing with the roll-out
➢ With regards to the timeline for assignment, MAXIS proposes a delay of proceedings such as follows:
o Assignment process – 2QCY20
o Process completion – 4QCY20
o Availability of use – 1QCY21</td><td>➢ MAXIS agrees with the assignment of no less than 2x10MHz for the spectrum.</td><td>➢ MAXIS proposes a 25% discount on the previous proposed spectrum fee be given for the 700 MHz band, in view of the huge capital expenditure that is required for deployment commitments.<table><tr><th>Band</th><th>Upfront Fee Price Component (RM m)</th><th>Annual Fee Component (RM m)</th><th>Total Fees (15 Years) (RM m)</th></tr><tr><td>700MHz</td><td>431.07</td><td>37.078</td><td>987.24</td></tr><tr><td>MAXIS' proposal (25% discount)</td><td>323.30</td><td>27.80</td><td>740.43</td></tr></table></td></tr>
</table>

Source: MCMC, Companies, Kenanga Research – refer to the actual submissions for further details provided

Excerpted feedback on 700MHz from key players (cont'd)

<table>
<tr><th rowspan="2">Operator</th><th colspan="3">Concerns</th></tr>
<tr><th>Award mechanism and timeline for assignment</th><th>Optimum spectrum block/operator</th><th>Spectrum Assignment Pricing</th></tr>
<tr><td>U Mobile</td>
<td>➢ U Mobile agrees with the use of a beauty contest to allocate the 700MHz spectrum, but notes that operators should reapply on their bidding, rather than MCMC reutilising the prior 700MHz application in early 2018.
➢ With regards to the timeline for assignment, U Mobile believes in enabling the spectrum use to be as soon as possible.</td>
<td>➢ U Mobile agrees with the assignment of no less than 2x10MHz for the spectrum. U Mobile also agrees with the bandwidth allocation across 4 blocks.</td>
<td>➢ U Mobile conducted its own industry studies on the reserve price benchmarks, offering various indicative prices structures which could be implemented. An applied discount was also factored, owing to the 700MHz's late release which diminished its value providing 4G coverage.
<table>
<tr><th>Malaysia's price per MHz/ population in RM before discount</th><th>Applied discount</th><th>Malaysia's population</th><th>Price per MHz applicable to Malaysia on NPV basis</th></tr>
<tr><td>RM0.896/MHz/ population</td><td>4-33%</td><td>32.5m</td><td>RM19.51m-RM27.96m/MHz on NPV basis</td></tr>
</table>
Assuming a license period of 15 years and an assumed breakdown of 60:40 to separate an upfront price component and annual fee component (with an applied WACC of 10%), the following breakdown is derived.
<table>
<tr><th>Price per MHz applicable on NPV basis</th><th>Upfront price (60% of NPV)</th><th>Annual fee (40% of NPV)</th></tr>
<tr><td>RM19.51m-RM27.96m/ MHz on NPV basis</td><td>RM11.71m-RM16.78m/MHz</td><td>RM1.03m-RM1.47m/MHz/year</td></tr>
</table></td></tr>
</table>

Source: MCMC, Companies, Kenanga Research – refer to the actual submissions for further details provided

