

**Response to the “Public Consultation Issued by the Ministry of Communications and Information Technology of the Republic of the Union of Myanmar”**

- 1.0 LIRNEasia appreciates the opportunity to offer comments on the proposed rules. LIRNEasia is a regional information and communication technology (ICT) policy and regulation think tank active across the Asia Pacific. It has commented on numerous consultations issued by National Regulatory Agencies in the region. LIRNEasia has offered two training courses within Myanmar in 2013, the first in August in Nay Pyi Taw in association with the World Bank and GSMA and the second in September in Taungoo, in association with the Myanmar ICT Development Organization (MIDO). The contact person for the purposes of this collectively-authored submission is Professor Rohan Samarajiva, Chair of LIRNEasia and former Director General of Telecommunications of Sri Lanka ([rohan@lirneasia.net](mailto:rohan@lirneasia.net); +94 777 352 361).
- 2.0 The comments cover licensing, spectrum, numbering and competition rules.

**Licensing**

- 3.0 The licensing structure is central. There are three categories: (a) Network facility business; (b) Network service business; (c) Application service business. These categories are defined in detail in Clause 19.
- 3.1 The problematic category is “Application service license.” The activities authorized by the application service license include, but are not limited to, the provision of the following telecommunications services:
- 3.1.1 public payphone services;
  - 3.1.2 public switched data services;
  - 3.1.3 audiotext hosting services provided on an opt-in basis;
  - 3.1.4 directory services;
  - 3.1.5 Internet service provider services;
  - 3.1.6 public access center services;
  - 3.1.7 messaging services;
  - 3.1.8 private line voice and/or data services; and
  - 3.1.9 value-added services.
- 3.2 Because the list is open-ended and even the described services have elastic definition (e.g., value-added services), it is possible that a control-minded policy maker/regulator could interpret the scope of the AS license broadly and include, for example, mobile apps such as Facebook and Twitter. Since it would be practically impossible to compel global entities to obtain licenses, the actual effect would only be to license local apps. Such efforts have been made, unsuccessfully, in Bangladesh, for example.<sup>1</sup> Without further work it is not possible to say that the entire category can be dispensed with, since the model comes from Singapore and Malaysia. We recommend that some safeguards be added to preclude overbroad application of the scope of application service licenses.

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<sup>1</sup> <http://lirneasia.net/2012/05/rapid-response-to-vas-guidelines-proposed-by-bangladesh/>

- 3.3 India's TRAI is considering the issuance of licenses, on a registration basis, for value-added services for a fee of INR 15,000. Given the uncertainties associated with the market take-up and success of value added services, the fee is excessive as are the transaction costs of completing the registration. Even if the final decision is to require registration of value-added services, it is recommended that the transaction costs be minimized and the fee be set at zero.
- 4.0 Multiple layers of government are involved in the issuance of licenses. According to the Law:
- 4.1 The Department publishes procedures; receives applications; submits comments to Ministry
- 4.2 The Ministry issues the license when the applicant is from within Myanmar; it issues license with Union Government approval when applicant is foreign.
- 5.0 Having multiple actors involved in the licensing process is not optimal since it causes delay, increases transactions costs, and creates conditions for influence and its corollary corruption. While Rules cannot override the Law, it may be feasible to develop a simplified, low-discretion procedure for registration-based licenses (e.g., Ministry approves the procedures and receives periodic reports of licenses granted, with the right to examine under narrowly circumscribed circumstances).
- 6.0 There appear to be different fees for different licensees to provide the same or similar services. For example: An NFS(I) can engage in all the activities of NFS(C), NS and AS but has to pay an Annual Regulatory Fee of 2 per cent of revenues, whereas for others it is 1 per cent to 0.5 per cent. This difference will create distortions in the market. (See Rule 7 and Schedule A).
- 7.0 There is no mention of exit regulations in these Rules. There is nothing about mergers and acquisitions other than a vague provision in Rule 23 for transfer and assignment. Market exit rules should be specified.

### **Spectrum**

- 8.0 The comments contained in this section refer primarily to Annex C (Proposed Spectrum Rules) of the Public Consultation Issued by the Ministry of Communications and Information Technology (MCIT) of the Republic of the Union of Myanmar. Focus of this section is on the issues vital to ensure technically and economically efficient use of spectrum bands from 450 MHz to 3 GHz.
- 9.0 Clause 7(d) (Annex C), states that the "changes to the national table of frequency allocations" shall be "consistent" with the general principles stated in section 6 that includes harmonization, ensuring adequate spectrum and promoting innovation. However, without adoption of specific policies with regard to band and technology neutrality, assignment of contiguous spectrum blocks, trading and reallocation of specific bands the goals cannot be achieved.
- 10.0 While the Rules acknowledge the importance of efficient use of spectrum, the institutional structure surrounding the spectrum management procedure is cause for concern.
- 11.0 Clauses 6 (b) (c), 7 (a) (d) (iii) (Annex C) state that MCIT shall remain the authority to decide on issues related to spectrum allocation. MCIT acts both as the ex-ante regulator- (through the Posts and Telecommunications Department (PTD)) and the incumbent state-owned operator- Myanmar Posts and Telecommunications (MPT). The non-separation of MCIT, PTD and MPT is an issue of concern. MCIT being both the operator and the regulator may distort

- implementation of the spectrum scheme for the benefit of the incumbent and making it difficult to realize the goals stated in Clause 6.
- 12.0 The bands at the lower-end of the spectrum can cover more area than those at the higher-end. If the goal is to have more coverage the operators would want to use lower spectrum bands such as 800 MHz. Contrarily, if capacity is the goal, then the operators would want to use higher spectrum bands such as 1800 MHz, which would let them to install more base stations and ensure more capacity to cater to the customer needs. Typically, for urban terrain operators prefer higher bands and for rural terrain, where customer density is lower, they prefer lower-end bands. This is why it is important for the regulators to give options to the operators to have access to both types of bands. The geo-demographical conditions of Myanmar (with low average population density and predominantly rural demography) do not support efficient operation with only one type of spectrum. In the cities/towns demand for capacity will grow quickly and operators will require more capacity. This will not be served by limiting them to lower-end bands. The proposed plan of keeping 1800 MHz spectrum out of commercial utilization, as stated in Annex C-4, will be counterproductive. The 1800 MHz band is one of the most widely used bands for 2G/3G and even for 4G. The availability of equipment and handsets make it even more valuable. Myanmar should consider early commercial use of the band.
- 13.0 Clause 16 (Annex C) states the coverage obligations of the licensees. However, meeting coverage with low quality in terms of capacity will not benefit customers. Hence, operators should have options to access different bands. According to Annex C-4, 3G is proposed to be rolled out in 2100 MHz band. When 3G was introduced worldwide, 1800 MHz was mostly occupied by 2G GSM network. As the radio properties of 3G WCDMA do not support coexistence with 2G GSM, the regulators had to assign 3G in the new band 2100 MHz. However, as 2G is phasing out regulators are permitting operators to swap 1800 MHz for 3G. Also as 4G LTE can coexist with 2G GSM many countries are rolling out 4G in 1800. 1800 MHz is better in terms of coverage than 2100 MHz and in terms of capacity almost similar. This makes this spectrum quite lucrative for rolling out mobile Internet both in the urban and rural area.
- 14.0 The spectrum band from 698-806 MHz (700 MHz band) is currently not in use for mobile voice or mobile broadband. It is mostly used for broadcast. Given the spectral efficiency and coverage, 700 MHz is one of the most useful spectrum bands, especially for broadband. Many countries are rolling out LTE and 4G networks in this band. Given the current very low Internet penetration and rapid price reduction of LTE/4G capable dongles, use of 700 MHz for mobile broadband will help to achieve rapid penetration. However, as 4G bandwidth requirement varies from 5 to 20 MHz (it is more efficient to offer service over 20 MHz bandwidth than over 5 MHz) of contiguous spectrum, using 700 MHz as mobile broadband will address future bandwidth needs, as it has about 108 MHz of underutilized spectrum. Thus a specific roadmap for reallocating the 700 MHz band for mobile is necessary. Also as television broadcasts are shifting to digital transmission, large amount of spectrum currently held for broadcast purpose will be made redundant. As a green field, Myanmar has the opportunity to make optimal use of each band. Mechanisms such as spectrum trading, spectrum refarming and spectrum reallocation should be adopted. Spectrum trading will enable the licensees to trade their unused spectrum with other operators for better use. Spectrum trading/refarming will enable the operators to efficiently reuse their already acquired spectrum (for example the operators will be able to use 4G technology in the spectrum assigned for 2G). With spectrum reallocation the regulators will be able to nullify the present use of specific spectrum bands and reassign those for possible mobile broadband use (broadcast to mobile broadband transition).
- 15.0 The 800 MHz band (806-880) consists of 54 MHz suited for mobile use. However, as bands are normally assigned for 10-20 years to an operator, this most attractive band should be

