

# **International Best Practises on Regulation of Anti-competitive behaviour in Telecom**

**A Research Report for the COAI**

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## Preface

We are pleased to present our report to the Cellular Operators Association of India (COAI) on International Best Practises on Regulation of Anti-competitive behaviour in Telecom.

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# I Executive summary

## Objectives

- 1.1 As the process of liberalising the Indian telecommunication sector proceeds both the fixed line and mobile markets have experienced significant changes in their competitive structure and market dynamics. In the fixed line sector, monopolies in access, long distance and international services have ended with new players entering to compete with BSNL and MTNL in access, BSNL in long distance and VSNL in international. At the same time the mobile market has seen the licensing of a private GSM operator in each service area and changes in the licence fee arrangements and, more recently, entry of BSNL in circles as a mobile operator. Finally the entry of Reliance and other Wireless Local Loop operators, as basic service fixed line operators has provided a further shift in the competitive dynamics of both the fixed and mobile markets as the new WLL services have the look and feel of mobile, although they are provided under a different licence.
- 1.2 Under a policy of liberalisation, which India has been progressively following since 1994, the best guarantee of innovation in services and attractive prices for consumers is vigorous competition between a number of firms, where no one organisation enjoys a systematic advantage and all are forced to innovate to stay ahead of fellow operators. In markets with many operators, with significantly different ownership structures, levels of market power and capital resources, it is appropriate to consider whether competition is carried out in a fair manner that will lead, within the foreseeable future, to the establishment of competitive market, or whether there are any impediments to its development.
- 1.3 Such impediments provide the basis for regulatory intervention to ensure that operators compete on the basis of “a level playing field”. This requires that institutional framework of the sector does not give operators the opportunity to abuse significant market power or to destabilise the market in ways which impact adversely an otherwise efficient competitive operator.
- 1.4 Within the framework of competition law and regulatory practice that has been established in a number of leading telecoms markets internationally, it is possible to identify the areas in which market power may be abused and the activities that would indicate this. Regulatory authorities around the world have developed tests that can be used to assess whether the specific actions of an operator constitute an abuse of power, and a range of remedies. In situations where the risk of abuse is high, the regulatory response is pre-emptive (ex-ante), but where abuse is considered less likely regulation is reactive (ex-post). The appropriate response to any given situation will be determined by the institutional structure within which the market operates, the distribution of market power and the maturity of the market.
- 1.5 This research report seeks to identify what constitutes best practice in regulatory behaviour – for Government, the regulator and industry players with focus on competitive safeguards for pure play mobile access providers vis-à-vis integrated operators. Placing that assessment of best practice within the context of the development of the Indian telecoms sector will provide a focus for the development of

the regulatory environment and guidance as to how the TRAI should approach the many contentious issues that are the hallmark of a fast developing competitive sector.

## **Market Assessment**

- 1.6 The Indian telecommunications market exhibits many of the indicators of a competitive market. In the NLD and ISD markets the entrance of new players has led to falling prices. In the mobile sector there is vigorous competition between up to four operators in each circle. Prices have fallen significantly, while the range of available services has increased. The WLL product provides significant competition to GSM, and new entrant prices are below those of existing GSM and fixed line operators.
- 1.7 A competition authority, however, would be likely to conclude that the market is not *actually* competitive but *prospectively* competitive. This description, used in the recent UK Competition Commission inquiry into the UK mobile market, indicates that there remain elements of significant market power (SMP) that should be controlled, apart from the need to control the activities of the incumbent operators (BSNL / MTNL) in monopoly access areas.
- 1.8 The most critical area where SMP may be abused is in pricing. The actions of the WLL operators appear predatory when compared to the cost structure of the GSM operators. The pricing behaviour of BSNL is potentially predatory in the GSM market, given the lack of transparency in accounting for its GSM business. By controlling NLD and access, integrated operators can operate vertical price squeezes on pure play mobile licensees who do not have NLD licences. Abuses of SMP in pricing have the capability to destabilise the market rapidly due to the capital constrained environment in which operators, especially pure play mobile operators, exist. It is therefore critical that TRAI acts promptly to rectify any abuses that are identified. Equally, where new entrants are prepared to accept significant medium term losses, the market may also be destabilised.
- 1.9 In India, beyond areas of pricing, abuses via unrestrained activities can also be seen in marketing, access to the network and access to capital. Overall the market exhibits many of the signs of imbalanced competitive activity, where market power is inadequately constrained. TRAI is perceived as having only weak powers of enforcement and therefore does not provide an adequate restraint to anti-competitive behaviour. This weak regime will benefit the incumbent and integrated operators at the expense of pure play operators, especially in mobile.

## **Specific pricing issues in the Indian Telecom market**

- 1.10 Pricing situations are the most complex to analyse but it is critical that TRAI has techniques and tools to do the required analysis quickly. This is important because the potential impact of unfair competitive activities is severe, including forcing operators out of business. The numbers of specific behaviours that may be exhibited are relatively few: predatory pricing, vertical price squeezes and collusion.

- 1.11 Predatory pricing occurs when an operator prices below cost with a view to drive a competitor out of business, so that it can later raise prices again. Issues arise as to the level of the price and time period that it should be offered for it to be considered predatory. A vertical price squeeze occurs when one operator (e.g. an integrated access / NLD operator) offers wholesale prices for an intermediate service (e.g. NLD) to a third party (e.g. a pure play mobile operator), on terms that do not allow the third party room to make a retail margin. High wholesale NLD prices with low bundled access / NLD rates would be an indication of such a squeeze. Collusion, when a group of operators (e.g. integrated NLD operators) agree to maintain high wholesale prices for pure play operators to keep them from competing in NLD.
- 1.12 Product bundling may exhibit both predatory pricing and vertical squeezes. When considering a bundle, TRAI needs to consider:
- (a) Predatory - Does the overall cost of the bundle fall below costs? Costs should be defined in terms of LRIC, but in the current market an FDC approach is appropriate; and
  - (b) Vertical squeeze – Does the implied cost of NLD in a bundle fall below the publicly available wholesale price?
- 1.13 Tariffs should be cost based and supported by an analysis that they are compliant with the IUC regime to demonstrate that they are not anti-competitive.
- 1.14 In assessing prices a range between LRIC, at the lower end, and fully allocated costs at the upper end should be considered. Against this framework, Reliance tariffs represent a discount against the IUC and are not a short-term promotion. They can therefore be considered to be both predatory to GSM operators and additionally, to exhibit a vertical price squeeze in relation to pure play mobile operators. BSNL is unable to substantiate its costs in any of the markets it operates in. For this reason it is appropriate to constrain BSNLs' ability to be a price leader, as there is a strong presumption that this activity will involve cross subsidy and effectively be predatory.
- 1.15 To analyse unlimited packages it is necessary to consider the costs and revenues involved in a market demand scenario and to estimate the effects of price elasticities. These techniques should be used to assess the implied cost of unlimited airtime in the current range of mobile tariff packages.
- 1.16 Accounting separation, arms' length transfer prices and strict cost allocation rules should be used to ensure that tariffs are not discriminatory. In certain circumstances, where control of the network gives a cost advantage, TRAI should consider time limited unbundling until the private operators have the opportunity to build out.

## **Key Conclusions and Required Action**

- 1.17 As part of its immediate agenda, TRAI should take urgent action to halt current anti-competitive practices. This includes:

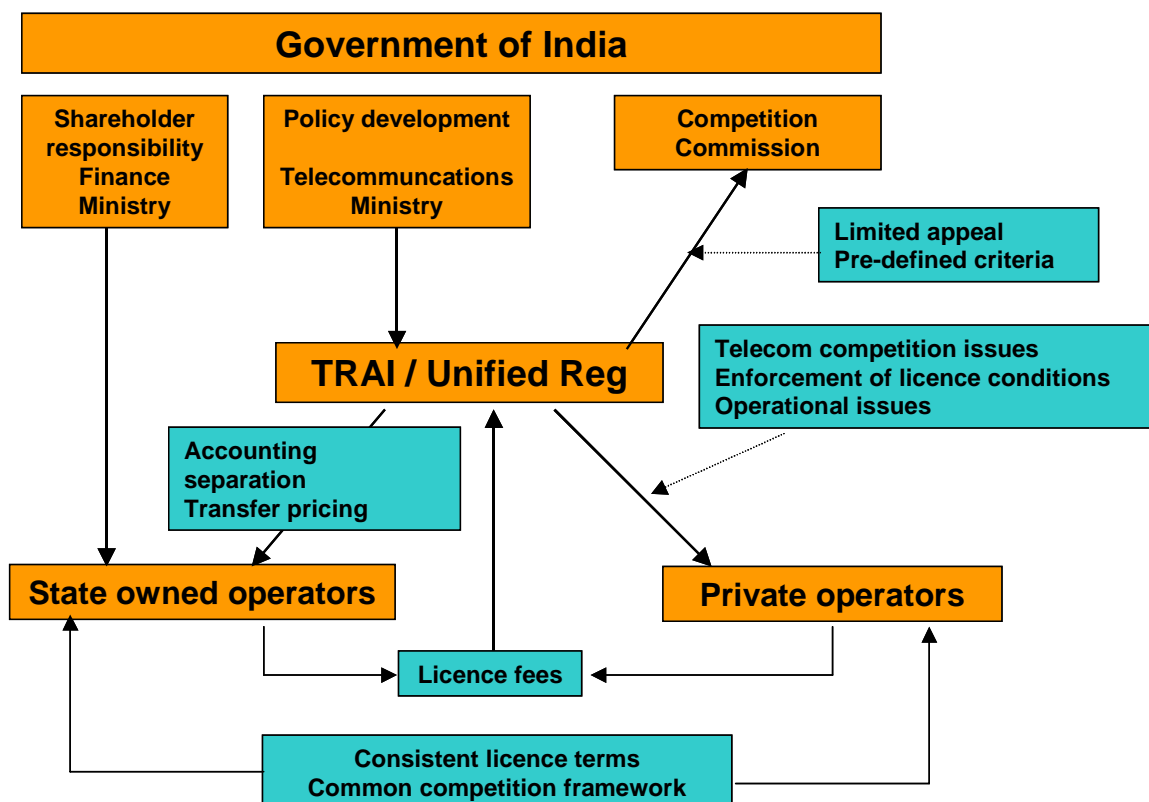
- (a) Requesting all operators to provide a structured market analysis to support new tariffs, enabling the component prices of access, long distance and termination to be compared with the Interconnection Usage Charge schedule;
  - (b) Use enforcement orders to halt anti-competitive behaviour as soon as it is identified;
  - (c) Implement accounting separation for integrated operators but on the incumbent on a priority basis, with arms' length, non-discriminatory transfer prices between divisions; and
  - (d) Consider identifying the WLL tariffs of Reliance Industries as predatory in the GSM market, on the basis that they are having a destabilising and unsustainable impact on the mobile market.
- 1.18 In respect of BSNL, given its current lack of published transparent transfer prices and separate business accounts, it is appropriate to place additional restraints on its competitive activities. These should include a restriction on its ability to be a price setter in the GSM market and a requirement for it to provide open access to its GSM network in cities where its ability to provide a commercially attractive service is derived from an ability to benefit from infrastructure shared with its basic services.
- 1.19 It is also clear that shared databases provide the opportunity for integrated businesses to share data and processes in a way which pure play operators cannot do. Confidential customer data should not be passed between businesses and processes should be non-discriminatory. Processes should be established to maintain this separation, and these should be subject to external review to ensure compliance. Greater control also needs to be exercised over campaigns to ensure that they do not promote services not apparently within license purview or provide a misleading view of a product to consumers.
- 1.20 In India, there have been numerous examples of interconnect not being provided or delayed. With the exception of illegal operations (e.g. disguising international as local to avoid termination rates), interconnect should be provided in a non-discriminatory manner. Performance orders should be used, with retrospective settlement if necessary.
- 1.21 The cost of capital is an essential input to any regulatory analysis and should be established separately for operators on the premise that each operator has access to different capital resources. In the Indian context, TRAI should consider the cost of capital separately for: BSNL, as a state owned integrated operator; MTNL, as a state owned access provider; Integrated long distance/access providers like Bharti, Reliance; Pure play mobile operators like Escotel, Hutchison.
- 1.22 Competitive development of the sector is being limited by an institutional structure, which exhibits an inadequate identification and separation of government's role in policy development, regulation, industry ownership and operations. Furthermore, TRAI lacks clear enforcement capabilities for its existing powers, rendering it more of an advisory body than an executive one. Well-resourced, independent regulators

whose decisions are legally binding provide strong evidence of achievement of an international best practice institutional structure.