Excerpted feedback on 2300MHz from key players

<table>
<tr><th rowspan="2">Operator</th><th colspan="3">Concerns</th></tr>
<tr><th>Award mechanism and timeline for assignment</th><th>Optimum spectrum block/operator</th><th>Spectrum Assignment Pricing</th></tr>
<tr><td>Celcom (AXIATA)</td>
<td>➢ Celcom concurs with the beauty contest approach as assignment to able mobile operators could allow the efficient deployment of the spectrum, with a proposed scoring criteria as follows:
<table>
<tr><th>Proposed Scoring Criteria</th><th>Weightage</th></tr>
<tr><td>Track record e.g. network rollout, efficiency, capacity to serve</td><td>40%</td></tr>
<tr><td>Financial strength e.g. ability to raise funds for network rollout & maintenance and spectrum fees</td><td>30%</td></tr>
<tr><td>Roll-out plan</td><td>20%</td></tr>
<tr><td>Commitment to network sharing</td><td>10%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
Celcom added to suggest imposing substantial penalties to those unable to deliver the desired coverage roll-out.
➢ However, Celcom proposes that this spectrum assignment concludes earlier, being at 1QCY20 and to be available for use by 2QCY20.</td>
<td>➢ As opposed to MCMC's preferred assignment of a channel bandwidth of 20MHz, Celcom suggests that the optimal assignment could be one block of 40MHz and one block of 50MHz, which Celcom believes would bring about an ideal mix of cost efficiency and download speeds.
While not as optimal as the above, Celcom also suggested an allocation of three blocks of 30MHz and preferably not less than this.</td>
<td>➢ In Celcom's view, the total cost of spectrum must be sustainable in relation to mobile operator service revenue. In determining the price component and the annual fee component for each band, the following could be considered:
o The cost of existing spectrum assignments (SA) for 900, 1800, and 2100MHz spectrum, including the price component and annual fee component paid.
o The price component and annual fee component for spectrum on the roadmap for the next few years, including the 700, 2300, and 2600MHz bands
o And also, future assignment plans for the next five years (i.e. the C-Band (3.5GHz) and mm wave spectrum (26GHz)).
Given Malaysia's digital development policy goals and MCMC's specific objectives, Celcom recommends that the total cost of spectrum, including the annualised cost of the price component and the annual fee component of spectrum, for all mobile operators should not increase materially.
➢ Celcom recommends the following price structure per MHz:
o Price component = RM3.5m/MHz
o Annual fee component = RM0.2m-RM0.4m/MHz</td></tr>
</table>

Source: MCMC, Companies, Kenanga Research – refer to the actual submissions for further details provided

Excerpted feedback on 2300MHz from key players (Cont'd)

<table>
<tr><th rowspan="2">Operator</th><th colspan="3">Concerns</th></tr>
<tr><th>Award mechanism and timeline for assignment</th><th>Optimum spectrum block/operator</th><th>Spectrum Assignment Pricing</th></tr>
<tr><td>DIGI</td><td colspan="2">➢ DIGI views that 2300MHz spectrum will be a useful band as TDD will be more important for future 5G services and is supportive for:-
o 2300MHz to be considered for mobile services allocation in Malaysia
o The proposed spectrum blocks allocation at 10MHz each for 2300MHz
➢ In terms of its timing, DIGI views that 2300MHz will be useful at later stage for 5G services.</td><td>➢ No pricing suggestions were made public by DIGI. Although DIGI recommended that the total cost impact on spectrum acquisition should consider the below principles:-
o Setting modest spectrum prices for upfront and annual fees, at the level to continue incentivising investments and allowing for financially sustainable operations over the long-term; and
o Avoid determining unnecessary license terms and conditions (i.e. excessive roll-out obligation) and take them into account when setting prices.</td></tr>
<tr><td>MAXIS</td><td>➢ MAXIS is supportive of the beauty contest approach, but seeks emphasis on strict assessment criteria to avoid ineffective allocation and use of the spectrum.
➢ With regards to the timeline for assignment, MAXIS proposes a delay of proceedings such as follows:
o Assignment process – 2QCY20
o Process completion – 1QCY22
o Availability of use – 2QCY21</td><td>➢ MAXIS views that the MCMC should allow a minimum allocation of 1x20MHz and not be restricted to the current allocation of 1x30MHz per operator.</td><td>➢ Derived from a ratio study on global benchmarks on the 2100MHz and 2600MHz bands, which are deemed fundamentally comparable to the 2300MHz band, MAXIS proposed its findings for consideration
<table>
<tr><th>Band</th><th>2300MHz (1x20Mhz) (RM m)</th><th>2300MHz (1x10Mhz) (RM m)</th></tr>
<tr><td>Price component</td><td>19.7</td><td>9.85</td></tr>
<tr><td>Annual fee component</td><td>8.3</td><td>4.15</td></tr>
</table></td></tr>
<tr><td>U Mobile</td><td>➢ U Mobile agrees with the use of a beauty contest to allocate the 2300MHz spectrum. However, they believe that both the 2300MHz and 2600MHz spectrums should be jointly allocated as a TDD block as they are both potential 5G bands.
Adding to this, U Mobile does not agree with the proposed pre-determined assignment of 2600MHz (TDD) based on current assignment, as this is inconsistent with other bands and does not consider that other MNOs may place a higher value on the spectrum and/or may generate a greater public benefit from their use of spectrum, such as via 5G deployment.
➢ With regards to the timeline for assignment, U Mobile believes in enabling the spectrum use to be as soon as possible.</td><td>➢ U Mobile proposes for a joint allocation of the 2300MHz and 2600MHz, by way of three 30MHz blocks in the 2300MHz (TDD) range and one 40MHz block in the 2600MHz (TDD) range.
This will limit to four network operators, which U Mobile believes would enable sustainable competition.</td><td>➢ U Mobile conducted its own industry studies on the reserve price benchmarks, offering various indicative prices structures which could be implemented.
<table>
<tr><th>Malaysia's price per MHz/ population in RM</th><th>Malaysia's population</th><th>Price per MHz applicable to Malaysia on NPV basis</th></tr>
<tr><td>RM0.0733/MHz/ population</td><td>32.5m</td><td>RM2.38/MHz on NPV basis</td></tr>
</table>
Assuming a license period of 15 years and an assumed breakdown of 60:40 to separate an upfront price component and annual fee component (with an applied WACC of 10%), the following breakdown is derived.
<table>
<tr><th>Price per MHz applicable on NPV basis</th><th>Upfront price (60% of NPV)</th><th>Annual fee (40% of NPV)</th></tr>
<tr><td>RM2.38/MHz on NPV basis</td><td>RM1.43m/MHz</td><td>RM0.12m/MHz/year</td></tr>
</table></td></tr>
</table>