planned and structured in such a way so that it gives the best value for the coming years. The band should not be planned for use of any specific technology that is currently used by MPT in the same band. The slot sizes should be designed in such a way that if interested the operators will be able to use future technologies (e.g., 3G or 4G). Bandwidth requirement for 2G is a few hundred KHz; for 3G it is 5 MHz; for 4G it is more than that. The operators who buy the right to use the spectrum should be free to trade/swap. This will also make the band more lucrative to the operators as they do not want to be locked into an older technology. This means that the government will be able to charge more for the bands and earn more revenue. Note that spectral efficiency increases drastically with newer technologies. Also 2G worldwide is on the verge of substitution by 3G. In a few years with the end of current 2G license agreements operators around the world will want to upgrade to 3G. As a green field, Myanmar has the opportunity to simplify the process.

- 16.0 The annex C-3 (Spectrum Fees) proposes specific spectrum pricing formula: Spectrum Usage Fee= (Bandwidth x Price/MHz x Frequency Constant) + Minimum Charge). The formula should consider the possible inclusion of tenure duration factor (duration of the license), and provisions for reallocation and trading factors. Also consideration of availability of contiguous bands (which will help solve coverage problem of mobile broadband) should be included in the pricing mechanism. Because of Myanmar's late start, the operators' valuations of the spectrum blocks will be significantly different from those in other countries. Failure to consider these conditions will result in undervaluation of the spectrum blocks. However, as the revision of the formula is solely based on the regulatory decisions on reallocation, trading and ensuring availability of contiguous chunks of spectrum, operators will also be benefited and the investment will be more productive. Hence a revised formula for Spectrum Usage fee can be: Spectrum Usage Fee = (Bandwidth x Price/MHz x Frequency Constant x K1 x K2 xK3) + Minimum Charge). Where K1: Tenure Duration Factor, K2: Reallocation and Trading factor, K3 : Contiguous Band Factor
- 17.0 Clause 13(d) states that the Department "will not specify, or require the approval of, the types of technologies licensees use". However, the clause does not guarantee neutrality among "technology generations." This obstructs leap frogging opportunities and may lock in an older generation of technology. 2G mobile technology was introduced and adopted in most parts of the world in 1990s. Many countries have already replaced 3G with 2G. With the increase in demand, production of 3G capable phones is increasing with resultant dramatic declines in unit price. Most countries when they auctioned frequencies mandated specific technology for specific bands. This has proved counter-productive, in that spectrum resources are not being shifted to optimal uses in a rapidly changing market.
- 18.0 Myanmar is a green field. According to the clause 23 (f), the duration of licenses may be up to fifteen years. A policy of technology neutrality will give the operators both flexibility and opportunity to ensure best use of the resource. This will also mean higher revenue for the public exchequer.
- 19.0 In general, the lack of contiguous spectrum makes it difficult for operators to introduce newer generations of technology. As it has been pointed out earlier, spectrum need for 4G or 3G is much higher than for 2G. The 452-470 MHz, 698 to 806, 880 to 960, 1710 to 1930 bands are fragmented with MPT having the most advantageous contiguous slots. This is not fair in competition terms and will discourage rollout of new technology.
- 20.0 Recommendations re specific bands:  
The **450 MHz** Band should be technology neutral. Spectrum band of (470 to 585 MHz band, UHF band) should be freed for mobile broadband use via relocation of current broadcast channels. Currently the channels 14 to 32 of the 470-585 MHz (Ultra High Frequency band) are used for broadcasting. Operators using these channels can be migrated to the VHF band (174- 223 MHz) and can be instructed to phase out analog broadcasting. With analog to digital transition, television will require considerably lesser amount of spectrum. Myanmar

as a sparsely populated vast country will enjoy more economic benefit and higher coverage by using VHF band for broadcast purposes. The reallocation could be done via spectrum trading or reverse auction. As mobile broadband currently has the highest commercial value per MHz of spectrum, this should yield more revenue. According to Annex C-4, only about 18 MHz (452-470 MHz) is allocated at present for mobile telephony. Currently MPT is assigned around 8MHz of 2x3.375 slot-size. This slot size should not be replicated for the future users of the band. Slot size, at the minimum, should be 2 x 5 MHz. With the possibility of freeing up spectrum, the slot sizes could be increased up to 10-15 MHz. The result of the reallocation will be the availability of a huge chunk of contiguous spectrum band for future use. This will increase the value of spectrum in terms of price per MHz.

- 20.1 **700 MHz** band has about 108 MHz. Broadcast (if any) should be relocated and blocks of spectrum should be designed to accommodate new operators with LTE services or mobile broadband services. Technology neutrality will make it more lucrative.
  - 20.2 **800 MHz and 900 MHz:** The 54 MHz of spectrum left for use in this most attractive band (806 to 880 MHz) should be reserved for 3G or 4G based mobile broadband. 80 MHz spectrum in (880 to 960) should be kept technology-neutral and slots should be designed to facilitate contiguous assignment.
  - 20.3 **1700 MHz and 1800 MHz** bands are most valuable for mobile broadband use. As 2G can coexist with 4G in the same band, the regulators can now use these bands for 2G diffusion. In the future, as customers migrate to smartphones and 2G subscriptions decrease, operators will be able to introduce 4G in these bands. Using 1700 or 1800 MHz band should be economically more suitable as they require fewer base stations than 2100 or 2300 MHz bands and cover a wider area. Rolling out mobile broadband in the 2100 MHz or 2300 MHz bands is economically beneficial in densely populated urban areas. 1700 and 1800 MHz is a better deal for developing countries planning for decent capacity and wider coverage. Given Myanmar's geography and low population density these bands are very attractive, if they are technology neutral and permit trading. Slots should be wide enough (at least 2x15) for viable mobile broadband use. The present formats are not conducive for any of the above.
- 21.0 The frequency allocation chart should be revamped to enable use of the newest and economically beneficial technologies. Operators will want to use the spectrum bands that have more global footprint and allow future upgrades and efficient use. Handsets are now multiband with support over 5 bands becoming normal. This gives the opportunity for operators to respond flexibly to market demand. Regulators should facilitate the process by ensuring efficient slot design, a technology-neutral regime and by permitting trading. Myanmar spectrum design should also consider reallocation of broadcast spectrum for mobile voice and mobile broadband use.