- 1.23 The institutional framework should be reformed to clarify roles and responsibilities. This would involve raising TRAI's enforcement powers. At the current stage in the development of the Indian Competition Commission, TRAI should retain all the powers of the Competition Commission insofar as they relate to telecom matters. It is also appropriate to vest powers to oversee telecom marketing activities in TRAI, provided that they are not exercised in an invasive manner. Finally, TRAI needs to undertake a programme of institution building to ensure that it has the appropriate skills to carry out the competitive tests that are required in its competition management role.

### **The Institutional Framework**

- 1.24 When under monopoly state control there has often been overlap between the way government exercises its role as shareholder of a state owned enterprise, developer of telecoms policy, regulator of the sector and operator. In a liberalising market the lack of clear separation of roles provides the basis for an inconsistent operation of the competitive framework.
- 1.25 This is the situation in India today, where DoT's role as shareholder and regulator create a conflict of interest – for example over the implementation of accounting separation and carrier pre-selection. Such conflicts can have a significantly adverse effect on the level of investment in the sector and slow the pace of development. Enforcement powers are not clear enough, and too many issues are determined in court. Clear separation of roles and government support for TRAI's enforcement powers.
- 1.26 A best practice institutional framework would operate as follows:



## Tools and remedies

1.27 All regulatory action is based on a clear market assessment to determine the scope for an operator to exert SMP. The “hypothetical monopolist test” is used to determine the limits of market. If an operator is a monopolist, then it can achieve and maintain a small increase in price. If consumers can substitute effectively to another product, the operator cannot maintain the price increase, and is not considered a monopolist. If the operator controlled both products, there would be nowhere else for consumers to substitute to: it would be a monopoly. The market should therefore include both products.

1.28 Applying this approach to the Indian market:

- (a) WLL and GSM are considered part of the same market: if GSM raises its prices, consumers can substitute into WLL, which has the same look and feel; and
- (b) Where BSNL GSM operates in secondary cities, by virtue of concessionary access to PSTN owned facilities, it operates in a monopoly because private sector GSM operators do not have access to facilities at the same cost: this creates a barrier to entry.

1.29 This coincidence or separation of markets is a commercial reality and is not affected by the fact that the services are provided under respectively different or the same licences. What is of issue in a competition analysis are choices that could be made by consumers. This provides for active intervention from the regulator.

- 1.30 Dominance in a market, defined at a market share of around 25% or more, provides the opportunity for an operator to exercise SMP, and provides the rationale for regulatory control.
- 1.31 Where companies operate in multiple sectors, effective arrangements for accounting separation, transfer pricing and cost allocation are a pre-requisite for control of market power. This can be supplemented by price control and tariff approval arrangements to protect customers and incentivise performance improvement. In extreme circumstances it may be appropriate to prevent a service being offered by an operator, where to do so would encourage the growth of competitors, which would ultimately establish a more efficient market.
- 1.32 For companies with less market power, such ex-ante regulations are not appropriate and a reactive approach, using performance orders, determinations or fines will be necessary to ensure the market functions more efficiently.

## II Introduction

- 2.1 The regulation of the telecommunications sector is a complex and dynamic process in which Government, regulatory bodies and operators seek to find the appropriate balance of measures and operating procedures to encourage the sector to develop in a structured and balanced manner. The evolution of many industry sectors, including telecommunications, has seen a move from state owned monopoly and control, to increasing private sector participation and the emergence of competing providers for both facilities and services. In some cases state owned entities have been divested to the private sector, in other cases governments have retained significant or controlling stakes.
- 2.2 Whatever the ownership structure of the former monopoly operators, the new regime has created the need to establish rules of behaviour for the interactions between market players and between Government and the industry to ensure the maximisation of the industry's development prospects. Around the world around 80 countries have committed to the introduction of regulators to the telecoms industry following the Uruguay Round of the WTO in 1998. Beyond telecoms, the process of deregulation has been extended to other sectors, creating the need for behaviour to be codified there too.
- 2.3 The development of the concept of regulated industries, outside the United States where the public oversight of private utilities is long established, is a relatively new phenomenon dating from the early 1980's. Such sector specific regulation can, however, be seen as the development of more general regulations designed to codify company behaviour, including company law and national competition laws.
- 2.4 Across the world, a number of common themes can be identified in the principles underlying the development of regulatory structures at both general company and sector specific level. Nevertheless the precise way in which the general principles have been interpreted in each country differs according to the maturity of the market, Government's attitude to fostering competition and the specific legal environment.
- 2.5 This research report seeks to identify what constitutes best practice in regulatory behaviour – for Government, the regulator and industry players with focus on competitive safeguards for pure play mobile access providers vis-à-vis integrated operators. Placing that assessment of best practice within the context of the development of the Indian telecoms sector will provide a focus for the development of the regulatory environment and guidance as to how the TRAI should approach the many contentious issues that are the hallmark of a fast developing competitive sector.
- 2.6 At the outset, it is essential that context for this paper be clearly understood. The mobile sector in India is in a state of flux with the recent introduction of new players and new services. This has been accompanied by a change in the charging basis, wherein the incoming calls of the mobile subscriber have been made free together with the introduction of more formalised interconnection usage charges (IUC). Due to liberalisation of the NLD sector, companies like BSNL, Bharti, Tata etc are offering services in both mobile and long distance sector. Pure play mobile operators,

which hold only GSM licences must therefore compete with integrated operators, which by themselves or by having affiliated companies provide NLD services.

- 2.7 In the market for basic telephony services, Reliance Industries is providing Wireless Local Loop (WLL) services on a nationwide basis. Reliance has entered the market vigorously and limited mobility being allowed within SCDA and the fact that a Metro area like say Delhi or Mumbai being a SDCA, has allowed the company to position its services as similar to those provided by the GSM licencees. Furthermore, it has developed a technical solution that allows it to provide a virtual roaming service when customers move between circles. This has raised the possibility of significant substitution opportunities between GSM and WLL services.
- 2.8 Where Government has adopted a policy of liberalisation, it is the regulator's duty to ensure that competition can develop and that consumers gain from the wider choice of services and more attractive prices that will result. Imbalances in market power between operators raises the possibility that one player can take actions to which another player cannot make a competitive response. Such actions can undermine the overall financial health of the industry and drive operators out of business, limiting choices for consumers. In the capital constrained environment of the Indian mobile sector, such anticompetitive behaviour will have a rapid effect on the finances of smaller operators. It is therefore the regulator's duty to be vigilant to such behaviour and to respond rapidly to ensure that its effects do not undermine Government policy of promoting numerous competitors in both the NLD and mobile markets.
- 2.9 This paper focuses first on the "behaviours" that would indicate to a regulator that anticompetitive activities are taking place and considers these within the context of a number of "situations" that are currently being exhibited within the Indian telecoms market, or have been examined in the context of other markets. Action by a regulator is warranted to control these "behaviours", and not by virtue of an operator's licences or ownership structure. International experience shows, however, that certain "behaviours" are more likely to be exhibited by integrated operators operating in a number of market segments, for example, rather than pure play operators whose activities are limited to a segment.
- 2.10 A number of points should, however, be borne in mind:

This survey cannot be, and is not intended to be, exhaustive – it focuses on the activities of the most transparent and well-respected regulatory environments. We do consider, however, that it is adequately representative of the best of international experience;

Differences in assessment and approaches of regulators mean there is rarely a unique solution – even where there is a consensus about the structure and form of an area of regulation, it may be implemented in different ways internationally;

The objective of this paper has been to identify the dominant themes in regulatory practice and consider their applicability to the Indian market and regulatory environment *at its current stage of development*. It must be remembered that all regulatory environments impose costs on operators, and create skills' requirements for

both operators and regulators. Achieving a “best practice” regulatory environment can rarely be achieved in a single step and will be an evolutionary process; and

In the course of the development of this paper we have reviewed some legal texts but we have only considered the commercial arrangements that are represented within them: none of our commentary should be construed as a formal legal review and do not provide any qualified opinion on the interpretation of these texts.

In this paper we have assessed the institutional structure of the industry against what might be considered international best practice. We have also analysed a number of current situations that have arisen within the industry in terms of the underlying economic and competitive practices that they represent. It is not possible, to analyse every possible situation that may arise in competitive market but we do consider that we have captured the most significant issues that require the most urgent regulatory action by TRAI to ensure that the sector is not destabilised in a way, which adversely affects its development.

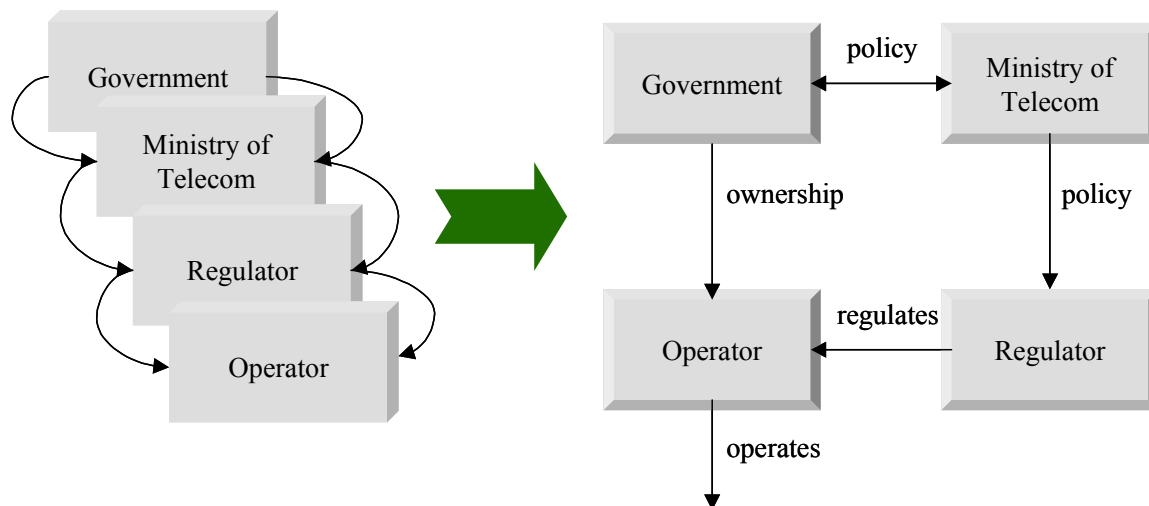
Where possible we have identified priorities for action by TRAI, focusing on what their immediate response should be, given the current availability of cost information. Many of the tests undertaken by regulators require the provision of detailed cost information, which is not currently available within the sector. In these instances we have recommended the initial position that should be taken by TRAI to ensure that stability is maintained in the market and that anti-competitive practices are not permitted to continue unchecked. Ensuring that the principles we have identified are correctly applied requires that TRAI is adequately resourced to undertake the required analysis and is supported (where necessary) by other Government agencies to ensure that its decisions are adequately enforced.

### III Principles of regulation

- 3.1 Any assessment of competitive behaviour must be set in the context of a clear set of regulatory principles against which the actions of policy makers, regulators and operators can be considered. The institutional structure of the telecom sector will play a major role in determining how the competitive activity is:
- (a) **viewed**, from a policy perspective;
  - (b) **monitored** and **controlled**, from a regulatory point of view; and
  - (c) **enforced** from a legal point of view.
- 3.2 In a best practice regulatory environment the approach taken at all three levels is consistent and reinforcing. In a pro-competition environment the institutional structure is structured to ensure that operators are able to compete on the basis of a level playing field. This requires that Government create clear policy guidelines; a well-resourced and empowered regulator and that regulatory decisions are enforceable with legal certainty. Furthermore, the entire institutional structure should be non-discriminatory: providing no favour by virtue of ownership or structure, but mindful that the sector is composed of operators who are able to exert differing levels of market power.
- 3.3 A brief review of these arrangements will identify where corrective action should be taken to ensure that the sector develops most effectively. It will also identify some potential problems that may be faced by operators in seeking redress from actual anti-competitive behaviour.