Source: MCMC, Companies, Kenanga Research – refer to the actual submissions for further details provided

Excerpted feedback on 2600MHz from key players

<table>
<tr><th rowspan="2">Operator</th><th colspan="2">Concerns</th></tr>
<tr><th>Award mechanism and timeline for assignment</th><th>Spectrum Assignment Pricing</th></tr>
<tr><td>Celcom (AXIATA)</td><td>➢ Celcom supports the reassignment of the spectrum.
➢ However, Celcom proposes that this spectrum assignment concludes earlier, being at 4QCY19 and to be available for use by 1QCY20.</td><td>➢ In Celcom's view, the total cost of spectrum must be sustainable in relation to mobile operator service revenue. In determining the price component and the annual fee component for each band, the following could be considered:
o The cost of existing spectrum assignments (SA) for 900, 1800, and 2100MHz spectrum, including the price component and annual fee component paid.
o The price component and annual fee component for spectrum on the roadmap for the next few years, including the 700, 2300 and 2600MHz bands
o And also, future assignment plans for the next five years (i.e. the C-Band (3.5GHz) and mm wave spectrum (26GHz)).
Given Malaysia's digital development policy goals and MCMC's specific objectives, Celcom recommends that the total cost of spectrum, including the annualised cost of the price component and the annual fee component of spectrum, for all mobile operators should not increase materially.
➢ Celcom recommends the following price structure per MHz:
o Price component = RM0.7m-RM1.1m/MHz
o Annual fee component = RM0.7m-RM1.1m/MHz
Celcom proposes to have the same per MHz price for 2600MHz TDD spectrum as for 2600MHz FDD spectrum.</td></tr>
<tr><td>DIGI</td><td>➢ DIGI supports the reassignment of the spectrum
➢ With regards to the timeline for assignment, DIGI is also supportive of MCMC's tentative timeline.</td><td>➢ No pricing suggestions were made public by DIGI. Although DIGI recommended that the total cost impact on spectrum acquisition should consider the below principles:-
o Setting modest spectrum prices for upfront and annual fees, at the level to continue incentivising investments and allowing for financially sustainable operations over the long-term; and
o Avoid determining unnecessary license terms and conditions (i.e. excessive roll-out obligation) and take them into account when setting prices.</td></tr>
<tr><td>MAXIS</td><td>➢ MAXIS supports the reassignment of the spectrum
➢ With regards to the timeline for assignment, MAXIS proposes to expedite the proceedings such as follows:
o Assignment and completion process – 4QCY19
o Availability of use – 1QCY20</td><td>➢ Derived from a ratio study on global benchmarks on the 2100MHz and 2600MHz bands, which are deemed fundamentally comparable to the 2300MHz band, MAXIS proposed its findings for consideration
<table><tr><th>Band</th><th>2600MHz (2x10Mhz) (RM m)</th></tr><tr><td>Price component</td><td>19.7</td></tr><tr><td>Annual fee component</td><td>8.3</td></tr></table></td></tr>
<tr><td>U Mobile</td><td>➢ U Mobile does not believe that reassignment of spectrum rights is a justified approach. In particular, the proposed 2600MHz (FDD) allocation is based on spectrum sharing arrangements which fail to account for the reservation of capacity for the actual spectrum licensees. U Mobile should not be prevented from receiving additional 2600MHz (FDD) spectrum due to its frequency assignment being adjacent to those of the primary MNOs rather than licensees that failed to use their spectrum effectively.
➢ U Mobile suggests that the band should be assigned through the same beauty contest approach as with the other spectrums. The structure of spectrum licences within each band should be aligned with rationalising the market towards four MNOs, to enable sustainable competition with benefits for consumers.
➢ With regards to the timeline for assignment, U Mobile believes in enabling the spectrum use to be as soon as possible.</td><td>➢ U Mobile conducted its own industry studies on the reserve price benchmarks, offering various indicative prices structures which could be implemented.
<table><tr><th>Band</th><th>Malaysia's price per MHz/ population in RM</th><th>Malaysia's population</th><th>Price per MHz applicable to Malaysia on NPV basis</th></tr><tr><td>2600MHz (FDD)</td><td>RM0.186/MHz/ population</td><td>32.5m</td><td>RM6.05m/MHz on NPV basis</td></tr><tr><td>2600MHz (TDD)</td><td>RM0.0833/MHz/ population</td><td>32.5m</td><td>RM2.71m/MHz on NPV basis</td></tr></table>Assuming a license period of 15 years and an assumed breakdown of 60:40 to separate an upfront price component and annual fee component (with an applied WACC of 10%), the following breakdown is derived.
<table><tr><th>Band</th><th>Price per MHz applicable on NPV basis</th><th>Upfront price (60% of NPV)</th><th>Annual fee (40% of NPV)</th></tr><tr><td>2600MHz (FDD)</td><td>RM6.05m/MHz on NPV basis</td><td>RM3.63m/MHz on NPV basis</td><td>RM0.32m/MHz on NPV basis</td></tr><tr><td>2600MHz (TDD)</td><td>RM2.71m/MHz on NPV basis</td><td>RM1.63m/MHz on NPV basis</td><td>RM0.14m/MHz on NPV basis</td></tr></table></td></tr>
</table>