### Numbering

- 22.0 The following comments refer to Annex D: Proposed Numbering Rules. It is recommended that the rules follow the terminology defined in Part I.5 (titled Interpretation). From page 27 onward of the Annex, the term applicant is used and can be easily confused with a Licensee or a user. The term "User" (denoting the consumer / subscriber / end user / customer) may be added to Part I.5 for clarity. As the number of services and types of services increase, the complexity of the numbering plan also increases. To maintain transparency and efficiency of the numbering plan, service types must be well defined and may, in certain instances require technical definitions. The document would have benefited from a table containing the codes / code ranges and descriptions of the services.
- 23.0 The draft rules appear to assume a large role for "PSTN" or fixed telephony and devote considerable attention to them. This is surprising because there is no support for this

assumption from developing-country experience and it is unlikely that fixed will experience any growth in Myanmar from the present low levels in the absence of privatization and investment. As “fixed” services struggle to compete with mobile, it is likely that they will come up with nationwide pricing plans that mimic mobile plans that will make the concerns in the draft rules appear archaic very quickly. There are lacunae with regard to premium number ranges, toll-free numbers, and emergency numbers.

- 24.0 Numbering conventions | Defining Number Formats and Ranges (Annex D Part III). The Annex does not have a detailed numbering convention that defines the format of the national destination code (NDC) and the format of the national significant number (NSN which is the NDC + subscriber number). These have to be well classified as non-geographic services (mobile) and geographic services (fixed).
- 25.0 Numbering conventions | Internet based Voice Services (Annex D Part III). With the use of Internet Protocol (IP) based communication services there will be provision for previously classified geographic number to be used across the country without necessarily having a fixed location. This adds the complexity for service providers to identify local calls / within a city for plans that include free minutes or lower rates for such geographically dependent services. Language recognizing the use of IP communication networks and its potential effect on the numbering rules may be considered but it is important that rules relevant to countries with substantial fixed penetration be imported with due care.
- 26.0 Development of a Numbering Plan | Fees for Using Numbering Resources (Annex D Part II – 12). Annex D implies the ad-hoc collection of fees. It is recommended that a more transparent approach be used, for example, stating that in addition to the license fee an annual fee will be collected for number blocks issued to a service provider. It is possible to develop a rational pricing scheme for short numbers of varying lengths that factor in how many long numbers they sterilize. Given the importance of golden numbers in Myanmar, it would be useful to commission a study on how these scarce numbers can be allocated by auction. With ease of administration in mind, it is recommended that fees are collected irrespective of specific numbers being assigned to an end user.

### Competition

- 27.0 The following comments refer primarily to Annex E (Proposed Competition Rules). Competition provisions relating to interconnection and access, spectrum policy and numbering for instance are only considered to the extent that they are included in the Proposed Competition Rules (The Rules).
- 28.0 The Rules for the most part are comprehensive and reflect current international good practices on competition law in the telecommunications sector, premised on the principle of competition where possible and regulation where necessary. The provision, as set out in Clause 49, to consider such practices in other Association of Southeast Asian Nations (ASEAN) countries as well as to tailor these practices to the unique nature of Myanmar’s telecommunications sector is useful given the novelty of the concept of competition in this sector and the inexperience of the regulator.
- 29.0 Clause 50, which allows for the review of competition in telecommunications markets, is important given the rapid technological changes in the telecommunications sector, the consequent blurring of market boundaries, the convergence of markets (for instance, voice, data and broadcasting) and the creation of new markets.
- 30.0 Implementation issues:
- 30.1 Whilst the content of the Rules is to a large extent sound, the institutional structure surrounding their implementation is cause for concern.

- 30.2 The existing institutional structure effectively integrates the functions of policy, regulation and operation or the provision of telecommunications services. Both the ex-ante regulator – The Posts and Telecommunications Department (PTD, or The Department) and the incumbent state-owned operator – Myanmar Posts and Telecommunications (MPT) operate under the MCIT. The MCIT continues to play a dominant role in regulatory functions. For instance, in the Rules, seemingly all of the PTD’s regulatory decisions and actions are subject to the approval of the MCIT.
- 30.3 The integration of MCIT, PTD and MPT is of particular concern given MPT’s status as the dominant service provider (as set out in Schedule 1 of The Rules) where issues such as control of essential facilities, network externalities, sunk costs, first-mover advantage, etc. impede competition. Whilst these issues are comprehensively addressed in The Rules, the institutional framework lends itself to potential conflict of interest, regulatory capture, rent-seeking and a lack of transparency.
- 30.4 International good practice in this regard is to trifurcate policy, regulatory and operational functions and to establish an independent regulator. Whilst the Telecommunications Law of the Republic of the Union of Myanmar, 2013 (The Law) refers to the establishment of “an independent Myanmar Telecommunications Commission, led by an appropriate individual at the Union Level, within two years of the effective date of this law” (Clause 86) it is recommended that this process be expedited and a time frame for trifurcation be established at the earliest. Establishing a sound institutional framework is essential to enhance investor confidence and encourage new entry and investment into the telecommunications sector.
- 30.5 Given the relative inexperience of the regulator in competition law and policy, the paucity of technical skills may well be a significant problem. Therefore, it may be prudent to establish a list of regulatory priorities and focus the existing human capital resources on the most important tasks. For instance, ensuring interconnection and access to new entrants is a key priority. On the other hand, attempting to calculate long run average incremental costs to detect and prevent predatory pricing [see Clauses 8(vi) and 46(a)] may be initially very difficult and taxing for inexperienced personnel. Also as evidenced in international good practice, asymmetric regulation is a useful principle to adopt when attempting to focus on regulatory priorities and actions. It is encouraging to note that this principle has been adopted throughout The Rules from sections dealing with dominant providers to tariff regulation. However, developing country experience has also shown that weak and under-resourced regulatory agencies have great difficulty in making the necessary complex determinations about the existence or not of dominance, and even determining relevant markets.
- 31.0 Conduct which has the effect of lessening free competition. Cross-subsidization in and of itself is considered to be a violation leading to the lessening of free competition [Clause 8(a)(vii)]. However, international good practice – for example in the US and in the European Union (EU) – does not treat cross-subsidization as a violation by itself. Instead, cross-subsidization is considered a threat to competition only when it is a means of accomplishing anti-competitive conduct such as predatory pricing.
- 32.0 Anti-competitive agreements. Clauses 11 and 12 set out the criteria for Individual and Block Exemptions, respectively. Exemptions need to be considered with caution, particularly given the problematic institutional framework discussed in paragraph 30 above, as they become fertile ground for special interest groups’ lobbying and rent-seeking. Exemption provisions may be made more transparent and less vulnerable to special interest group pressures by requiring transparency and/or public consultation. In both the US and the EU, exemptions