#### Separation of roles and responsibilities

- 3.4 Historically, one organisation, often a government department or state owned enterprise, provided telecom services as a monopoly and also set regulations. Government entities were therefore responsible for determining the regulatory environment and delivering services. Effectively, the whole sector operated as an instrument of Government policy. As governments have begun to follow policies of liberalisation and competition, it has become clear that vesting responsibility for determining rules of interaction with the owner and operator of the principal industry player represents a conflict of interest. Such a conflict threatens the successful development of the sector, and, in particular, will limit the ability to attract and retain significant private capital.
- 3.5 Typically, entities, which were tightly integrated, are separated in steps. First by separating regulatory authority from practical operations and provision of services. Second by separating regulatory authority from policy setting as shown in the diagram below.



- 3.6 The successful implementation of policies for liberalisation cannot take place unless the distinct roles inherent in the former, integrated, structure are acknowledged and separated. The functions of policy setting, regulating behaviour, managing operations and exercising shareholder responsibilities should be, as far as possible, separate.
- 3.7 The institutional framework for the sector needs to reflect this separation and the establishment of a Regulatory Authority, which separates Government from the supervision of day-to-day operations, is an important first step.
- 3.8 Government may continue to be active in operations as a shareholder in fixed operators and possibly in some mobile operators. To ensure an appropriate degree of separation it is therefore desirable to invest responsibility for ownership management in a Ministry other than the Ministry of Telecommunications, such as the Ministry of Finance or Ministry of State Owned industries.

#### Separation of roles – separate ministries

In **South Africa**, ownership of all state owned enterprises is vested in the Department of Public Enterprises (DPE). DPE is a specific Ministry, which does not develop sector specific policy but is charged with supervising operations in state owned industries, including Telkom the dominant fixed line operator. The Ministry of Posts, Telecommunications and Broadcasting is responsible for determining policy for the sector and appoints the regulator.

In **Indonesia**, the Ministry of State Owned Enterprises (MSOE) has shareholder responsibility for most state owned industries, including PT Telkom, although a few financial institutions remain under the supervision of the Ministry of Finance. Legally shares are vested with Government of Indonesia but MSOE has been delegated with the authority and all the roles of the shareholder, with all the usual powers that this entails. Telecom policy is determined by the Ministry of Posts Telecommunications and Ports (MPTP) with sector regulation being dealt with by the Director General of Post and Telecoms, an MPTP division.

In **Sri Lanka**, ownership of the government's interest in Sri Lanka telecom is vested in the Treasury (Ministry of Finance) with the Ministry of Mass Communications retaining policy responsibility and appointing the chairman of Telecommunications Regulatory Commission.

- 3.9 This separation of roles provides an important signal to potential private sector investors as to how the sector is managed. In some countries the ownership / policy role has not been devolved to separate ministries. This would be acceptable where Government made a clear statement of its intentions regarding the use of its shareholder power.

#### **Separation of roles – single ministry**

In the **UK**, at the time of BT's initial public offering, in 1984, the Department of Trade & Industry (DTI) retained ownership responsibility for approximately 49% of the company. DTI also appointed the regulator. To ensure confidence in the separation of ownership and regulatory responsibilities, the prospectus contained a statement to the effect that the Government would always cast its votes with the board.

In **Australia**, the annual report of Telstra, 51% owned by the Government, contains a statement defining its relationships with the Commonwealth as shareholder, regulator and a customer. These roles are clearly defined even through the shareholder and regulatory role are exercised through the Minister of Communications.

In **France**, the Government's ownership and policy responsibilities are exercised through the Ministry of Communications. The potential conflict of interest has led to the allegation by the European Union that the Ministry has not followed commercial shareholder practice when providing refinancing support to the company. This may be considered as illegal state aid under EU law.

- 3.10 To reinforce separation, the Ministry of Telecommunications should not take any role in day-to-day regulation. It is normal for the regulatory body to be an agency of the Ministry of Telecommunications and to appoint the regulator. This should be accompanied by the delegation of all management responsibility for implementing key policy decisions together with the appropriate powers of enforcement. It should not, therefore, be necessary for the regulator to have to refer for any issue over which it is empowered, to the Ministry of Telecommunications for approval.
- 3.11 Furthermore, under principles of subsidiarity, regulatory power and authority should be delegated to the agency best placed to exercise this. For this reason many telecom regulators have powers of approval over mergers and acquisition and the application of competition policy, so far as they relate to telecoms issues. In this situation national competition authorities play a reviewing role and acts as appeals bodies.

## **Definition of roles and responsibilities**

### **Shareholders**

- 3.12 The Government, *as a shareholder* in operators has a duty to ensure that operations are run efficiently to protect its interest in the company. In a private sector organisation, the shareholders will be looking to the management to maximise the firm's shareholder value. This should apply equally to Government in its role as a shareholder.

- 3.13 Considerations of social policy e.g. employment maintenance and the provision of subsidised services should not play a significant role in the Government's decision making process *in its role as shareholder*. For this reason control of shares and the exercise of shareholder responsibility is frequently vested in a ministry other than the telecoms ministry.

### **Policy makers**

- 3.14 Government policy towards the sector provides a number of constraints to the way operators can interact: which services can be provided by what operators, what considerations must be taken into account. The role should encompass both the commercial structure and the social requirements.
- 3.15 A Telecoms Ministry should set the legislative framework and determine key issues of policy including: the pace of deregulation, the services that will be reserved or competitive, the approach to foreign investment and the structure of the industry.

### **Regulators**

- 3.16 The regulator's role should be to operationalise the policy decisions. Frequently it will be an agency of the Telecoms ministry but with a clear definition of its mandate and scope of activities. In a substantially pro-competitive market the scope of the policy markers will be relatively small, and significant power will be devolved to the regulator to facilitate this, *without the need to refer to the policy markers*. In many respects the existence of an empowered, well-resourced regulator provides strong evidence of the existence of a best practice division of responsibilities.
- 3.17 In contrast to the decision making process that often characterises government's direct handling of regulatory issues, the independent regulator's activities should be characterised by openness, transparency, and accountability. To inspire confidence the regulator should be impartial and seek to establish a level playing field for operators, regardless of ownership, within the policy constraints established by government.
- 3.18 To achieve this an effective regulator should have processes in place that facilitate the resolution of disputes coming from licensed operators or members of the public. They should follow clear procedures with time limits that enable them to respond in a timely manner to queries originating from operators and members of the public.
- 3.19 Confidence is enhanced if regulators establish and are bound by their own precedents. Leading regulators place great emphasis on consistency of decision making as part of their implicit contract with the industry. Regulatory decisions therefore form an effective body of "case law" as relevant as any legal decisions. Frequently regulators cross compare experience across industries, but though they take account of experiences elsewhere, they need not be bound by them. Frequently, however, they will feel the need to justify the differences with other regulators.
- 3.20 The powers of the regulator in a well-developed telecoms environment are extensive, as shown below. Economic and operational issues are typically dealt with by the principal regulators: Oftel, in the UK, the Australian Competition and Consumer

(ACCC), in Australia and the Federal Communications Commission (FCC) in the United States. Certain technical issue may be devolved to parallel bodies, such as the Radiocommunications Agency (UK) and Australian Communications Authority. Industry convergence is leading to the consolidation of these agencies, Ofcom in the UK, following the US and Hong Kong models. These trends only serve to demonstrate more clearly that these activities have been vested in powerful bodies, which have been constituted to operate independently of Government's policy setting role.

<b>Licensing and spectrum</b>					
<b>Description</b>	<b>United Kingdom</b>	<b>USA</b>	<b>Australia</b>	<b>Hong Kong</b>	<b>India</b>
Determine form of licence / classes	DTI <i>Advice from Oftel</i>	FCC	ACA	OFTA	Telecom Commission & DoT, Recommendations from TRAI
Issue operating licence	DTI <i>Advice from Oftel</i> <sup>(1)</sup>	FCC	ACA	OFTA	Telecom Commission & DoT
Determine number of licencees	DTI <i>Advice from Oftel</i>	FCC	ACA	OFTA	DoT, Recommendations from TRAI
Issue apparatus licence	Oftel		ACA	OFTA	TEC, DoT
Set licence fees	Oftel	FCC	ACA	OFTA	Telecom Commission & DoT, Recommendations from TRAI
Amend licences	Oftel		ACA	OFTA	Telecom Commission & DoT, Recommendations from TRAI
Allocate spectrum	Radiocommunications Agency (DTI)	NTIA and FCC	ACA	OFTA	WPC, DoT
Manage spectrum	Radiocommunications Agency (DTI)	NTIA and FCC	ACA	OFTA	WPC, DoT

<b>Interconnect</b>					
<b>Description</b>	<b>United Kingdom</b>	<b>USA</b>	<b>Australia</b>	<b>Hong Kong</b>	<b>India</b>

<b>Interconnect</b>					
<b>Description</b>	<b>United Kingdom</b>	<b>USA</b>	<b>Australia</b>	<b>Hong Kong</b>	<b>India</b>
Set policy for interconnect	Oftel	FCC	ACCC	OFTA	TRAI
Arbitrate on disputes / determine terms	Oftel	FCC	ACCC	OFTA	TDSAT
Determine cost standard	Oftel	FCC	ACCC	OFTA	TRAI
Develop models	Oftel	FCC	ACCC	OFTA	TRAI
Review and publish RIO	Oftel	FCC	ACCC	OFTA	TRAI

<b>Account Separation</b>					
<b>Description</b>	<b>United Kingdom</b>	<b>USA</b>	<b>Australia</b>	<b>Hong Kong</b>	<b>India</b>
Determine framework	Oftel	FCC	ACCC	OFTA	Recommended by TRAI
Applicability	Oftel	FCC	ACCC	OFTA	Recommended by TRAI
Granularity	Oftel	FCC	ACCC	OFTA	Recommended by TRAI
Determine transfer prices	Oftel	FCC	ACCC	OFTA	Should be done by TRAI
Define audit requirements	Oftel	FCC	ACCC	OFTA	Recommended by TRAI
Publication	Oftel	FCC	ACCC	OFTA	Telecom Commission & DoT

<b>Tariff regulation</b>					
<b>Description</b>	<b>United Kingdom</b>	<b>USA</b>	<b>Australia</b>	<b>Hong Kong</b>	<b>India</b>
Regulate tariffs	Oftel	FCC	ACCC	OFTA	TRAI
Tariff review	Oftel	FCC	ACCC	OFTA	TRAI
Determine tariffs under regulation	Oftel	FCC	ACCC	OFTA	TRAI
Determine form of regulation (eg. Price cap	Oftel	FCC	ACCC	OFTA	TRAI

Tariff regulation					
Description	United Kingdom	USA	Australia	Hong Kong	India
/ ROR)					
Monitor anti-competitive actions	Oftel	FCC	ACCC	OFTA	Should be done by TRAI

Cost of capital					
Description	United Kingdom	USA	Australia	Hong Kong	India
Determine method	Oftel	FCC	ACCC	OFTA	Should be done by TRAI
Calculate rates	Oftel	FCC	ACCC	OFTA	Should be done by TRAI

Ownership, mergers and acquisitions					
Description	United Kingdom	USA	Australia	Hong Kong	India
Terms and conditions	OFTEL	FCC	ACCC	OFTA	DoT
Referral levels / approvals	OFTEL	FCC	ACCC	OFTA	DoT
Foreign ownership levels	<i>No foreign ownership limitation</i>	FCC	ACCC	<i>No foreign ownership limitation</i>	DoT

Customer performance standards					
Description	United Kingdom	USA	Australia	Hong Kong	India
Determine KPIs	Oftel		ACIF	<i>No targets</i>	TRAI
Set targets	Oftel		ACIF	<i>No targets</i>	TRAI
Levy penalties	Oftel		ACA	<i>No targets</i>	No penalties

- NTIA: National Telecommunications and Information Administration, part of the Department of Commerce
- ACIF: Australian Communications Industry Forum
- ACCC: Australian Competition and Consumer Commission
- ACA: Australian Communications Authority
- DoT: Department of Telecommunications
- TEC: Telecom Engineering Centre

WPC:	Wireless Planning & Coordination wing
TRAI:	Telecom Regulatory Authority of India
TDSAT:	Telecom Dispute Appellate Settlement Tribunal

## Enforcement

- 3.21 An essential feature of the regulatory regime in each of the developed markets is that the regulator has **executive power** rather than advisory power. Under the structure of laws and licences that has been established, regulatory decisions are legally enforceable and do not need to be ratified by the telecoms ministry, where one exists.
- 3.22 In a few instances, mainly competition decisions or price control review, there may be an appeals procedure. This is the case in the UK, where an operator may ask for a review of the regulator's decision by the Competition Commission. In Australia, the ACCC is the national competition authority so there is no basis for appeal. In an effective regulatory regime the approaches to any contentious issue used by both sector regulators and national competition will be the same. This alignment of interests ensures that only the most contentious issues will be subject to appeal.
- 3.23 The legal process for enforcement is also clearly spelled out in the licences and includes revocation.