Source: MCMC, Companies, Kenanga Research – refer to the actual submissions for complete details provided

What is right? Given the different market influences the players have on the telecommunication landscape, it would be natural to expect non-conforming views. **In argument for the beauty contest method**, industry leaders would leverage on their sizeable resources and capabilities to stay as the principal drivers on the national telecommunication landscape. Small outfits could contend that keeping high levels of concentration amongst the big boys prevents the market from being competitive as they will not be given opportunities to prove their worth to consumers. Sharing our thoughts on the matter, we do side with the MCMC and market leaders with regards to the beauty contest approach. Touching on matters of consumer interests, especially on greenfield initiatives, technical and financial capabilities should be a key concern during the assignment to ensure the deliverables could be achieved in a timely and efficient manner, while having an assurance on minimal disruption in the process. True that this may prevent a wider scope of participation amongst the smaller players, it is not to say that spectrum sharing arrangements are out of the question. In fact, as operators progressively become more efficient with their use of the spectrums, this could translate to better managed-operating costs, which could then spill over to any sharing partnerships.

Rolling out of spectrum (re)assignments should also be done as early as possible. While there could be less urgency in deploying certain spectrums (2300MHz), we believe that having it available for utilisation sooner will put pressure on operators to be adaptive in sweating its resources and maximise commercial value. Giving sufficient timing is also crucial to ensuring minimum disruption, but we believe this could put a test on the operators' capabilities and know-how even further.

On our view regarding spectrum block allocation, though seeming contradictory, we concur with MCMC's approach and that **spectrum allocation should be well spread across its licence holders.** We believe that condensing spectrum licenses may not make the most commercial sense as it does not give other operators an equal ground to experiment on their most efficient use of the spectrums. Additionally, having too few players in the market could result in the allocated block to be underutilised or having too strong of an influence on pricing towards consumers.

Breather from cancellation of merger. Sentiment with regards to the previous merger between AXIATA and Telenor raised concerns amongst other mobile operators, mainly involving an over-allocation of spectrum rights, which could skew the competitive edge that the merged company will have against other local players. *(refer to the coinciding Telecommunication Sector Update - Breaking of Merger Dreams for details of the cancellation of the merger)*

We recommend reading the unedited submissions from participants in the MCMC's website for full insights on the matters raised for this public inquiry.

