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Dr. Rahul Khullar
Chairman,
Telecom Regulatory Authority of India,
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New Delhi 110002
INDIA

GSMA response to TRAI Consultation Paper on "Valuation and Reserve Price of Spectrum"

Dear Dr. Khullar,

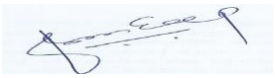
The GSMA is pleased to submit its response to the TRAI consultation paper on "Valuation and Reserve Price of Spectrum" and would hereby like to share its position based on international best practices.

The allocation of additional spectrum to mobile operators is important to ensure Indian citizens can fully enjoy the benefits that mobile services bring to society. However, the high spectrum reserve prices set in recent auctions have been of particular concern to the GSMA and its member operators.

Although spectrum auction returns provide an attractive source of income, the GSMA calls on the Indian government to also consider the overall longer term benefits associated with the mobile use of spectrum (consumer value creation, job creation and social benefits), which ultimately lead to the economic growth for the country. The GSMA therefore urges the TRAI to significantly reduce spectrum reserve prices in future auctions. This will help to avoid spectrum remains unsold and to support operators' investment in infrastructure and services.

Attached, you will find our detailed response to the public consultation. We remain at your disposal to answer any questions you may have.

Yours faithfully,



Sandeep Karanwal
Director, GSMA India

A. NEW APPROACHES TO SPECTRUM MANAGEMENT

Mobile is the most widely adopted consumer technology in history and a regulatory model that fosters competition — in particular, the liberalisation of telecommunications services, infrastructure and the provision of sufficient spectrum to facilitate a widespread, low-cost mobile network roll-out — has been key to achieving this level of adoption.

Regulatory changes are critical to unleashing the full benefits of mobile technology, with legislation providing clarity and incentives, industry players need in order to make appropriate investment decisions.

The GSMA believes that more efficient use of spectrum can be achieved by lifting regulatory restrictions on the way the spectrum is used. In particular, restrictions on the technology or service deployed and on the possibility to engage in spectrum trading, can limit operators' ability to use spectrum efficiently. Across the globe, stakeholders are adopting more liberal regulatory approaches towards spectrum management. Below are options to promote an efficient spectrum use:

1. Spectrum Trading

Unless there is a compelling reason to restrict the trade of spectrum usage rights, the GSMA encourages licensing authorities to have a regulatory framework that allow operators to engage in voluntary spectrum trading. Spectrum trading agreements should be governed by commercial law and subject to the rules applicable to such agreements[1].

The GSMA believes that spectrum trading can enable increased flexibility in business planning by allowing spectrum users to trade underused spectrum or purchase spectrum to assist in implementing end to end solutions, ensuring that spectrum does not lie fallow. In particular, by helping to reduce spectrum shortages faced by operators in India, trading can support expansion in service volumes, increase quality of service and reduce service prices. However, governments should also be very aware of their role in designing appropriate award procedures and well-defined spectrum usage rights will continue to be very important. Trading cannot be relied upon as a tool to repair damage done by poor award design and/or poor license design.

Internationally, spectrum trading is encouraged by the European Union (with most of the countries allowing trading in the license) and has been introduced in Australia, Canada, Guatemala, New Zealand, Norway, the USA and the UK and on a more limited basis in Austria, France, Germany, the Netherlands and Sweden[2]. In other countries, individual spectrum trades have sometimes been allowed after regulatory review.

[1] GSMA Position Paper Spectrum Trading, 2011
[2] GSMA report: Licensing to support the mobile broadband revolution, May 2012

Spectrum trading in Guatemala: Case Study

Guatemala is one of the first countries to allow for spectrum trading. In Guatemala, rights to use regulated frequency bands (TUFs) are granted in fully transferable and fragmentable usage titles, i.e., they can be totally or partially rented and/or transferred. TUFs have no service limitation, and existing users are granted flexibility in the utilisation of spectrum as long as emissions are confined to the original bandwidth assigned. TUFs are subject to two interference limits: a "maximum effective radiation power" and a "maximum potency admissible in the coverage area".

The regulator can impose fines for cases of repeated abuses (i.e., where interference exceeds allowed levels). If the abuse is established, the harmed user can also file a claim for damages or other remedies in the courts.

Spectrum trading in Guatemala appears to have been a significant success. Over 41 per cent of TUFs had been traded by 2004. Liberalisation in Guatemala has resulted in more spectrum becoming available for key services such as mobile services and has reduced entry barriers. Competition has been strong in Guatemala's relatively unconcentrated mobile market, resulting in among the lowest mobile prices in Latin America and continuing high rates of subscriber. Interference issues are mostly minor with tight deadlines for their resolution.