## Separation of roles in India

### Current situation

- 3.24 In India, the separation of roles and responsibilities is significantly less than would be the case in a best practice environment. The key deficiencies are:
- (a) Policy responsibility rests with the Ministry of Communications, as does ownership responsibility for Governments stakes in BSNL and MTNL;
  - (b) Telecom Regulatory Authority of India (TRAI) has been given wide powers, in many respects consistent with the best international practice, but lacks the authority to implement decisions. This is clearly counter to international best practice where regulators have full authority to determine the form and timetable for implementing their decisions; and
  - (c) TRAI regulatory decisions lack the legal certainty and are not, therefore, actioned by operators in the way that would be common in better-developed regulatory environments. Compliance by operators should be automatic and within TRAI's timetables.
- 3.25 The uncertainty and delay caused by TRAI's lack of authority to act undermines its authority and overall confidence in the regulatory structure. Regulatory inaction benefits those operators who operate inefficiently, because they are not subject to regulatory controls and those that act in anti-competitive manner. In the mobile sector, where all operators are capital constrained, anti-competitive behaviour can have a rapid effect on cashflow, prejudicing the ability to survive. This favours

integrated players, who are more able to support anti-competitive behaviours, and acts against the interest of pure play mobile operators.

### **Separation of roles**

There is no statement from the Department of Telecommunications (DoT) as to the way in which it will exercise its shareholder power (as there is in the cases of BT or Telstra). There is no consistency in the way this power is applied. Ministry of Communications (MoC) has taken legal action, in its role as shareholder, to delay the implementation of decisions made by TRAI, in its role of implementing MoC sector policy.

### **Lack of authority**

- TRAI *recommended* the implementation of accounting separation in December 2002. Authority to implement this measure resides with DoT, which has not issued the necessary order.
- TRAI raised a directive to implement carrier pre-selection in July 2002, setting a timetable for implementation. Although it has reiterated the importance of the timetable to DoT, pre-selection has not yet been implemented.

### **Recommendations for development**

3.26 The effective management of the sector requires the identification and separation of DoT's ownership and regulatory roles. DoT has demonstrated that it does not have a clear policy in these areas. This should be addressed for the following reasons:

- (a) It is damaging for the development of the sector, will delay the effective implementation of regulatory decisions and prejudice the interests of pure play operators.
- (b) It will deter investment in the telecom sector and favour those operators with access to significant capital resources.
- (c) In the mobile sector, it will act against the interests of pure play mobile operators and favour integrated operators which have diversified operations that allow them to spread the risks of unpredictable government behaviour more effectively – this should not be a legitimate source of competitive advantage in a well developed regulatory environment.

3.27 Accounting separation and carrier pre-selection are mechanisms, which provide support for pure play operators competing with integrated operators. Implementation of accounting separation will lead to identification/removal of cross-subsidies across service lines of an integrated operator and will place a pure play operator at par with an integrated operator for that particular service line. Similarly, implementation of carrier pre-selection will shift the choice of long distance operator from the integrated operator to the subscriber thus reducing instances of predatory product bundling by an integrated operator. Delays in implementing these measures are therefore a constraint on the development of a competitive sector.

- 3.28 Legal certainty is essential to the effective functioning of the regulatory regime. Regulatory decisions must have the force of law within the sector and should not be subject to legal challenge. This requires clear definition of powers and confirmation of authority.

## IV Regulatory tools and remedies

- 4.1 Regulators' powers derive from the legal environment in which they operate. This also provides for the range of remedies that can be used to deal with abuses of power. The effectiveness of regulation will depend on the strength of these arrangements, the resources available to the regulator and arrangements to ensure enforcement of the regulatory regime.
- 4.2 In instances where operators perceive that anti-competitive behaviour is being undertaken it may be appropriate to adopt a twin track approach to resolving an issue, which involves an initial solution, followed by a more detailed analytical process to assess the details of the situation. The ability of TRAI to undertake such a process is dependent on its ability to act swiftly and be adequately empowered.
- 4.3 When reviewing the behaviour of operators, sector specific and national competition regulators place great emphasis on market definition. Any analysis of the potential impact of competitive activity and assessment of the appropriate remedy can only be determined in the context of a clear definition of the way in which customers and operators will be affected and the potential substitutes on offer. In the context of current developments in the Indian market, the potential substitution of the GSM mobile and WLL services would tend to indicate that TRAI should consider the two services together, irrespective of their *legal* separation.

### Laws

- 4.4 Two types of legislation may govern the telecommunication sector: competition laws and telecommunication specific laws. The role of the legislation in both cases is to establish the basis and scope for competition in the market as well as regulatory activity and regulatory powers within the sector. If competition legislation is weak, (or non existent) then it is appropriate to make provision within the telecom law to ensure that the regulator has appropriate power to control behaviour and ensure orderly development of the market.
- 4.5 Telecommunications legislation often defines the basis for attributing licenses and the grounds for notions of public service and universal service.

### Licences

- 4.6 Licences are contracts between regulators and operators for the provision of services. The licences dictate the set of obligations that the licensee will have to follow to comply to as well as the scope of its authorised activity. Their authority is derived from statute and their terms and conditions are legally enforceable.
- 4.7 Licences may be granted for provision of service, spectrum allocation or operations of facilities.
- 4.8 Individual licences are granted for the provision of public telecommunication services whereas class licences, which are more a formal registration than a stringent process, are granted for instance for Internet service provision.

- 4.9 A central feature of the licensing regime is that the individual terms and conditions may be reviewed and altered by the regulator to ensure that government policy objectives, for example of fostering competition, are met. They will also contain powers that give the regulator access to significantly more information than an operator would be obliged, under company law, to publish, some of which a regulator may decide should be made public to ensure transparency in dealings with entities with significant market power or which are vertically or horizontally integrated.
- 4.10 In developed markets, the regulator holds the ultimate power to revoke a licence. This provides the backstop pressure to ensure compliance. There have been no significant examples of fixed line or mobile operators having their licences revoked, and, indeed the best run operators invest heavily in the resources to ensure that they are compliant with their licences as part of their corporate governance programmes.
- 4.11 Smaller operators operating in niche markets, particularly in the UK and Hong Kong, have been found to be non-compliant with their licences and have had them revoked. This provides strong evidence of the regulators willingness and ability to use its powers. It should be noted that it is the regulator that has the power to revoke, without recourse to any outside body or further legal or judicial review.

## **Institutional structure of regulation**

4.12 International experience indicates a wide range of formats for the institutional structure of the industry. Some countries have separate laws and regulators for sector specific issues and general competition issues (e.g. UK), others have cross industry regulators to enforce competition and sector specific law (e.g. Australia). In Hong Kong there is no general competition law, while in New Zealand, until recently, there was only general competition law. For member states, the European Union provides a further level of competition law.

4.13 The institutional arrangements for a number of key markets are:

	Competition laws	Telecom laws	Regulations	Telecom specific provisions
UK	Competition Act 1998	Telecom Act 1984	Sector Specific: OFTEL	OFTEL has mandate to manage competition issues
USA	Sherman Act 1903	Communications Act 1934	Sector Specific: FCC (federal) and PUC or PSC (state)	
Australia	Competition Law: Trade Practice Act 1974 (section XIB)	Telecommunications Act 1997	Non Sector Specific: ACCC	Competition Law has a Telecom specific section
Hong Kong	<i>No competition law</i>	Telecom Ordinance (Section 106 of the HK basic law)	Sector specific: OFTA	OFTA has mandate to manage competition issues

	Competition laws	Telecom laws	Regulations	Telecom specific provisions
New Zealand	Competition Law: Commerce Act 1986 (section 36 and Part IV)	Telecom Bill 2001	Sector specific Telecommunications Commissioner	No telecom specific provisions in the Commerce Law. Its laws are enforced by Commerce commission, an independent agency.
India	Competition Act 2002	Indian Telegraph Act 1885 Indian Wireless Act 1933	Telecom Regulatory Authority of India Act 1997 Telecom Regulatory Authority of India (Amendment) Ordinance 2000	No telecom specific provision in Competition Act and TRAI does not have mandate to manage competition issues

## Telecom laws and regulatory bodies

### Australia

Australia has a national general competition law, the Trade Practice Act 1974 that is applied and administered across all industries by ACCC. Specific telecom provisions are included in Part XIB of the Act.

Telstra's activities are partly governed by the Telstra Act, together with the Telecommunications Act which applies to all operators.

### New Zealand

Up until 2001, New Zealand had no telecom specific legislation. Activities were governed by the Commerce Act 1986 which did not provide for sector specific regulation. Stakeholders negotiated most agreements commercially, a slow process delayed by lengthy court battles.

In 2002 the Telecommunications Act created the position of Telecommunications Commissioner to act as the industry regulator.

## Institutional arrangements in India

4.14 TRAI has been constituted with a mandate to manage the competitive development of the sector and been endowed with all the powers of a regulator. While the Telegraph and Wireless Acts have been updated over the years, it is likely that some of TRAI's inability to act effectively, in the manner and at the speed of, regulators in better-developed regimes derives from ambiguities contained within these acts.

4.15 Beyond this, the arrangements are characterised by an appropriate structure of laws and agencies. As the Competition Act is relatively new and little in the way of

precedent will have been developed under it, TRAI will continue to need to take the lead on telecom competition issues. Looking forward TRAI will need to work with competition authority to ensure consistency of methods and approach and push to create a Telecom specific competition framework that can be enforced effectively.

## Market

### Market definition

- 4.16 In the context of competition policy, it is important to reach a clear definition of the market in which a service is offered. If the market boundaries are not specified and the market considered is too broad, the regulator may underestimate the market power of a service provider or operator. On the other hand, if the market definition is too narrow, anti-competitive behaviour may appear more often and to a greater extent than they really are. Equally, it is essential to compare the interaction of adjacent markets which may be *legally* separated but may *from a consumers point of view* be similar.
- 4.17 In the telecom market, increasing mobile penetration has led to fixed / mobile substitution, with certain substitution opportunities for customers between the two modes. Equally, the way WLL is being rolled out in India shows that there is an element of GSM / WLL substitution.
- 4.18 It is clear, therefore, that the starting point for any competitive analysis is a definition of the market. Regulators will look through the legal and institutional arrangements that affect a sector, to the products technical capabilities, market positioning, pricing arrangements and substitution possibilities. In the Indian context it would not, for example, be acceptable for a WLL operator to claim that its relevant market should not include GSM services *by virtue of* the operator not holding a GSM licence.
- 4.19 A market is defined in four dimensions: product, geographical reach, function and time.
- (a) The **product** aspect of the market poses the problem of the identification of the services supplied and the sources of potential substitute products. The analysis starts with the product examined and is then expanded with the use of SSNIP or equivalent tests. The SSNIP test is a hypothetical monopolist test that analyses substitution if a Small but Significant Non-transitory Increase in Price (SSNIP) took place in the price of a product or service. If the hypothetical monopolist would *not* be able to maintain a price increase, because it would lose customers to another operator, then the market is *too narrowly* defined and should be expanded to include the substitute product.
- (b) The relevant **geographic** market is defined as the area over which the service provider and its competitors currently supply or *could supply* the relevant products to which the consumers could practically turn. If an operator is providing services in one area, e.g. Class B cities on a cost base that other operators cannot achieve, then this could be considered as a separate market.