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Peer Table Comparison

Name	Last Price (RM)	Market Cap (RM'm)	Shariah Compliant	Current FYE	Revenue Growth		Core Earnings Growth		PER (x) - Core Earnings			PBV (x)		ROE (%)	Net Div Yld (%)	Target Price (RM)	Rating
					1-Yr. Fwd.	2-Yr. Fwd.	1-Yr. Fwd.	2-Yr. Fwd.	Hist.	1-Yr. Fwd.	2-Yr. Fwd.	Hist.	1-Yr. Fwd.	1-Yr. Fwd.	1-Yr. Fwd.		
Stocks Under Coverage																	
AXIATA GROUP BHD	4.88	44,547.9	Y	12/2019	5.4%	0.2%	4.7%	22.0%	43.8	41.8	34.3	1.9	1.9	4.5%	2.0%	4.80	MP
DIGI.COM BHD	4.89	38,019.7	Y	12/2019	-6.3%	3.1%	-9.2%	0.9%	24.7	27.2	26.9	56.5	55.3	205.7%	3.6%	4.70	MP
MAXIS BHD	5.55	43,403.7	Y	12/2019	-1.7%	0.6%	-11.1%	4.4%	24.6	27.6	26.5	6.1	5.9	21.6%	3.1%	4.90	UP
OCK GROUP BHD	0.595	518.5	Y	12/2019	8.3%	12.5%	15.0%	7.8%	19.4	16.9	15.7	1.0	1.0	6.0%	0.0%	0.630	MP
TELEKOM MALAYSIA BHD	3.47	13,065.6	Y	12/2019	-4.9%	0.6%	34.4%	4.5%	20.7	15.4	14.8	1.9	1.8	11.8%	2.9%	3.95	OP
Simple Average					**0.1%**	**3.4%**	**6.8%**	**7.9%**	**26.6**	**25.8**	**23.6**	**13.5**	**13.2**	**49.9%**	**2.3%**		
Stocks Not Under Coverage - Consensus																	
TIME DOT COM BHD	9.00	5,269.8	Y	12/2019	11.3%	11.2%	11.2%	9.3%	18.3	16.4	15.0	2.0	1.9	12.1%	2.2%	10.28	BUY

Source: Kenanga Research

AXIATA Sum-of-Parts Valuation

Companies	Methodology	Earnings Multiple	Equity Value (RM'm)	Effective Stake (%)	Effective Value (RM'm)
Celcom (Malaysia)	DCF	WACC: 7.9%, TG: 1.3%	24,288.3	100.0%	24,288.3
XL (Indonesia)	DCF	WACC: 9.9%, TG: 2.5%	14,959.9	66.4%	9,927.4
Robi (Bangladesh)	EV/EBITDA	5.0x	7,763.6	68.7%	5,333.6
Dialog (Sri Lanka)	EV/EBITDA	4.8x	5,208.7	83.3%	4,339.9
Ncell (Nepal)	EV/EBITDA	5.0x	6,889.2	80.0%	5,511.4
Smart (Cambodia)	EV/EBITDA	6.0x	4,369.8	72.5%	3,168.1
edotco	EV/EBITDA	7.0x	4,129.4	63.0%	2,601.5
Vodafone Idea (India)	Market Price		22,930.8	1.6%	371.5
			Total Effective Value		**55,541.5**
			(-) Net Debt		12,098.1
			Total Equity Value		**43,443.5**
			No. of Axiata Shares ('m)		9,058.6
			Value/Share (RM)		**4.80**

Source: Kenanga Research

Stock Ratings are defined as follows:

Stock Recommendations

OUTPERFORM	: A particular stock's Expected Total Return is MORE than 10%
MARKET PERFORM	: A particular stock's Expected Total Return is WITHIN the range of -5% to 10%
UNDERPERFORM	: A particular stock's Expected Total Return is LESS than -5%

Sector Recommendations***

OVERWEIGHT	: A particular sector's Expected Total Return is MORE than 10%
NEUTRAL	: A particular sector's Expected Total Return is WITHIN the range of -5% to 10%
UNDERWEIGHT	: A particular sector's Expected Total Return is LESS than -5%

******Sector recommendations are defined based on market capitalisation weighted average expected total return for stocks under our coverage.***

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