Key considerations for spectrum trading:

- Arrangement: Trading agreements are commercially negotiated agreements governed by private law.
- Notification: It makes sense for governments to be notified of spectrum trading and grant approval. Notification requirements preserve transparency in who holds a spectrum usage right. Transparency of who is the licensee holder facilitates and simplifies trading transactions and helps keeps track of trading arrangements. Governments must implement appropriate and effective procedures for handling notification requests of spectrum trading agreements. As a general rule, notifications of a trading transaction should be approved within two to three weeks following receipt of the notification, unless the trade is highly likely to have an impact on competition and governments in such cases need more time to consider the case.
- Competition: Spectrum trading arrangements may be subject to assessment under general competition law and/or sector specific telecommunication law.
  One legitimate reason for governments to examine the voluntary trading of spectrum arrangement is to ensure competition in relevant downstream markets. The GSMA recognises that spectrum trading arrangements may lead to operators increasing the bandwidth of their mobile band spectrum portfolio. Furthermore, the GSMA recognises that spectrum should be distributed in a way that ensures competition in downstream markets. Whether spectrum trading would actually lead to a loss in competition would depend on: (i) the amount of spectrum available to competitors; and (ii) the degree of competition in the downstream markets.

- Well-specified spectrum rights: Trading bandwidth requires a clear and commercially definition of initial property rights or entitlements. A spectrum licence may specify the right to exclusive usage in terms of frequency and geography (and potentially in relation to a time dimension) as well as reasonable interference levels.
- Licence extension: uncertainty over future rights to use the spectrum can act as a major barrier to spectrum trading.

2. E-GSM

The Authority in the consultation paper has suggested of the possibility of opening of the 'Extended GSM' (E-GSM) band.

The benefits of using E-GSM relates to the larger frequency range, increase from 25MHz to 35MHz in both the uplink and the downlink. This enables an extra 50 channels to be utilised to increase the network capacity of GSM-900 by about 40%.

Currently in Europe, all the administrations have licenced the E-GSM band (international band plan), and majority of the countries are providing services in this band.

B. SPECTRUM FEES

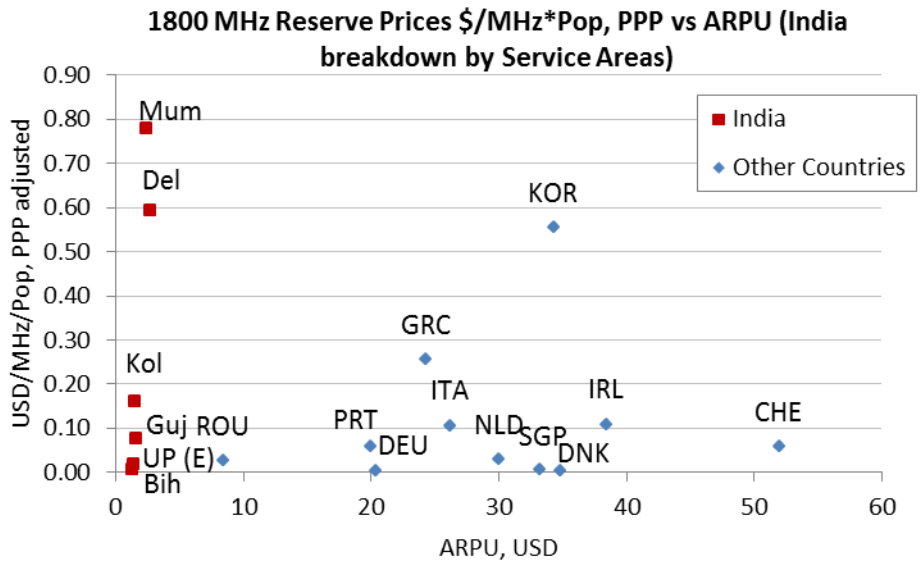
The overall level of spectrum fees can significantly impact market outcomes including the number of players participating in the auctions and the prices for mobile services. Licence fees should be used to help recover the administrative costs of freeing spectrum for new, higher-value uses, licensing and managing the spectrum for long term social and economic benefit. They should not be used to maximise government revenue.

Reserve prices help discourage non-serious bidders and can also ensure a floor price for spectrum in case competition for the licences is weak. However, where competition is expected to be strong (like India). The TRAI should set lower reserve prices rather than to try to match the expected market price. This reflects the danger that even a reserve price that is set a little too high may lead to the auction failing to assign the licence. If a licence fails to sell, there can be unnecessary administration costs in needing to hold another auction and consumers can also be harmed by the delay in the spectrum being able to be used. This is exactly what happened in the recently concluded Australian Digital Dividend auction of 700 MHz spectrum, where one-third (2x15 MHz) of the spectrum remain unsold due to the unrealistically high reserve prices, resulting in an overall negative impact on the country's economy.