- (c) The **functional** market focuses more on the vertical integration of the players, identifying at what level of the supply chain the operators or service providers operate as well as the degree of influence between two or more functional stages in the supply chain. The analysis of the functional market involves the analysis of efficiencies of vertical integration, commercial reality and substitution possibilities at adjacent vertical stages. This is specifically relevant for instance in the telecom sector for the provision of local loops.
- (d) The **time** aspect of the market refers to the period over which substitution possibilities may be considered. This is relevant as telecom products are prone to changes and varied product modifications (for instance increased functionalities, technology advances etc.). There is also lock in periods, which prevent customers adopting substitutes even if they are more attractive.

## Indian mobile market

### Coincidence of GSM and WLL markets

- 4.20 Applying the criteria described above there is a strong case for determining that GSM and WLL services compete in the same market. Key evidence to support this assessment includes:
- (a) The WLL product is being marketed at the same group of subscribers that are being targeted by the GSM operators – initial material from the WLL operators referred to “roaming” although this is not permissible under the Basic Licence.
  - (b) WLL offers “limited mobility” within Short Distance Charging Areas (SDCA): these can be significant, especially in metro areas, metros being an SDCA, and in which mobile penetration is rising fastest. Since WLL service offers most of the functionality that many customers are looking for, GSM would not, therefore, be able to maintain a price increase over WLL because many customers – potentially a critical proportion of the customer base to affect operator solvency – could substitute to WLL.
  - (c) A key technical difference between GSM and WLL is the fact that WLL is not, legally, able to operate with MSCs. However, the WLL operators have developed a technical solution, using multiple circle specific numbers and call forwarding, that provides an *effective* roaming experience to the customer. From the customer’s point of view the services may therefore be considered good substitutes and the fact that a slightly lower price for WLL would be matched by a slightly lower quality of service and call dropping would not *materially* affect this assessment.
- 4.21 It is irrelevant to this analysis that WLL is licenced as a Basic Telephony Service and GSM is licenced as a mobile service. So far as customer perception and behaviour is concerned, and according to the positioning of the product, the WLL operators are operating in the same market as the GSM operators.

- 4.22 GSM operators therefore have a legitimate case for arguing that any abuse of market position or anti-competitive behaviour, which adversely affected them, should have necessary legal intervention. Currently, the above dispute is sub-judice, pending decision from TDSAT.

#### **Non coincidence of markets in A and B cities**

- 4.23 There is evidence to support to concept that the GSM markets in class A cities and B/C cities may not be coincident, which also provides the case for action by TRAI. Private GSM operators' operations are concentrated in the Class A cities. Extension of operations to class B and C cities have been relatively limited due to relatively higher marginal costs of rollout and lower anticipated customer revenues. BSNL Mobile has rolled out its GSM services, and is experiencing significant customer growth in the class B cities.
- 4.24 BSNL Mobile started by offering lower tariffs than the private GSM operators, despite the fact that, on a greenfield investment basis, the incremental costs of expansion will be higher, and marginal revenue lower. BSNL will only be able to achieve such a cost efficiency (assuming tariffs are cost reflective) if it is able to avoid costs that private GSM operators would have to bear.
- 4.25 In this respect, BSNL has established a barrier to entry to the private GSM operators which prevents them competing on a level playing field basis in the class B and C cities. By allowing BSNL to build its brand in the class B and C cities, the barrier to entry will provide it with the opportunity to generate significant economies of scale that could give it a competitive edge when competing in class A cities. This creates an unfair competitive threat to the pure play mobile operators to which they are not, by virtue of the effective barrier to entry, able to respond.

#### **Action required by TRAI**

- 4.26 TRAI should endorse the use of the SSNIP test as the basis for assessing the market. It should also confirm that *commercial substance* should take precedence over *legal form* when assessing the market over which the test should. Taken together, these actions will allow TRAI to conclude that GSM and WLL should be considered as substitutes *for a significant proportion* of consumers.
- 4.27 TRAI should assess the existence of a barrier to entry for private GSM operators in class B and C cities:
- (a) In the absence of appropriate cost information from BSNL Mobile, the anticipated costs of expansion should be benchmarked against the GSM operators;
  - (b) The cost reflectivity of the tariff should be considered against the benchmark;
  - (c) Any shortfall should be considered as a potential barrier to entry;
  - (d) TRAI could either mandate an adjustment (increase) in price to cost reflective levels or implement measures to ensure that private GSM operators have

access to similar levels of cost that are available to BSNL. Either approach would remove the barrier to entry, but ensuring that BSNL GSM pays commercially for the services provided by BSNL PSTN is the most appropriate solution from a competition point of view.

## Market power, concentration and dominance

### Definitions

- 4.28 In making a case for regulatory intervention, regard must be paid to whether the operators under review can be considered to be dominant or exert significant market power in a market. Under EU's approach, ex-ante regulation should only be applied to operators with significant market power *provided that there are other competition policies and mechanisms in place to deal with potential anti-competitive behaviour*.
- 4.29 Internationally there is a range of definitions for market power, concentration and dominance. Analysing market concentration is one of key parameters in determining the competitive nature of markets. Some countries have introduced specific guidelines to measure concentration and use market concentration tests to help as guidelines for assessing mergers and acquisition.

### USA

In the USA, the Herfindahl – Hirschman Index (HHI) is used as a gauge of market concentration. The HHI value is the sum of the squares of all the companies' market shares.

- a) If the HHI of a market is less than 1,000 the market is considered "unconcentrated". If a merger was to occur, the Justice Department, which supervises competition and merger issues, would be unlikely to analyse it further.
- b) If the HHI is between 1,000 and 1,800 the market is held to be moderately concentrated. Any merger that would increase the HHI by 100 points would cause the Justice department to analyse it further.
- c) Any HHI above 1,800 is thought to denote a highly concentrated market. Any merger that would increase the HHI by 50 points would lead to further merger review.

Market of 5 players, each having 20% market share, the HHI would be equal to  $5 * (20 * 20) = 5 * 400 = 2,000$  and would be considered highly concentrated.

- 4.30 Market power or market dominance are not *necessarily* anti-competitive states of the industry, they may justly result from a company's effectiveness relative to its peers. Companies can still maintain dominant market share even if some aspects of the market are very competitive. If, however, a company *abuses* its market power or dominance in a way that could force a competitor out of the market, regulatory intervention will be needed.

In the telecommunication industry, incumbent operators very often show great market dominance even long after liberalisation started. For instance, in the United Kingdom, liberalisation started in 1984 with the introduction of a duopoly with Mercury. Almost twenty years later, British Telecom still provides between 80% and 85% of the local loops.

4.31 Dominance in a market may be defined as Significant Market Power (SMP) or Collective Dominance. EU guidelines provide a range of criteria for assessing whether a company, companies (for Collective Dominance) are dominant in a market

Significant Market Power criteria	Collective Dominance criteria
<ul style="list-style-type: none"> <li>• Market shares</li> <li>• Overall size of the undertaking</li> <li>• Control of infrastructure not easily duplicated</li> <li>• Technological advantages or superiority</li> <li>• Absence of or low countervailing buying power</li> <li>• Easy or privileged access to capital markets / financial resources</li> <li>• Product / services diversification (e.g. bundled products or services)</li> <li>• Economies of scale</li> <li>• Economies of scope</li> <li>• Vertical integration</li> <li>• Highly developed distribution and sales network</li> <li>• Absence of potential competition</li> <li>• Barriers to expansion</li> <li>• Ease of market entry</li> </ul>	<ul style="list-style-type: none"> <li>• Market concentration</li> <li>• Transparency</li> <li>• <u>Mature market</u></li> <li>• <u>Stagnant or moderate growth in demand side</u></li> <li>• <u>Low elasticity of demand</u></li> <li>• Homogenous product</li> <li>• Similar cost structures</li> <li>• Similar market shares</li> <li>• Lack of technical innovation, mature technology</li> <li>• Absence of excess capacity</li> <li>• High barriers to entry</li> <li>• Lack of countervailing buying power</li> <li>• Lack of potential competition</li> <li>• Various kind of informal or other links between the undertakings concerned</li> <li>• Retaliatory mechanisms</li> <li>• Lack of or reduced scope for price competition</li> </ul>

4.32 The EU, in refining its guidelines for the regulation of electronic communications has defined SMP as:

“A position of economic strength affording an undertaking the power to behave to an appreciable extent, independently of competitors, customers and ultimately consumers.”

4.33 SMP can also be measured in a more simplistic manner through the use of market share thresholds. Although market shares are not conclusive on their own, they represent an initial indicator that most competition authority and regulators react to. The persistence of high market share over time or the consistent earning of returns in excess of an operator’s cost of capital are other indicators.

**Definitions of dominance based on market shares**

In Europe, single dominance concern arises when a company has at least 40% market share. In Japan the market share threshold is 25%, in South Africa it is 35%, and in Sweden it is defined as 25%. In the UK a market share of 25% would be considered as strong evidence of significant market power.

## Removal of significant market power status

In Hong Kong licensed operators provide annual returns to OFTA. There have been examples (on some increasingly competitive international services) where PCCW has been able to argue for reduced regulatory oversight on the grounds that it has *ceased* to exert SMP. It has, however, undertaken to maintain cost data to support its tariffs, which it agrees to make available *in the event that* OFTA raises a concern over the tariffs it is charging (in this case making excessive charges).

- 4.34 In UK, The UK Competition Commission and Ofcom have developed an “effective competition matrix”, to investigate the degree of competition in different markets, recognising that the need for regulation is inversely related with the degree of competition. This structure has underpinned Ofcom’s approach to regulating different telecom markets as it provides guidance as to where regulation should take place on an ex-ante or ex-post basis. It also provides a framework within which to consider how often regulatory mechanisms should be reviewed.
- 4.35 This framework is in current use and has been endorsed in the recently completed inquiry by Ofcom and the Competition Commission on Mobile Termination prices.
- 4.36 Three main areas are identified: competitive services, prospectively competitive services, bottleneck and non-competitive services:
- (a) *Competitive services* are those where a high degree of competition already exists or without barriers of any sort to entrants. Competitive services are outside of network control and BT is free to set its charges. In practical terms, only operator assistance services and new services belong to this category.
  - (b) *Prospectively competitive services* are those that are not competitive by the time of the introduction of the new regime, but are expected to become competitive during the control period. These services are regulated by safeguard caps (RPI + 0%), so that initial charges will not rise. If during the control period services become competitive, then the safeguard will also be removed. The issue here is that if such services are put in the main basket, then BT could engage into predatory practices, concentrating price reductions only in areas where it faces some rivals and keeping high prices in other areas. Services included in this category are inter-tandem conveyance and transit, international direct dial conveyance, international private leased circuits, directory enquires services, access to emergency services. Many aspects of the mobile market in the UK have been adjudged to be prospectively competitive by Ofcom and the Competition Commission
  - (c) For *bottleneck and non-competitive services*, three separate baskets are capped by the familiar RPI – X mechanism. These are services that are not likely to be subject to a relevant degree of competition during the control period. The productivity X factor is fixed at 8% for a four-year period for all three baskets, which cover roughly half of BT’s network activities. The three baskets are

respectively all termination services (local exchange segment), general network services (call origination, local-tandem conveyance, single transit), and connection services (interconnection circuits). The main reason for having three separate baskets is the fear that BT may recover an excessive proportion of its costs from call termination, which is very likely to remain the main bottleneck in place in the future. In the mobile market, regulators consider termination charges as non-competitive services, as under a CPP environment, the subscriber cannot choose the network on which the call is terminated and, hence, has no ability to influence the price charged by the receiving network.