- are made available for public notice and comment. It is recommended that Clauses 11 and 12 of The Rules incorporate language on public consultations for the exemption provisions.
- 33.0 Determination of dominant position.
- 33.1 Clause 17(b) lists a range of criteria by which a licensee may be determined to be dominant. The inclusion of several criteria as a trigger for dominance, as opposed to relying on a single condition such as market share, sits well with international good practice. In this context, the language contained in Clause 18(a), which specifies market share solely based on gross revenues as a trigger for dominance, is puzzling.
- 33.2 Clause 18(a) provides that a licensee whose gross revenues in a specific telecommunications market exceed 30 per cent of the total gross revenues of all licensees in that market will be presumed dominant. This 30 per cent threshold is relatively low by international standards. For instance, the threshold in the US is generally over 60-70 per cent of market share whilst it is generally over 50 per cent in the EU. It is recommended that the threshold for trigger of dominance in The Rules be amended taking note of international good practices. Moreover, setting too low a threshold for dominance may well increase the work load of a regulator that already has capacity constraints.
- 33.3 Review of Transactions. Clause 34(c) lays out “safe harbor” thresholds for transactions between competitors. These thresholds are relatively high when compared to international good practices. For example, under the US Merger Guidelines the transactions listed under Clause 34(c) would “raise significant competitive concerns”, be deemed to substantially lessen competition and likely be closely scrutinized by the regulator. It is recommended that lower thresholds be considered in the amended Rules.
- 34.0 Tariff Application and Review Process.
- 34.1 Clause 43(a) (i) sets out that: “rates charged for designated services shall be just and reasonable”. This language is vague and could lend itself to a number of varying interpretations and definitions as well as to interest-group influence. What for instance is “just”? What counts for being “reasonable”? It is recommended that the MCIT and the Department publish some guidance on the specific methodologies and typical factors considered in reviewing and approving tariff applications.
- 34.2 Ooredoo and Telenor Myanmar have, in the course of their application for licenses, made specific commitments on peak prepaid voice per minute, which are quite low. It is not clear how the proposed rules factor in these commitments. On the other hand, it is not clear whether any commitments apply to prices of services other than prepaid peak voice. It would be useful if these matters are addressed in the rules.
- 34.3 Designated Services for the purpose of The Rules are defined in Clause 38 and Schedule 3. As per Schedule 3, fixed and mobile voice telephony are classified as Designated Services and accordingly subject to asymmetric tariff regulation. Broadband is not a Designated Service under The Rules. Given our understanding that the Internet market is highly concentrated, it is not clear why broadband services are not included as Designated Services.
- 34.4 Given the practical difficulties of price regulation in the context of large numbers of packages and promotions, there may be merit in considering an alternative to the conventional approach to price regulation embodied in the draft rules and responded to in the above sub-paragraphs. The alternative in banded forbearance as fully described in Samarajiva, R. & Iqbal, T. (2009). Banded forbearance: A new approach to price regulation in partially liberalized telecom markets, *International Journal of Regulation and Governance*, 9(1): 19-40 (provided as a separate annex). Here, all operators are given pricing flexibility within a band defined by benchmarking.



- 35.0 This paragraph sets out a few significant drafting errors or instances of imprecise language that could potentially have an impact on the meaning of the related provisions in the Rules.
- 35.1 Clause 5(q) states: “MPT” means the Ministry of Post and Telecommunications in its capacity as the incumbent telecommunications service provider, or its successors.’ This should be replaced by “MPT” means Myanmar Posts and Telecommunications in its capacity as the incumbent telecommunications service provider, or its successors.’
- 35.2 Clause 8 reads: “Conduct deemed to be lessening free of competition”. This should be replaced by “Conduct deemed to be lessening free competition.”
- 35.3 Clause 10(b)(ii) states: “share markets or sources of supply”. This presumably refers to horizontal market allocation arrangements. As such, this clause may be modified as follows: “share the market or sources of production by way of allocation of geographical area of markets or the type of goods or services or the number of customers in the market.”
- 35.4 Clause 14(b)(iii) and Section 14(c): the references to “twenty percent” should be replaced by “the Department”.
- 35.5 Clauses 31(a) and 32(a) cross refer to “section 29 (a)” and “section 29 (b)” respectively. These should be replaced by “section 30 (a)” and “section 30 (b)” respectively.

Annex 1

**Banded Forbearance:  
A New Approach to Price Regulation in Partially Liberalized  
Telecom Markets**

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### Abstract

Fast growing telecom markets, especially in the developing world, are attracting new types of users, especially those at the Bottom of the Pyramid (BOP). Innovative pricing is needed to respond to this increasingly heterogeneous demand. However, many regulators still claim to regulate prices using methods from the monopoly era, despite lacking capacity to effectively regulate proliferating tariff plans. What actually happens is that tariffs are “approved” for the most part without proper review.

One response has been asymmetric regulation/forbearance, wherein the regulator determines that certain operators do not have significant market power (SMP) and frees them from regulatory burdens, including, in many cases, tariff regulation. This still leaves a few operators (possibly one each in different markets such as fixed, mobile, and broadband) under tariff regulation. They are required to file tariffs, and if not go through formal proceedings, at least go through a staff review. Given the leakiness of most regulatory agencies, this puts them at a significant disadvantage because their competitors can prepare precisely targeted and timed responses, unencumbered by regulation.

Forbearance was included in the 1997 legislation that created the Telecom Regulatory Authority of India (TRAI) prior to the EU asymmetrical regulation model being fully developed. Possibly as a result, TRAI did not forbear from tariff regulation on the basis of SMP: all tariffs in urban areas were forborne, with some limited regulatory authority retained in rural areas. The results were some of the lowest tariffs in the world (Nokia, 2008a; LIRNEasia, 2008, 2009).

Based on this lesson, it is proposed that “banded forbearance” be introduced, even in countries with far fewer competitors than in Indian circles (licensing areas). In this form of benchmark regulation, the regulator will: define a benchmarking methodology such as an adaptation of the OECD basket methodology, including peer countries and weights; define a band of allowed variance above and below, what is likely to be a moving benchmark, within which prices will be fully forborne; and specify competition-related criteria that will be used to evaluate price movements below the lower band (e.g., limited to tests on predation and price squeeze). Durations of validity for the bands and default outcomes can also be specified in order to reduce uncertainty.

The introduction of bands and specified criteria will allow operators to use innovative marketing strategies, while allowing the retention of regulatory safeguards that may be important in markets with few competitors and possibly significant control over essential facilities by incumbents. It will also result in refocusing regulatory energies on creating the conditions for competition rather than sterile calculations of the X in RPI-X. The production and timely dissemination of standard price, minutes-of-use, and call-distribution data needed for OECD type benchmarking will also result in reducing the opacity of pricing for consumers, thus sharpening competitive pressures and improving the customer experience.

## 1.0 INTRODUCTION

Fast growing telecom markets, especially in the developing world, are attracting new types of users, especially those at the Bottom of the Pyramid (BOP) (Nokia, 2008b; Prahalad, 2004). Innovative pricing is needed to respond to this increasingly heterogeneous demand. Yet many regulators are still attempting to regulate prices using methods from the monopoly era, despite lacking capacity to effectively regulate proliferating tariff plans.

This article investigates the feasibility of regulating prices in telecom markets, focusing on approaches such as regulatory forbearance and asymmetric regulation. It then proposes a regulatory mechanism termed '*banded forbearance*', derived from benchmark regulation and especially useful for regulating prices in microstates with few competitors, but with possibly broader application.

Section 2.0 reviews the relevance of present price regulatory practices in fast-growing markets, and is followed by an explanation of the proposed regulatory tool, banded forbearance, in Section 3.0. Section 4.0 discusses the suitability of this approach in microstates, and the article concludes with a comparative analysis of banded forbearance in Section 5.0.