High spectrum prices bring undesirable long-term costs that could be passed on to consumers and translate into higher tariffs, resulting in lower adoption of mobile services. If absorbed by operators, this could lead to higher debt ratios and limited ability to invest in network infrastructure and upgrades.

Benchmarking spectrum reserve prices *after accounting for local market conditions* has proved a good indicator for the right level of reserve prices. The figure below shows the relationship between

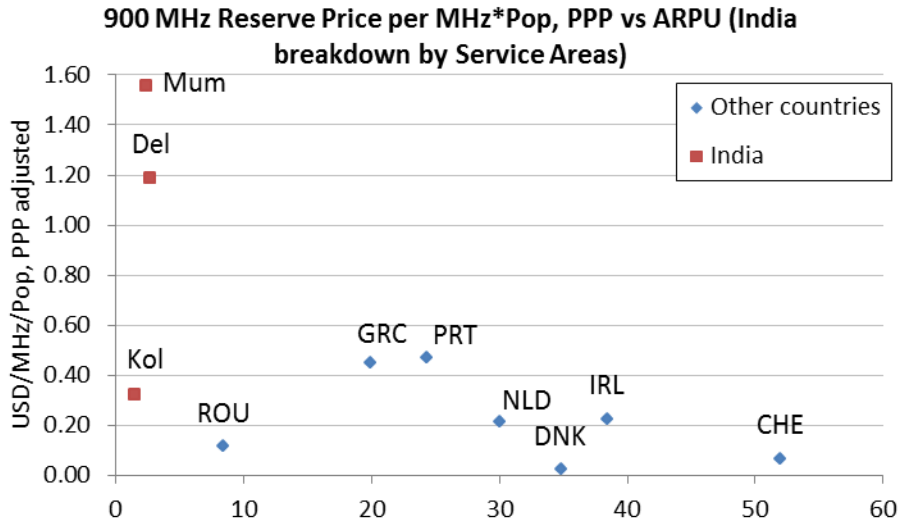
relative spectrum reserve prices per MHz (adjusted for country population, purchasing power parity) with ARPUs.



Source: GSMA Intelligence

The graph shows that even for countries with comparable reserve prices, the ARPUs are X multiplier that of India service areas. E.g. even with Delhi USD/MHZ/pop being slightly higher than Korea, Korea ARPU is 13X that of Delhi. This would effectively mean that mobile operators have to pay far more for a spectrum in India while the ARPU is significantly lower. And thus rate of return of investments take much longer.

Similarly, the international benchmarks for 900 MHz is shown below:



Source: GSMA Intelligence

As it is clear from above even for 900 MHz, Delhi, Mumbai, Kolkata reserve prices are also among the highest in the world with lowest ARPUs.

C. QUANTITY OF SPECTRUM

The GSMA strongly recommends that the entire available spectrum should be made available in the forthcoming 1800MHz auction. This will not only ensure fair price discovery but will also ensure optimal use of this resource. There is a general need to make more spectrum available for mobile in India and to assign it to operators in line with internationally harmonised band plans.

Thomas W. Hazlett, Professor of Law & Economics at George Mason University and former Chief Economist of the Federal Communications Commission, has commented that:
"To restrict the spectrum available to mobile networks is to reduce the value of the services they provide (…) the restrictions that policy makers consistently impose on spectrum for mobile services most often simply freeze virtually unused bands in place. These actions do not enable alternative wireless applications of higher value, they simply squander bandwidth. This does yield regulators option values, as they can decide what to do with unused frequencies at a later date. But these options have negative value to society. The bandwidth that lies idle is not saved but destroyed, as the opportunities not used are gone forever."[3]

Moreover, by offering small block sizes, making available only a limited amount of the band and doing so through a series of consecutive auctions, operators are prevented from acquiring sufficient spectrum (in a contiguous manner) to operate efficiently, which, in turn, leads to significant uncertainty as operators either have to bid for multiple blocks simultaneously or bet on success in future auctions to acquire further spectrum and be able to run a new technology. A key point for policymakers to consider is that failure to allocate spectrum according to international standards (failure to harmonise) leads to increased costs and inefficiencies for all the stakeholders.

The GSMA is committed to engaging in an open dialogue with governments and regulators as they develop and review their policy and regulatory frameworks. Please do not hesitate to contact us if you have any questions on the above issues.

For further information, please contact:

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[3] GSMA report: Licensing to support the mobile broadband revolution, May 2012