### **Application in India**

- 4.37 Collective dominance is not a concept that is generally relevant in the Indian telecommunications market since it is growing rapidly and telecoms services, especially mobile services, have been shown to have very strong price elasticity of demand.
- 4.38 A definition of SMP is, however, required in a way which is more precise than the HHI test used in the US and involves the analysis of fewer parameters than are recommended by the EU. A simple market share of 25% provides a first stage assessment of SMP. This is consistent with the UK Competition Commission approach, which has recently concluded that, with four operators, the UK mobile is *prospectively* competitive and should therefore continue to be subject to regulatory oversight. The Indian NLD market should be considered *prospectively* competitive.
- 4.39 In the Indian mobile market, there are 4 GSM operators and 3+ WLL operators and accordingly, there is too much competition in the mobile market. However, the same regulatory framework does not govern these operators and hence the effect of “pure competitive market” does not exist, leading to the need for external regulation. Accordingly, in spite of having such a large number of operators in the mobile market and significant price competition, the mobile market situation is considered *prospectively* competitive. It means that the market shows many signs that would indicate that it would become fully competitive in the foreseeable future, but that it has not reached that stage yet. This provides a basis for the regulation of the sector and intervention by TRAI.
- 4.40 According to this assessment:
- (a) BSNL would be considered to have SMP in access and NLD services; and
  - (b) A number, but not all, GSM operators would be considered to have SMP in individual circles;
  - (c) Other than Tata (by virtue of common ownership of Tata Teleservices & VSNL), WLL operators would not be adjudged to have SMP in any of access, NLD or GSM markets.
- 4.41 The simple test cannot be taken as sufficient proof of the *lack* of significant market power. In a market, which is prospectively competitive, each player may, at different

times and in respect of different markets, exerts some degree of market power. Pure play mobile operators are faced with an NLD market that exhibits collective dominance: taken together the NLD operators represent a collective monopoly that could act to favour affiliated companies, whether basic service operators or mobile, and restrict access to NLD services at competitive rates.

### **Action required by TRAI**

- 4.42 TRAI should confirm the definition of dominance and that the GSM and NLD markets can be regarded as only *prospectively* competitive, rather than *actually* competitive.
- 4.43 TRAI should recognise the potential incidence of collective dominance for the pure play mobile operators seeking NLD services and be prepared to take action to prevent any abuse of the position.

### **Abuse of SMP**

- 4.44 Though the precise language may differ between countries, there is general agreement as to what constitutes an abuse of SMP. Definitions typically include a description of the circumstance of abuse especially: predatory pricing, discriminatory contract terms (*likely to have an impact on the competitive position in the market*) and action likely to drive a competitor out of the market or establish a barrier to entry.

### **European Treaty – Article 82**

Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States. Such abuse may, in particular, consist of:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) limiting production, markets or technical development to the prejudice of consumers;
- (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

### **Australia**

In Australia, the Trade Practices Act 1974, Trade Practices Amendment (Telecommunications) Bill 1996 and the Telecommunications Act 1997 are the basis for analysing competition within the telecom industry. The Trade Practices Act provides parameters in which to assess if an operator has market power and if there has been a lessening of competition due to that market power.

The condition for taking advantage of dominant position is that the operator “exercises its market power in some way, actively or passively to produce a discernible effect or likely effect on a Telecommunications market”.

## Competition Act 2002

- 4.45 In India, the Competition Act 2002 provides the basis for regulating trade agreements, competitive behaviour and mergers. It prohibits the abuse of dominant position. Although the criteria for “dominant” are not spelled out in the Act, the geographic and product dimensions of a market are acknowledged.
- 4.46 The Act prohibits agreements, which would create barriers to entry, drive competitors out of business, deny market access or hinder entry. By implication, although this may need to be tested, the *absence* of an agreement, which represented a barrier to entry, would also be covered.
- 4.47 Predatory pricing, defined as “pricing below costs” is also prohibited, although the Act leaves to “regulations” the definition of what relevant costs will be.
- 4.48 This brief Act, which is closely aligned to the principles of EU competition policy, provides the foundations for control of anti-competitive behaviour and the abuse of market power. The relationship between the Competition Commission and TRAI should be defined and any (limited) occasions where appeal may be granted from TRAI to the Competition Commission should be very clearly spelled out. Without this there is a danger that the Competition Commission will simply become another quasi-judicial arena in which to debate issues that are more appropriately dealt with by TRAI.
- 4.49 Equally important is the need for TRAI and the Competition Commission to adopt similar economic analysis for the key competitive tests (as is the case in the UK). This will ensure that there is no “arbitrage risk” between the different regulators i.e. that the different regulators will come to very different conclusions from the same evidence.

## Ex-ante and ex-post regulation

- 4.50 Regulators adopt ex-ante regulation when there is a need to define, and potentially constrain, behaviour because the market situation raises the strong possibility that a dominant position will be abused. It is also used to adjust for an absence of competitive pressure that would compel an operator to behave in a commercial manner. The EU has recently identified in excess of 20 telecom markets, which may be appropriate for ex-ante regulatory measures.
- 4.51 As markets become increasingly competitive, or where operators have relatively little market power, the form of regulation will move to being ex-post: reactive rather than pre-emptive. In these circumstances the regulator must be more vigilant to potential anti-competitive behaviour and have both the willingness and resources to react quickly to prevent any situation disrupting the competitive equilibrium of the sector.

4.52 A well-developed regulatory regime would typically exhibit most of the forms of ex-ante and ex-post regulatory measures shown below. The balance between each form of measures will be determined by the state of development of competition in the sector, the distribution of SMP and experience with operator behaviour.

Ex-ante	Ex-post
<ul style="list-style-type: none"> <li><input type="checkbox"/> Accounting separation</li> <li><input type="checkbox"/> Transfer pricing</li> <li><input type="checkbox"/> Cost allocation principles</li> <li><input type="checkbox"/> Tariff approval</li> <li><input type="checkbox"/> Price control</li> <li><input type="checkbox"/> Service restriction</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Performance orders</li> <li><input type="checkbox"/> Determinations</li> <li><input type="checkbox"/> Investigations</li> <li><input type="checkbox"/> Fines</li> </ul>

## Ex-ante

### Accounting separation, transfer pricing and cost allocation

4.53 Telecommunications operators typically offer a variety of services delivered through several media. This is especially true of incumbent operators, which are typically vertically integrated full service providers. The advent of competition has caused regulators to seek separation of incumbents' monopoly and competitive services, and to establish ground rules for the way they interact with each other. This has largely been achieved in three ways:

- (a) the development of requirements for accounting separation, and separate service costing, between monopoly and competitive services, whereby a financial overlay has been applied to a company's operations and financial statements are prepared *as if* it comprised separate businesses trading with each other;
- (b) the establishment of a set of rules for determining transfer prices between the separate businesses, so called affiliate transactions rules; and
- (c) the development of a set of accounting principles to determine the basis on which costs and revenues are allocated between the businesses.

4.54 If these ground rules are adhered to, they remove the need for more invasive regulation.

4.55 The number of businesses, or services, for which an organisation will be required to account for separately will largely be determined by the regulators perceptions as to where significant market power can be exerted. It will then be necessary to assess the **granularity** to which an operator is required to report its operations. This again will be based on an assessment of where SMP lies, but must also, critically, take into account the costs of compliance and ability of the organisation to prepare the appropriate information *in a timescale that will allow it to be a useful regulatory tool*.

- 4.56 In terms of affiliate transactions, the regulator's objectives are typically to ensure non-discrimination between the service provided to an in-house division and a third party. The following principles are usually applied:
- (a) where there is an **external tariff** it should be used for trading between the accounting entities (e.g. the interconnection price between BSNL PSTN and the mobile operators should apply equally to interconnection between BSNL PSTN and BSNL mobile, and BSNL's ISP should be charged for network usage on the same basis as competitor ISPs);
  - (b) where a **commercial benchmark** exists (e.g. for computer services provided internally) it should be used; and
  - (c) where there is **no benchmark or tariff**, the basis of the transfer price should be cost based with an allowance for return on capital.
- 4.57 Adopting these principles will ensure that the affiliates are not able to obtain terms that are more favourable than those obtained by external parties and, provided that the prices are cost reflective, will ensure that there is no cross subsidy between monopoly activities and those that are in the competitive arena. These rules then allow regulation to focus on the monopoly activities allowing the market to regulate competitive activities.
- 4.58 If the affiliate transactions regulations are to be effective they must be supported by a set of **cost allocation principles**, which determine how costs are calculated, which costs are relevant to each service and the basis on which they are allocated. Key issues to set out in these principles include:
- (a) The appropriate costing standard – marginal costs, fully allocated costs, long run incremental costs;
  - (b) Principles of cost causality – definition of direct costs, joint costs and overheads, allocation of spare capacity in the system
  - (c) Relevant costs for each service – direct costs, joint costs, the treatment of overheads, allowances for inefficiencies; and
  - (d) Cost drivers – e.g. billed minutes, network minutes, staff numbers, office space.

#### **Application to the Indian environment**

- 4.59 **Accounting separation** requirements should apply to operators with SMP or where the opportunity exists for cross subsidisation between services, which are not fully competitive. None of the telecom markets in India, access, NLD, GSM or international, can be considered fully competitive and therefore accounting separation requirements should be considered in all markets.
- 4.60 The costs of imposing accounting separation requirements should, however, be set against the potential benefit to operators and consumers from greater transparency.

- 4.61 Since the NLD market is only *prospectively* competitive and the possibility exists that the NLD licencees *could* exert collective dominance towards the pure play mobile operators, it would be desirable for NLD activities to be disclosed separately. The minimum necessary levels of separation would therefore be:
- (a) BSNL: access, NLD, international and GSM;
  - (b) Access operators with NLD licences: NLD and other services (Access – WLL or GSM – and international); and
  - (c) Tata: GSM, NLD and VSNL (as the dominant international operator).
- 4.62 In this way BSNL will face restrictions on its abilities to cross subsidise from access and NLD into international and GSM, and the other integrated operators will not be able to cross subsidise into NLD.
- 4.63 It is clear that granularity to which these businesses should be disclosed is not high i.e. it is inappropriate for TRAI to request the level of detail that characterises the separate accounts of Telstra or BT. This is because:
- (a) Cross-subsidisation within a business (e.g. NLD) is not likely to have a material effect on the overall state of competition;
  - (b) The level of maturity of costing information within the industry is very low: BSNL is currently unable to segregate revenues between key markets; and
  - (c) TRAI must be able to review, interpret and act upon the information provided.

Accepting a lower level of granularity (i.e. less detailed disclosure) is likely to be one way in which TRAI can ensure that results are generated quickly. As experience increases, (for TRAI and the operators) it may be appropriate to increase the detail of the information provided.

- 4.64 Imposing transparent and non-discriminatory arrangements for **transfer pricing** is a pre-requisite for ensuring effective and fair competition. In the first instance, transfer-pricing arrangements for calls must reflect the costs laid down by the Interconnection Usage Charges arrangements. This meets the requirements that internal customers should not achieve prices that are more favourable than external customers.
- 4.65 Second: where one licensed activity makes use of a service procured by another, then it should be provided on commercial terms. This applies both to internal charging between NLD / GSM operators and between different activities within BSNL. Furthermore, in the event that BSNL has benefited from a service provided at below the market price *by virtue of its position as a state owned entity or other preferential arrangement* it should still pass that service on at a commercial rate to ensure that the benefit of the discount is retained by its monopoly access business. This applies particularly to the basis on which the PSTN business charges services to the GSM business as this represents a significant potential source of competitive advantage.

- 4.66 The maturity of the cost information will determine which **cost allocation principles** can be effectively applied. Fully Allocated Costs provides an adequate starting point for analysing competitive behaviour in the current market environment, Although some allowance should be made, when determining transfer prices, for potential BSNL inefficiencies.

#### **Action for TRAI**

- 4.67 The guidelines for implementing a degree of accounting separation at BSNL and other integrated operators have already been developed. It should be enforced and a timetable agreed for production of the relevant information. As an initial first step, TRAI should require the production of separate accounts, using current accounting standards and fully allocated costing principles for the four key businesses (and a residual). The level of detail should not be great, covering summarised profit and loss and balance sheets. In time, greater levels of detail will be required but TRAI should emphasise the provision of *some* information *sooner*, rather than *more* information *later*. Without *any* information TRAI is unable effectively to carry out its regulatory role.
- 4.68 Separate accounts should be provided by NLD operators identifying their NLD and other activities. These should be published.
- 4.69 TRAI should confirm the basis for affiliate transactions and ensure that they are extended to all transactions with NLD operators. This will ensure that NLD competition is focused on reducing costs within that business rather than winning market share through cross subsidy from access.
- 4.70 TRAI should confirm a minimum set of standard for cost allocation. These should be published.