## 2.0 PRICE REGULATION IN DYNAMIC TELECOM MARKETS

### *Liberalization in the telecom sector*

From 1990 to 2003, 128 developing countries allowed private participation in their telecom markets (Izaguirre, 2005), moving from monopolistic to partially or fully competitive market structures. According to the International Telecommunication Union's World Telecom Regulatory Database, only 10 percent of the developing economies do not allow competition in mobile telephony. Liberalization, including, but not limited to, the privatization of state-owned incumbent operators, has yielded significant improvements in sector performance (Dasgupta, Lall & Wheeler, 2001; Megginson & Netter, 2001; Gutierrez, 2003; Samarajiva, 2002); the presence of an independent regulator in addition to competition and privatization has also proven to be beneficial to telecom sector growth

(Wallsten, 2001; Ros, 2003). These market reforms have had positive impacts in terms of increasing access paths per hundred people, operating efficiencies, and improvements in the quality and price of telecom services (Megginson & Netter, 2001), and are also claimed to contribute significantly to overall economic growth (Röller & Waverman, 2001).

Dasgupta, Lall and Wheeler (2001) claim that liberalization and privatization in the 1990s increased telecom penetration significantly, with most growth occurring through the spread of mobile phones.<sup>4</sup> Many of these new connections come from the lowest social strata or the BOP (de Silva, Zainudeen & Ratnadiwakara, 2008) who are highly value conscious. As such, service providers are increasingly under pressure to innovate with packages and prices in order to meet the growing heterogeneous demand.<sup>5</sup> Ramirez (1998), Samarajiva (2001) and others discuss how regulatory mechanisms are hobbled by administrative, financial and operational problems, which inhibit effective and timely action. Accordingly, some regulators are prioritizing and shedding low-priority tasks where possible. The importance of this for effective regulation is detailed in Melody (1999).

#### *Regulatory forbearance*

Based on the premise that there is little need for intervention as the number of service providers grows and competition increases in a market place, regulators can refrain or forbear from intervening or imposing controls in a market. Schultz (1994) considers this a means to give new firms without market power the space needed to flourish.

Deeming sufficient competition to exist in the Indian telecom sector, the Telecom Regulatory Authority of India (TRAI) forbears from price regulation in urban areas, although it does regulate some prices in rural areas. The Authority requires that all operators who provide basic, national long distance, or

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<sup>4</sup> There was an approximately 25-fold increase in China, 33-fold increase in India, and five-fold and two-fold increases in Latin America and Sub-Saharan Africa respectively.

<sup>5</sup> <http://www.ictregulationtoolkit.org/en/Section.2196.html>.

international long distance services, file a standard postpaid tariff<sup>6</sup> and a prepaid recharge card tariff<sup>7</sup> at least five days prior to their taking effect; if the Authority does not act on the submission within the five days, the plans can be implemented by the operator without any explicit approval from the regulator (Sinha, 2002).

India now has some of the lowest mobile tariffs in the world (LIRNEasia, 2008, 2009; Nokia, 2008a) and a flourishing mobile market – the compound annual growth rate for 2000-2005 for mobiles was 90.6 per cent (International Telecommunications Union, 2007). The findings of the Telecom Regulatory Environment (TRE) assessments<sup>8</sup> carried out by LIRNEasia in 2006 and 2008, indicate that India received the highest scores on the tariff regulation dimension among the countries studied (Prem & Baburajan, 2009), indicating that TRAI's approach is appreciated by informed stakeholders.<sup>9</sup>

Forbearance does not necessarily mean that the regulator relinquishes all responsibility for regulation; the regulator may choose to forbear on certain aspects only based on assessments of market power and potential for predatory pricing; and regulation may be re-imposed if justified. In the case of regulating the markets for terminal equipment, wireless services and toll services, the Canadian Radio-Television Commission (CRTC) forbore from regulating these markets deeming them 'workably competitive'. In the terminal equipment market, the Commission forbore on the sale, lease and maintenance of single-line, multi-line and data equipment. In the wireless services market, regulatory

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<sup>6</sup> Termed the "Reference Tariff Package of the Service Provider"; the plan has to include a monthly rental and airtime charge per minute, with a pulse duration for airtime charge of 30 seconds.

<sup>7</sup> The denomination of recharge card has to be less than INR 300 (approx. USD 7) with a corresponding validity of at least one month.

<sup>8</sup> The TRE assessment is a perceptual index which gauges regulatory performance across six (and in 2008, seven) dimensions, based on the elements of regulation identified by the Reference Paper of the GATS Protocol 4 (Market entry, management of scarce resources, interconnection, universal service, and enforcement of competition and regulatory rules) with an additional dimension: tariff regulation. Quality of service regulation was added in 2008. It is based on the perceptions of efficacy, by informed respondents.

<sup>9</sup> In 2006, India obtained 3.5 out of 5 for mobiles and 3.7 out of 5 for fixed connections, while the other five countries obtained scores between 2.2 and 2.9 for both mobile and fixed connections. In 2008, the score was 3.9 out of the maximum possible 5.

forbearance was enforced in markets for mobile phones and data and wireless devices; however conditions were included to safeguard customer confidentiality with regard to interconnection (Organization for Economic Cooperation and Development, 2002). The toll-services market, on the other hand, was only partially forborne, with the CRTC requiring price and cost filings only in the market for long distance tolls. To decide on the competitiveness of a market, the Commission took into account the market share of the largest firm, the price elasticity of demand and the contestability of the market.<sup>10</sup>

In another example, the Office of the Telecommunications Authority (OFTA) in Hong Kong, removed some regulations imposed on PCCW's prices in 2005, exempting the dominant operator from having its prices, plans for discounts and other responses to price competition approved by OFTA prior to execution, but maintained that the operator had to have any amendments to published interconnection tariffs, including tariffs for broadband services and virtual private network (VPN) services approved. PCCW has to still meet its accounting separation requirement as well as supply information to OFTA to make decisions regarding costs (Painter & Wong, 2007).

The level of competition is a defining factor for the success of regulatory forbearance and the reason for India's accomplishments can be attributed to the fact that it has the highest levels of competition in the South Asian region,<sup>11</sup> as well as at the Circle (or intra-regional) level.<sup>12</sup> But there are concerns that need to be addressed regarding regulatory forbearance in less-than-perfectly competitive markets. For instance, there are the potential risks of predatory pricing and/or a vertical price squeeze.

### *Asymmetric regulation*

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<sup>10</sup> <http://www.crtc.gc.ca/archive/ENG/Decisions/1994/DT94-19.HTM>,  
<http://www.crtc.gc.ca/archive/ENG/Decisions/1996/DT96-14.HTM> and  
<http://www.crtc.gc.ca/archive/ENG/Decisions/1995/DT95-19.HTM>.

<sup>11</sup> According to the Hirschman-Herfindahl Index (HHI) for December 2007, India ranks lowest (0.16), followed by Pakistan (0.27), Bangladesh (0.31) and Sri Lanka (0.36) (Source: Authors).

<sup>12</sup> Circle-wise HHIs for India indicates that the figures for March 2007 are much lower than those for September 2003 (Source: TRAI).



In a newly liberalised market a single operator, usually the incumbent, is better positioned than any new entrants to the market as it already has an established customer base and infrastructure in place. In such a case, it would seem most appropriate to implement asymmetric regulation, so as to deter this service provider from hindering competition. With this kind of regulation, authorities place certain restrictions on the tariffs and other aspects of service provision of the incumbent or the operator with significant market power (SMP), while all others are exempted from regulation. It may also be the case that regulatory burdens are imposed on fixed operators (only one service provider most of the time) while mobile operators remain unregulated. As part of being regulated, the dominant service provider may have to supply cost information to the regulator, and access to its networks to competitors (Liu, 2001; Bourreau & Dogyan, 2001).