#### **Price controls and tariff approval**

- 4.71 In order to protect customers in non-competitive markets, regulators may decide to introduce price controls targeted at the incumbent or dominant operator. Price controls may take the form of price caps and or price basket controls. The aim of these measures is not only to protect customers but also to drive efficiencies for the incumbent operator in markets where competitive powers are not sufficient to do so.
- 4.72 The price cap revenue allowance will be based on an assessment of the costs required to provide the services, plus an allowance for cost of capital. This ensures that the tariffs in basket is cost reflective.
- 4.73 Within a retail price basket, the incumbent operator may still benefit from an element of flexibility in retail tariffs and packages. It is also incentivised to cut down its inefficiencies, as shareholders will benefit if costs can be reduced faster than is assumed by the regulator's price cap. Different levels of price caps may be imposed on individual services in order to speed up the process and prevent the incumbent or dominant operator to derive excessive profits from specifically uncompetitive areas.

- 4.74 Price control arrangements have been used successfully in the UK and Australia to drive down incumbent operator costs and provide better incentives than simple tariff approvals, which are more commonly associated with cost recovery. Nevertheless, where new tariffs are introduced to regulated markets, dominant operators may be asked to provide justification that they are cost reflective. The complexity of the information that must be provided varies according to the sophistication of the regulatory regime but the essential point is that, to ensure the tariff is approved, an operator must demonstrate that it is cost reflective.

### **Tariff approval**

**BT** is required to maintain separate accounts in FAC historic, FAC current cost and LRIC format. It is further required to maintain a statement of charges for individual network elements, on a LRIC basis. When introducing a new tariff package it is required to provide a price stack of network element costs and a market demand forecast for the product to demonstrate compliance with the cost reflectivity principle.

In Hong Kong, **PCCW**, the dominant operator, is required to provide a profitability analysis whenever it wishes to change the price of a regulated service. For a new service it would typically provide a summarised profit and loss account together with a three-year demand forecast for the product. Retail tariff costs are typically based on FAC, wholesale tariffs such as interconnect are based on LRIC. The summary would typically be in the following format:

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
<b>Profit &amp; Loss Account</b>			
<b>Connection Charge</b>	x	x	x
<b>Periodic Charge</b>	x	x	x
<b>Total revenue</b>	x	x	x
<b>Marketing &amp; Product</b>	x	x	x
<b>Service Provision costs</b>	x	x	x
<b>Operations &amp; Maintenance</b>	x	x	x
<b>Depreciation</b>	x	x	x
<b>Company Overhead</b>	x	x	x
<b>Total costs</b>	x	x	x
<b>Profit/(Loss)</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Profit Margin</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Cumulative Profit Margin</b>	<b>x</b>	<b>x</b>	<b>x</b>

### **Tariff approval in India**

- 4.75 TRAI requires all tariffs to be pre approved before release to the market. This imposes a significant burden on it, and potentially provides an unnecessary constraint on competitive activity. Where there has been a history of operators presenting tariffs that do not comply with cost reflective principles, however, such action may be justified. If the process is to make an effective contribution to the development of fair competition, then tariffs must be presented in a manner, which allows correct assessment of cost reflectivity of the various components.

- 4.76 The IUC regime provides an indication of appropriate cost reflective components of the tariffs to which must be added retail costs and, in the case of GSM operators, access costs. Operators should therefore analyse their tariffs against these cost elements. To reach an effective tariff basket, where some form of bundling, has been used it will be necessary to require the production of a usage forecast.
- 4.77 By using a standard tariff assessment format and requiring some form of demand forecast, TRAI will be able to assess whether tariffs are cost reflective or not. Tariffs, which are not adequately cost reflective, will be subject to further scrutiny and validation before they are approved.
- 4.78 More sophisticated price controls, for BSNL, are probably not appropriate at the moment, although they can provide strong efficiency incentives and should be considered in the longer term.

### **Recommendation for TRAI**

- 4.79 TRAI should introduce a standard format for the assessment of tariffs, based on the IUC charging component. It should require operators to provide market demand forecasts to ensure that tariff baskets are adequately cost reflective. It should also carry out ex-post reviews of the usage of a selection to tariffs so as to provide strong incentives for operators to provide accurate forecasts. Such information will be available for billing purposes and should be readily obtainable.
- 4.80 In the Indian context, to begin with, the Hong Kong model provides an appropriate template, whereas the BT model requires a level of cost information, which is not available within the Indian sector at the current time. The key advantages of the Hong Kong model are:
- (a) It is relatively simple;
  - (b) It provides adequate transparency; and
  - (c) Represents an approach that can be applied consistently across all operators.

### **Service restriction**

- 4.81 Where there is a very strong presumption that a new operator will not be able to compete where an incumbent offers a service, there may be grounds for the incumbent to be constrained, asymmetrically, from offering it. In the UK during the late 1980's, the cable television industry was developing. Significant capital was at risk and Government had committed to the policy of developing a competitive cable market. In these circumstances, had BT been allowed to offer entertainment services over its local access network, it would have been able to achieve economies of scale and scope that would have given it a significant cost advantage over the cable operators. BT was therefore constrained not to offer entertainment services, while the cable operators were free to offer telecom services.
- 4.82 Using a parallel of the situation between BT and the cable industry in the UK, it might have been appropriate to restrict BSNL from entering the mobile industry. In terms of

scale, the potential to cross subsidise and using infrastructure for which no cost based transfer price is charged, it could be argued that BSNL's entry to the GSM market would raise a very significant risk that the market would be destabilised. As there was a significant risk of anti-competitive behaviour that would prevent the private GSM operators from being able to develop their businesses on a level playing field basis, it may have been appropriate to restrict BSNL from this market.

- 4.83 Government's original decision to licence only private sector GSM operators avoided this situation. A decision, has, however, already been taken to change these arrangements and cannot be reversed.

#### **Action for TRAI**

- 4.84 TRAI, aware of the potential for anti-competitive behaviour must therefore implement a complex set of measures for accounting separation, transfer pricing and pricing behaviour to control this very high-risk area.
- 4.85 TRAI should also be aware of the potential risks to the effective development of the competitive market of allowing a state owned incumbent or integrated operators to enter new markets before effective measures are in place to control potential abuses of SMP. It should therefore consider service restriction when considering whether incumbents should be allowed to diversify their activities.

#### **Ex-post regulation**

- 4.86 Ex post regulation seeks to take corrective action for situations where SMP has been abused. All of the mechanisms discussed in this section are appropriate for use by TRAI and are likely to be the main tools used in current environment of weak (or non existent) ex-ante regulation. Regulators can use performance orders (to compel or restrict behaviour), determine contract arrangements and even impose monetary fines on operators who breach legislation or their licence conditions.
- 4.87 For these measures to be effective TRAI must have:
- (a) The power of enforcement; and
  - (b) The resources to carry out appropriate investigations;
  - (c) Willingness to act quickly to protect the interests of consumers or operators.

#### **Performance orders**

- 4.88 A performance order may be used either to restrict behaviour that is considered anti-competitive, or compel performance where an operator is resisting a legitimate licence obligation.

The ACCC is authorised to issue competition notices named “Part A” competition notices. They are issued within 30 days of the Commission having formed a reason to believe there is a contravention of the competition rule. The ACCC may also use interim injunctions to prevent damage to consumers.

4.89 In the interest of the consumer, for instance, in order to provide network interconnect, the regulator may impose a “Performance Order” to one or a group of operators.

#### **Interconnect: Performance Order**

Reaching interconnect agreements can be a lengthy process, sometimes, none of the stakeholder wishes to provide or order the service until such time as the details of the interconnect agreement and pricing levels have been agreed.

- a) the incumbent operator may wish to delay the interconnect
- b) the competitive operator may not wish to engage in interconnect if the terms and conditions of the interconnect happen not to be favourable to them.

Agreeing on pricing may take an extended period of time during which the consumer would benefit from interconnect facilities.

4.90 In this example, the regulator may impose a performance order to the party refusing to interconnect (more often the incumbent operator) until such time as terms and conditions are defined and agreed upon by the stakeholders.

#### **Determinations and investigation**

4.91 When no commercial ground is found between stakeholders, the regulator will resolve the dispute through the issuing of a Determination. A determination is an act in which the regulator defines the terms and conditions for a contract or a service. This frequently applies to interconnect arrangements or unbundling of the loop, where an incumbent has little interest in facilitating speedy resolution of the negotiations.

In Hong Kong, OFTA imposed a Performance Order on PCCW with regard to fixed-fixed interconnect. It subsequently initiated a Determination of the charges covering three years, with the charges being applied retrospectively with interest.

4.92 An efficient dispute resolution system is a key attribute to regulators and a source of dynamism and fair competition within the industry. Processes must be in place for the regulator to act in a timely and effective manner when arbitrating disputes between operators. Disputes raised between licensed operators must be based on licence obligations or general competition grounds.

4.93 Regulators must have processes in place for acceptance of such complaints, the powers to request adequate information on which to form an opinion and the resources to evaluate the evidence. It is important that investigations are time bound. The recent investigation by the UK Competition Commission into mobile termination rates was given a brief to report within six months, with the possibility of requesting a

further six months. Such time limits ensure that momentum in the competitive development of the sector is maintained.

## **Fines**

4.94 Fines are rare but are an essential element of the tools available to a regulator. The EU has very extensive powers to impose fines on member countries, overriding national regulators. There are several examples of significant fines being imposed.

### **European Commission fines**

In May 2003, the EU fined **Deutsche Telekom**, 12.6 million Euros for overcharging new entrants for access to local loops. The Commission determined that the reduced lower fees set by the German regulator were still excessive and that DT must either reduce them immediately or increase end user prices, which would help smaller rivals to compete. The Commission's action originated in complaints by Vodafone's German fixed-line operator Arcor and other local and regional carriers in Germany. This is a case of the European Commission exercising its powers over and above the national regulator and imposing fines on a European operator.

During the liberalisation of the mobile telephony market in Spain at the end of 1996, **Airtel Movil** (a commercial new entrant) had been required to pay around 510 million Euros as licence fee. However, Telefonica (the incumbent) had obtained licence for no fee at all. Licence costs were very high for Airtel Movil (1/3 of the investment required for country coverage), hence Telefonica gained competitive advantage out of not paying licence fee. The European Commission required the Spanish government to reimburse the 510 million Euros to Airtel Movil or propose corrective measures, on the grounds that the cost was excessive.

## V Assessing competitive behaviour

5.1 The previous section identified the main tools and remedies that a regulator should have access to and the situations in which they would generally be used. This section provides the frame of reference for assessing any specific competitive situation. This section assesses a number of aspects of competitive behaviour in the context of regulatory issues and situations that have arisen recently within the Indian telecom sector. The situations have been considered across the main areas that could grant an operator a competitive advantage, fairly or unfairly:

- (a) Pricing;
- (b) Marketing;
- (c) Ownership of the network; and
- (d) Access to capital.

### Pricing

5.2 Although this is one of the most complex sources of problems in telecommunications sector competition, the number of anti-competitive behaviours demonstrated is very limited. The difficulty that a regulator is faced with is:

- (a) how a situation can be analysed into its **constituent behaviours**;
- (b) whether those behaviours constitute **anti-competitive behaviour**; and

5.3 what is the appropriate **regulatory response**. In the context of monitoring, analysing and controlling potential abuses of SMP or preventing operators, with or without SMP in a particular market, engaging in behaviour that will destabilise the market and undermine the financial health of efficient operators, pricing provides the greatest number of potential issues for a regulator. Furthermore, since the impact of anti-competitive behaviour on operators' cashflows can be rapid and threaten its solvency, the regulatory response must be swift and decisive. A slow response to potential anti-competitive behaviour may conclude that the activities should be stopped, but this is no use if an operator has been forced out of business in the meantime.