Pakistan follows such an approach with somewhat encouraging results. The Pakistan Telecommunications Authority (PTA) identifies the SMP operator in the mobile market and imposes a requirement to file all tariff plans. Once the authorities review them, the SMP operator may implement the plans. If the PTA fails to respond within a certain period of time, the tariff plan is considered approved and goes into effect. While the findings of LIRNEasia's Mobile Benchmarks study (2008) showed that Pakistan's mobile tariffs are even lower than India's, the TRE Assessments indicate that PTA's efforts are not fully appreciated by informed stakeholders in Pakistan.<sup>13</sup> Interestingly, for the SMP operator's tariffs are not set using price-cap or rate-base rate of return regulation. What may actually be in operation is forbearance.

Similarly, the Moroccan regulator, Agence nationale de réglementation des télécommunications (ANRT), imposes price controls for basic fixed services offered by the incumbent operator, Maroc Télécom. For other value-added services such as mobile and data, the regulator monitors the situation and intervenes only when required (ITU, 2001).

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<sup>13</sup> Pakistan scored 2.7 out of 5 in the fixed market, and 2.6 out of 5 in the mobile market.

PCCW, the incumbent operator in Hong Kong SAR, came under tariff orders in 1993 and 1998 respectively (Chou & Liu, 2006). However, as discussed above, OFTA partially forbore on regulation in 2005. In China, regulators imposed tight tariff regulation on China Unicom, the SMP, in order to level the playing field in its duopoly telecom market (Gao & Lytinen, 2000).

In Europe, the United Kingdom was among the earliest to initiate asymmetric regulation on its dominant carrier in 1984; Germany, France, and Portugal then followed in 1993, 1995, and 1998 respectively. The United States of America also began asymmetric regulation of AT&T in 1989 (Chou & Liu, 2006). These cases and others have been discussed in detail in several studies, including those of Baak and Mitusch (2005); Crandall, Sidak and Singer (2002); Crandall and Hazlett (2000); Dewenter and Haucap (2003); Knieps (1997); and Peitz (2005).

There are several reasons for applying asymmetric regulation in newly competitive markets. In addition to the rationale based on prioritization, Schankerman (1996) states that this regulatory approach is most suited when the incumbent has the capacity to strategically deter entry into the market, and is the least costly way in terms of efficiency to correct the problem. However, there are concerns about the long-term applicability and implementation of asymmetric regulation.

Given the leakiness of most regulatory agencies, dominant operators are at a significant disadvantage because their competitors can prepare precisely targeted and timed responses, unencumbered by regulation; in their paper, Besen and Farrell (1994) mention that unregulated rival operators will charge prices slightly below that of the SMP, causing discontent among dominant operators as well as not passing on the benefits of competition to consumers.

In addition to these problems, asymmetric regulation is resource intensive, due to the administrative work involved in establishing criteria for determining the SMP operator. There is a need to identify the incumbency advantage and its impact on market outcomes (Peitz, 2005), and regulators lack information to do so.

It is also of concern that regulators may end up favoring some operators over others (Schankerman, 1996), damaging competition (Paredes, 2005), hurting the incumbent financially, and allowing inefficient firms into the market (Armstrong & Sappington, 2006; Gual & Trillas, 2003). Lyon and Huang (1995) assert that the asymmetric regulation approach may stifle innovation in general, as it creates an environment such that only unregulated firms find it profitable to innovate. Accordingly, the benefit of implementing such regulation in a market is lost as it will have a significant negative impact on investment and growth of the telecom network (Paredes, 2005).

As differences between operators diminish and conditions for competition set in, there is less need for the regulation of a single service provider; according to Perrucci and Cimatoribus (1997) this kind of regulation can distort this transformation and impact the overall efficiency of the market.<sup>14</sup> On the same lines, Crandall, Sidak and Singer (2002) claim that asymmetric regulation usually leads to “managed competition” which can be said to be far more difficult to sustain than traditional monopolistic regulation. Deciding which tool to employ for regulating tariffs is also problematic, as price-caps and rate of return (ROR) regulation, the two most common tools for regulating tariffs in telecom markets, each have their own limitations.

In price-cap regulation, regulators enforce a cap or limit on the average prices an operator can charge for each of its services; the cap is adjusted for inflation over time and is commonly called the X-factor (Littlechild, 1983). This gives operators stronger incentives to cut production overheads and improve operating efficiencies (Bernstein & Sappington, 1998), while allowing some pricing flexibility (Abel, 2002) and curtailing abuse of market power (Armstrong & Sappington, 2006). However, the calculation of X in the price-cap formula  $RPI-X^{15}$  can be tedious and almost impossible to work out<sup>16</sup>,

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<sup>14</sup> Baumol and Sidak (1994) and Sappington and Weisman (1996) discuss in further detail the impacts on efficiency due to the imposition of asymmetric regulation.

<sup>15</sup> Where RPI is the Retail Price Index and X is the value of inflation over time.

<sup>16</sup> Regulators have little guidance from the economic literature in calculating the X factor, say Bernstein and Sappington (1998).

and is generally ineffective as a regulatory tool where inflation is high or volatile.<sup>17</sup> For the most part, the X is negotiated based on cost studies or otherwise. Iozzi (2004) discusses how price-capping can limit the development of competition.

ROR regulation, on the other hand, focuses on capping the earnings of an operator (Weisman, 2002), and as such provides the least amount of flexibility for operators to set their tariffs/prices (Guthrie, 2006). Unlike in price-cap regulation where the caps are adjusted relatively frequently, ROR regulation is not conducive to such change and revision, and therefore it is no longer appropriate in today's context of fast changing mobile markets. Given these issues, the approaches and tools used in regulating tariffs in the telecom sector need reconsideration.

### **3.0 A NEW APPROACH TO PRICE REGULATION: BANDED FORBEARANCE**

Even though formal forbearance and asymmetric regulation (in practice, informal forbearance) have yielded both low prices and high satisfaction among stakeholders, this does not mean that regulators should completely abandon regulating prices in the telecom sector. In the case of markets that have no sustainable or effective competition, or where there exists a service provider with significant market power (SMP), some kind of regulatory mechanism to ensure that competitors are not harmed by abuse of market power is necessary. '*Banded forbearance*' is proposed as such a mechanism.

*What is banded forbearance?*

Derived from benchmarking regulation, banded forbearance lies between complete forbearance and asymmetric regulation. Banded forbearance entails identifying a peer group, selecting a benchmarking methodology to compare tariffs across the group, and defining the band within which the tariffs can move. Regulators will also specify competition-related criteria that will be used to evaluate price movements below the lower band. Differential treatment of below-the-band pricing by

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<sup>17</sup> Adjusting the price cap too frequently can have a negative impact on an operator's planning, and can mean over-regulation, while maintaining a fixed cap over a long period of time can mean that the prices are capped either too high or too low at some point (Acton & Vogelsang, 1989).

operators with market power versus those without may also be specified. The differentiation could be simply based on control of essential facilities that may short-circuit esoteric debates on defining significant market power.

#### *How does it work?*

To begin with, we will explain what benchmarking is in terms of tariff regulation: to benchmark is to set the price of an individual service based on the rate at which the same service is charged for in a jurisdiction or jurisdictions that have been identified as a standard. For instance, SingTel, the largest mobile operator in Singapore, benchmarks its mobile tariffs against those in neighbouring Asian countries, and selected major metropolitan regions.<sup>18</sup> Similarly when the dominant fixed operator BTC in the Bahamas rebalanced its prices under regulatory direction, the company benchmarked their international long distance (ILD) prices against those of sixteen countries in the region (Public Utilities Commission of the Bahamas, 2005).

There are five main steps that must be followed in order to implement banded forbearance for the purpose of regulating tariffs. Each step is described in detail below, using mobile prices in Bhutan, a micro state which recently introduced a second mobile operator, as a test case.

#### *1. Identification of the indicator to be benchmarked*

- *Identification of the methodology and definition of the indicator; the regulatory authority should ensure that it is comparable and representative.*

We first consider the monthly cost of using a mobile phone as the indicator for benchmarking. There are three widely used indicators of mobile price/cost. One is set out in 'The Core ICT Indicators document, Partnership on Measuring ICT for Development' which takes into account the cost of 100 minutes of use per month, and is intended to represent an average use basket which is applicable to individual consumers.<sup>19</sup> The 'ITU basket of call charges' considers separate indicators for connection charges, rental, SMS and the price of a 3-minute local call. The most comprehensive indicator,

<sup>18</sup> <http://www.ictregulationtoolkit.org/en/Section.2149.html>.

<sup>19</sup> <http://www.itu.int/ITU-D/ict/partnership>.

however, is the 'Organization for Economic Co-operation and Development (OECD) T-basket', which applies usage charges (voice, SMS and more recently MMS), line rental, connection charges (depreciated over a three year period), and applicable taxes to low, medium and high use levels, for the computation of the average monthly cost of using a mobile phone.<sup>20</sup> This methodology takes the most holistic approach of the three indicators, providing accurate and comparable results that are potentially useful to regulators and operators (for benchmarking monthly mobile phone costs), and consumers (for reliable price/cost comparisons on any given tariff plan).

Given the significant differences in mobile usage between the OECD and the developing South Asian region including Bhutan,<sup>21</sup> the use of unmodified OECD price baskets is problematic. Accordingly we use LIRNEasia's modification of the basket methodology to South Asia which better reflects the monthly costs of using a mobile phone in the region.<sup>22</sup> The methodology is applied to the eight member states of the South Asian Association for Regional Cooperation (SAARC), and provides comparable indicators for mobile prices within the region.<sup>23</sup> The findings show that Bhutan's monthly mobile prices are higher than the norm, at all levels of mobile phone use.

## 2. Identification of a peer group

A suitable peer group is identified, as this will be the basis of defining an appropriate benchmark (Step 3). Table 1 gives a non-exhaustive list of the many different ways in which a peer group can be selected.

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<sup>20</sup> [http://www.teligen.com/t\\_basket.asp](http://www.teligen.com/t_basket.asp); Similar baskets are calculated for the use of fixed phones and Internet.

<sup>21</sup> For example the present OECD medium-user basket is 119 Minutes of Use (MoUs)/month and 50 SMS/month, with no differentiation between prepaid and postpaid. The South Asian prepaid medium-user basket is made up of 175 MoUs/month and 23 SMS/month and a postpaid medium-user basket is 535 MoUs/month and 39 SMS/month.

<sup>22</sup> The most recent findings are <http://lirneasia.net/wp-content/uploads/2007/08/09-02-sa-baskets-explained-v1-0.pdf>.

<sup>23</sup> There had been no significant variance between the levels of phone use of OECD countries and those in South America, according to DIRSI. Therefore,, DIRSI makes use of the OECD methodology without any adjustments. The findings are at: [http://www.dirsi.net/english/files/background%20papers/affordability\\_english\\_2.0\\_final.pdf](http://www.dirsi.net/english/files/background%20papers/affordability_english_2.0_final.pdf).

There are many ways to classify a peer group and in the case of the Bahamas, as discussed in the example above, the sixteen regional peers for benchmarking ILD prices were selected based on the level of competition that existed in those telecom markets, as well as their economic importance, per capita income, and economic structures in relation to the Bahamas (Public Utilities Commission of the Bahamas, 2005). Peer groups can also be defined by geographic or demographic criteria.

The monthly mobile price derived from LIRNEasia's South Asian mobile basket methodology may be adopted as the indicator for benchmarking tariffs in Bhutan, making the SAARC<sup>24</sup> the peer group. Though these countries represent a single region, the geographical, economic and other differences within the group may call for alternatives. For example, the Maldives and Bhutan have significantly higher costs in providing telecom services simply because of their different and difficult topographies, when compared with the costs of providing the same services in Pakistan or India. There are differing levels of competition in all these markets. For the purposes of benchmarking, however, comparisons of this nature are necessary and there will always be an error factor given that no two countries are absolutely similar. It is advisable to select the peer group through a broadly consultative process that involves all stakeholders, in order to enhance the legitimacy of the final choice.

**Table 1: Criteria for selecting peers for benchmarking**

<b>Criteria</b>	<b>Description</b>
GDP per capita	Countries with similar GDP per capita
Geography	Countries with similar geographical attributes, such as land-locked countries, or island nations, countries located in a single region, microstates
Market structures	Countries which have either monopolistic, duopolistic or competitive telecom markets
Market size (by subscribers)	Countries with similar numbers of fixed or mobile subscribers

<sup>24</sup> The South Asian mobile benchmarks are calculated for the members of SAARC, namely, Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka.

### 3. *Defining the benchmark from among the peer group*

Once the indicator and an appropriately-selected set of peers have been identified, the benchmark needs to be determined; this will be dependant on how well the country ranks in relation to its peers. The benchmark can be set based on the lowest or even highest, or average figure among those in the peer group. The European Union (EU) uses the third from the bottom as its benchmark. In our example, we take the benchmark as the average of all countries other than Bhutan in the SAARC region; for a medium (or average) user, this means that the benchmark figure works out to approximately USD 11. How often the benchmark is revised (annually or biennially) can also be decided at this stage.

### 4. *Determining the bands*

The next step in applying banded forbearance is to determine the workable band or margin of allowed variance around the defined benchmark. The floor and ceiling values will determined after taking into account differences between the country being regulated and the benchmark country (or countries). The effective price change that the regulatory authority wishes to have will also be a factor in determining the margin of variance. This is most likely to be a moving band, driven by prices changes and exchange-rate movements, within which prices will be fully forborne.

In our example, there was a USD 3 difference between the actual monthly mobile cost in Bhutan and the benchmark at the point the study was done. Taking into account the fact that there is currently very limited competition in the mobile sector in Bhutan<sup>25</sup>, the regulatory authorities can/should define a narrow band that does not fall too far below the current costs prevalent in Bhutan as this would be unfair to the new entrant. The imposition of a narrow band, in this case, will limit the larger operator from behaving anti-competitively. Accordingly, the proposed upper limit can be determined to be 15 per cent (i.e. upper limit = benchmark + 15 per cent) and the lower limit can be equated to the

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<sup>25</sup> B-Mobile, the incumbent mobile service provider, has been in operation since 2002, while Tashi Cell, the only other mobile operator in Bhutan, was licensed to provide mobile services only in 2007 (retrieved from <http://www.bicma.gov.bt/telecom/telecom.html>).

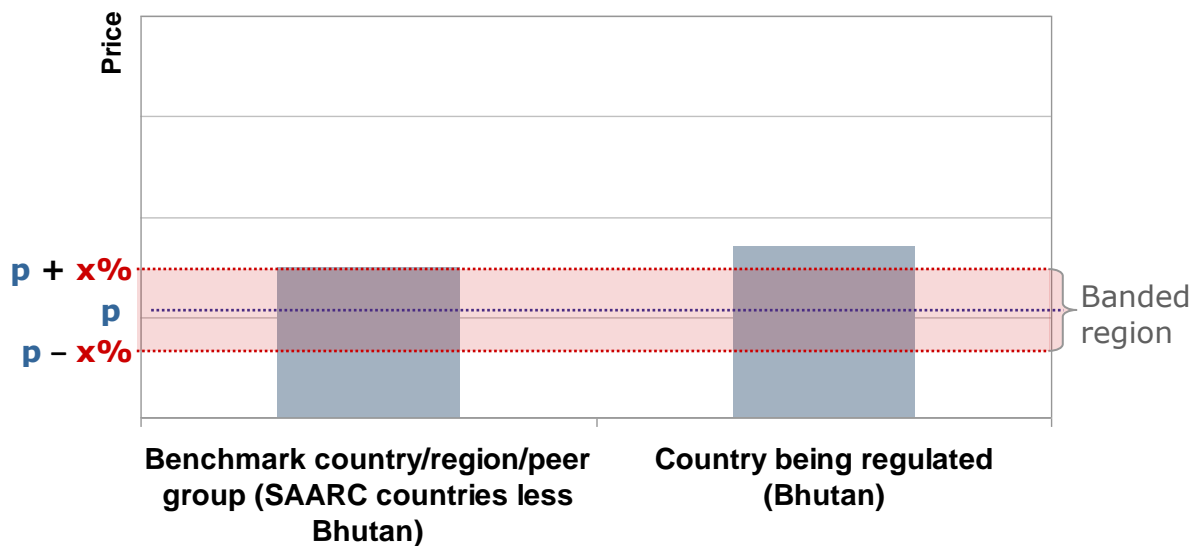


benchmark value (lower limit = benchmark);<sup>26</sup> this would mean that both operators will have to ensure that an average user is charged between USD 11-15 a month.<sup>27</sup>

Figure 1 is a graphical representation of the benchmark,  $p$ , and the specified band is between  $p \pm x$  per cent.

**Figure 1: Setting the bands**

**Figure 1: Setting the bands**



### 5. Regulating the operators

The benchmark and the defined margins should be communicated to all operators along with clear rules on how tariff plans will be evaluated as falling within or outside the band. Authorities can impose the requirement that all proposed price plans have to be filed and approved before taking effect. They will also have to specify competition-related criteria for approving price movements below the banded limit, and explicate the consequences of predatory pricing or price squeezing.

<sup>26</sup> These percentages are arbitrary in this example and can be determined in a have been taken as examples and need not be the case every time.

<sup>27</sup> Bands can also be calculated for low as well as high users based on the above specifications.

### *Key considerations*

Getting the peer group right at the start is a worthwhile investment. In the interests of reducing uncertainty, it is important that the peer group be constant over a long period. Flexibility can be provided by the band.

Furthermore, the regulator needs to determine specific intervals for setting and revising benchmarks and bands. This may be determined based on the rate of inflation or level of competitiveness in the market. For instance, the intensely competitive environment in South Asia has seen rapid declines in prices; meaning that the benchmark and bands identified in our Bhutan case have to be revised more regularly (annually or even biannually) in order to reflect these declining tariffs.

Regulatory authorities should avoid making sudden and extreme changes to benchmarks and bands. All price revisions should be gradual. Stakeholders should be consulted and kept involved in the decision making process of setting benchmarks and defining the bands.

## **4.0 APPLICABILITY TO MICROSTATES**

Although there seems to be no consensus on the definition of a microstate in the literature, we consider the definition used by the United Nations in this article. According to Rapaport, Muteba and Therattil (1971) a microstate is defined by United Nations as a country with a population below one million.<sup>28</sup> In such countries, the markets for telecommunications as well as for other goods and services are significantly smaller than elsewhere. Despite a few micro states such as Iceland and Macau successfully supporting multiple operators, most of these telecom markets are duopolies.

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<sup>28</sup> Examples include Bahrain, Bhutan, Maldives, Qatar, and Samoa.

The constraints of a microstate preclude a large regulatory agency, with abundant human capacity and financial resources. Therefore, regulators in these countries must be highly disciplined in allocating limited regulatory resources to the most important tasks.

Banded forbearance, therefore, provides a suitable solution to the problem of regulating tariffs in a microstate. All operators in the telecom market are required to file tariffs with the regulatory agency and this will not put unreasonable pressure on only the dominant operator to do the same as in the case of asymmetric regulation. The band will provide safeguards against predation and vertical price squeeze.

## **5.0 COMPARATIVE ANALYSIS OF BANDED FORBEARANCE**

Banded forbearance is more efficient in terms of allocating limited regulatory resources. The use of banded forbearance for regulating tariffs will result in refocusing regulatory energies on creating the conditions for competition rather than the sterile calculations of the X in RPI-X for price-cap regulation. It is superior to the status quo of de facto forbearance that prevails despite the appearance of asymmetric regulation and formal tariff regulation, because it reduced uncertainty for the companies and removes the likelihood of arbitrary pressures being exerted on operators.

While asymmetric regulation also conserves regulatory resources by deregulating non-dominant operators, there is still cause for concern as this type of regulation breeds discontent on the part of the SMP or dominant operator and creates opportunities for rent-seeking within the regulatory agency. In any case the regulator has difficulty properly regulating the tariffs of the dominant operator through price-cap or ROR methods. Due to evolving market structures, regulators have to constantly reassess their markets and alter the regulations in place, especially if they are regulating asymmetrically. In oligopolistic and or duopolistic conditions, non-dominant operators may just shadow the incumbent's prices reducing the competitiveness of the sector.

Banded forbearance on the other hand, applies to all operators and conserves regulatory resources . It enables the deregulation of the SMP player and safeguards against predation and vertical price squeeze. Although regulatory agencies will incur some search costs in obtaining accurate information from multiple sources, this will be far lower than the cost of hiring consultants to make the necessary calculations for RPI-X or ROR regulation, and even to conduct SMP reviews.

Forbearance within benchmark limits allows for intelligent and responsible regulation, in a manner less intrusive than other types of tariff regulation, and is conducive to the Budget Telecom Network business model implemented in South Asia.<sup>29</sup> The introduction of bands and specified criteria will allow operators to use innovative marketing strategies, while retaining safeguards that may be important in markets with few competitors and possibly significant control over essential facilities by incumbents. The production and timely dissemination of standard price, minutes-of-use, and call-distribution data needed for OECD type benchmarking will also result in reducing the opacity of pricing for consumers, thus sharpening competitive pressures and improving the customer experience.

India has shown that complete forbearance on tariff regulation combined with lots of market entry can yield good sector performance. Yet there is concern that complete forbearance in the absence of India-like concentration ratios, could lead to new entrants and small players being wiped out by the incumbent's aggressive pricing. Banded forbearance allows for safeguards against this possible outcome, creating the conditions for a transition to full forbearance.

As with all policy solutions, the devil is in the details. If the band is defined very narrowly and long durations are adopted, one may not realize flexibilities. Similarly, rigid applications may preclude a new entrant from offering prices based on disruptive innovation (Christensen and Raynor, 2003), sabotaging the original intent of creating space for innovative pricing strategies.

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<sup>29</sup> The Budget Telecom Network has resulted in the lowest Total Costs of Ownership (TCO) in the world and is likely to spread through the developing world (Nokia, 2008a and Nokia, 2008b).

However, it must be noted that for banded forbearance to be applied effectively, there is a need for accurate and timely operator-level data, such as minutes of use per month, call distributions by destination and time, etc. The data also has to be comparable to ensure the trouble-free computation of the benchmark value around which the band is centred on. Without these prerequisites, the application of banded forbearance will be a challenge.

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