5.4 In the context of the Indian telecom sector, where tightly resourced pure play mobile operators must compete with well-resourced integrated operators and a state owned incumbent, the efficient development of the sector relies on TRAI being aware of potential abuses and taking swift action to stop them.

### Description of anti-competitive behaviour

5.5 There are three key anti-competitive behaviour when analysing pricing practices. :

5.6 **Predatory pricing** is an anti-competitive practice of providing services at prices that are low enough to drive competitors out of a market or prevent new entry by them, so

as to monopolise the market. It should be noted that pricing below cost, even below long run marginal cost is not necessarily indicative of predatory pricing (for instance if a temporary situation of under utilisation of capacity occurs or if the price is a temporary promotional price – see case studies below). Predatory pricing activities are typically associated with the actions of operators with significant market power, although this need not necessarily be the case. The rationale for taking action on predatory pricing activity is that:

- (a) An operator is pricing at a level below which it can recover its operating costs *and* earn a return on the capital employed;
  - (b) The only basis on which it would wish to do this would be if it hoped to drive a competitor out of the market giving the opportunity to raise prices in the longer term (and hence recover, or exceed, its operating costs *plus* its cost of capital).
- 5.7 This action is most likely to apply to an incumbent operator who is trying to prevent a new entrant establishing a strong competitive position in the market. Having access to protected markets with strong cashflows may allow the incumbent to accept the losses in the short term by cross subsidisation from profitable monopoly services – or even just to accept the losses as immaterial to its overall profitability position.
- 5.8 Such access to strong capital reserves – the ability to fund losses on balance sheet – may equally apply to an operator, which does not have SMP. A new entrant may not have a significant market share, but, by pricing in a predatory manner, may drive other operators out of business. The resultant reduction in competition will allow the entrant to attain SMP very quickly.
- 5.9 Since the overriding task of a regulator is to preserve, overall, the financial health of the sector, as the best guarantee that competition can flourish, predatory activities by entrants with access to significant capital resources are a legitimate area for regulatory involvement.
- 5.10 An appropriate example is provided by the UK bus industry. Stagecoach is an operator with access to significant capital resources. It has successfully dislodged a number of previously monopoly local bus operators by overtly predatory tactics (schedule matching, unbranded buses to confuse consumers, very low fares). Fares have then been raised after the elimination of competition. These activities have been referred to the Competition Commission on a number of occasions but the speed of their response has been inadequate to prevent the incumbent operators being forced out of business. This example provides an appropriate precedent for TRAI to investigate potentially predatory pricing behaviour by new entrants with significant access to capital in the Indian mobile market.
- 5.11 **Vertical price squeezing** is a type of anti-competitive practice that may be engaged by incumbent operator. This occurs when an operator with market power controls certain services that are inputs for competitors in downstream markets, and where

those same key inputs are used by the operator or its affiliate to compete in the same downstream market. NLD services are a potential area of vertical price squeeze.

- 5.12 **Price fixing – collusion** is a situation where a number of operators collude and agree on pricing services at a certain level. This damages the competitive environment in the market as some or all operators act as a cartel.
- 5.13 Although these three behaviours are relatively simply described, it may prove difficult to differentiate them from legitimate competitive activities.

## **Situation 1: Product bundling**

### **Issues**

- 5.14 Product bundling has been a feature of the telecommunication industry worldwide. Bundling product raises concerns with regards to transparency and anti-competitive behaviour at the wholesale and retail levels. When considering whether a product bundle represents possible anti-competitive behaviour, two issues must be considered:
- (a) Whether the bundled pricing actually reduces the addressable market of competing operators / service providers that are otherwise equally efficient competitors.
  - (b) Whether prices for bundled services can be classified as predatory pricing or vertical price squeezing.
- 5.15 A market assessment must be carried out. The objective is to consider whether a product bundle prevents a competitor gaining access to the market. This was the principal argument advanced by Netscape to restrict Microsoft bundling its Internet explorer with Windows. The argument was framed around reducing the market, rather than on grounds of predatory pricing.
- 5.16 In order to determine whether a bundle or tariff plan is predatory in nature or constitutes a vertical price squeeze, the tariff plan must be accompanied by appropriate supporting cost information and a usage forecast and overall profitability analysis.
- 5.17 Each operator, in developing its tariff plans, will assess their prospective profitability against an expected usage pattern. The usage pattern will be based on current experience and assessment of the possible market stimulation effects of the bundle. Where an operator has several plans (e.g. fixed price bundles for differing numbers of inclusive minutes) it is possible to identify cross over points, in terms of usage, where a consumer should switch between packages. This provides the expected call volumes for each package and allows a revenue envelope to be plotted against expected usage. The issue that must be considered is how the revenue curve compares to costs.
- 5.18 Where accounting separation arrangements are in place, and operators are required to provide detailed cost information for key activities on an annual basis, they will be able to base their cost and revenue projections on this information. TRAI would be able to crosscheck to ensure consistency. Where no such arrangements are in place

TRAI would need to use its powers to compel the provision of the appropriate information.

- 5.19 The tariff plan should be accompanied by a profitability analysis consisting of a simplified Profit & Loss (P&L) account and business plan for the bundle. This would include for instance, details about revenue, demand, allocated costs, capital involved, usage projection for a period of at least one year.
- 5.20 Where a multi-product bundle is developed, the same principles of comparing anticipated usage with costs must be considered. (The case of unmetered products is considered in the same way, but is more complex and considered later in this section.) TRAI's key concern is whether the bundle represents predatory pricing tactics or involves a vertical price squeeze. Predatory pricing would occur when the overall price of the bundle was set below costs in an unsustainable manner, a vertical price squeeze would occur when the component of the bundle allocated to an intermediate component (eg. NLD) was priced below cost and cross subsidised from another service.
- 5.21 The costs and revenues attributable to each element of the bundle should be set out. As each component has costs attached to it (e.g. access, handset rental, NLD, ISD) they should all be reflected in the cost structure of the tariff bundle. In these circumstances *it should be for the operator to demonstrate to TRAI* that the tariff package is compliant with the principles of cost reflectivity. Within the principles of cost reflectivity an operator should be allowed a certain degree of freedom:
- (a) Product bundling should be considered legitimate (and the concept is generally understood by consumers);
  - (b) Bundling across services e.g. between fixed and mobile should be permitted provided that:
    - (i) Pure play mobile operators have the opportunity (through competitive wholesale of fixed services) to offer cross service bundles; and
    - (ii) The bundled package allows for cost recovery of IUC charges based on expected usage and does not imply a cross subsidy between services; and
  - (c) On-net calls for GSM operators *within circles* could be offered for free – but it is not appropriate for WLL operators to claim that *inter circle* WLL calls should be included in the definition of “on-net” by virtue of holding a pan India license.

#### **UK - Oftel methodology for analysing cross subsidy cases**

In cross-subsidy cases, Oftel conducts both a financial and a competition analysis of the business concerned. As part of the financial analysis Oftel will look to see that the relevant business plan is based on reasonable assumptions and does not rely for its success on stifling competition. Where there is no previous financial history on which to decide whether a business plan is reasonable, Oftel may examine similar businesses to test the underlying

assumptions. Where the business plan appears reasonable and the predicted internal rate of return (IRR) is adequate, Oftel will then look to see whether the actual performance of the business matches the forecasts in the business plan.

The competition analysis is an economic analysis of the relevant market. Identification of the relevant market is a crucial first stage in identifying whether a subsidy could have a material effect on competition and involves establishing what realistic alternatives are available to consumers. Once the relevant market has been identified, Oftel will then assess whether the subsidy could have an adverse effect on competition. In doing so, Oftel will take into account various factors including loss of market shares to other operators or suppliers, pricing (including price depression), the financial position of competitors and BT's relative position to other operators in the market itself.

### **Situation assessment – bundling free STD with access**

- 5.22 An assessment of the cost compliance of an operator's tariff plan cannot be made from the retail price data alone. Although TRAI has recently requested operators to present their retail tariff plans in a standard format, this will provide increased transparency for consumers and ensure that marketing information is easily compared. This does not provide sufficient regulatory evidence to validate competitive behaviour and ensure that bundles are not anti-competitive. This can only be done by aggregating network (or IUC) components with retail costs and expected usage patterns to develop an anticipated profitability analysis.
- 5.23 Under the transfer pricing principles outlined above, it will be necessary for licensed operators to make the IUC payments to each other at each stage of a call. If one operator, say MTNL, wishes to offer a number of free STD minutes it will only be able to do so by taking the IUC charge on its retail margin. This will limit the extent to which free minutes can be offered before the tariff bundle becomes loss making. If MTNL offered further free STD calls it would only be able to do so by providing a cross-subsidy from its access business to the NLD provider. This would be considered as predatory pricing.
- 5.24 TRAI should compare the costs associated with *unbundled* calls (i.e. a number of fixed local calls plus an assumed number of STD calls) for a tariff package with the price of the bundled package. The IUC charges provide an approximate guide to wholesale costs. The difference in the retail revenue between the unbundled and bundled packages indicates the discount inherent in the package:
- (a) If the bundled revenue fell below the cost of the expected number of local calls, then the STD component is being supported entirely by cross subsidy and the package is predatory, and the operator is pricing its local calls in a predatory manner;
  - (b) If the bundled revenue falls below the cost of local calls *plus* IUC based STD charges, then the STD component is being supported by cross-subsidy from local calling revenue, and is predatory in the STD market; and

- (c) If the bundled revenue *exceeded* the costs of the local calls *plus* IUC based SRD charges then it should be regarded as competitive *even if* the combined revenue from the bundle is less than the retail charges of the unbundled calls.
- 5.25 The same approach should be applied to the bundling of minutes between different licensed entities of an integrated player: IUC transfer charges will apply and cost would be taken in the access business. Offering large numbers of minutes would result in losses, which could be considered predatory pricing.
- 5.26 Airtel had announced its “1699” package which includes: 250 bundled mobile minutes and 40 bundled ISD minutes and no limit to access airtime minutes. Prices for non-bundled services and for marginal calls beyond the initial bundle are specified. The following table attempts to mimic the usage profiling and IUC calculations that should be undertaken by TRAI relating to this package.

## New Freedom package 1699

Reference	Tariff	IUC payments			Margin	Usage assumptions			Margin on charged call	Outpayment on bundled calls		
		Local termination	Long distance	Total		Estimated	Inclusive	Chargeable				
	A	B	C	D	E	F	G	H	J	K		
	Rs/minute	Rs/minute	Rs/minute	Rs/minute	Rs/minute	Minutes	Minutes	Minutes	Rs	Rs		
<b>Local</b>	GSM	0.4	0.35	0.35	0.05	150	150	0	7.5	52.5		
	Landline	0.6	0.65	0.65	-0.05	100		100	-5			
	WLL	0.6	0.45	0.45	0.15	30		30	4.5			
<b>STD</b>	GSM 50-200km	1.99	0.35	0.45	0.8	1.19	100	70	30	119	56	
	200-500km	1.99	0.35	0.75	1.1	0.89	30	20	10	26.7	22	
	>500km	1.99	0.35	1.1	1.45	0.54	15	10	5	8.1	14.5	
	Landline 50-200km	1.99	1	0.2	1.2	0.79	75		75	59.25		
	200-500km	2.99	1.75	0.45	2.2	0.79	30		30	23.7		
	>500km	3.99	1.5	1.1	2.6	1.39	15		15	20.85		
<b>ISD</b>	ADC		NLD	Settlement	Total	Margin						
	ISD	15.99	5	0.75	8	13.75	2.24	50	40	10	112	550
<b>Total</b>							595	290	305	376.6	695	

### Profitability analysis

#### Revenue

Bundle	Rs	1699	Package bundled price
Margin	Rs	377	Margin earned on non-package minutes
Total revenue	Rs	2076	
Outpayment	Rs	695	Settlement on bundled minutes
Margin for airtime	Rs	1381	Margin available to meet own costs
Airtime minutes	Mins	595	Total minutes: bundle + chargeable
Implied airtime cost	Rs/min	2.32	Implied max cost for package to be cost reflective.

- 5.27 The key components of the analysis are:
- (a) The headline tariff rates (Column A);
  - (b) IUC outpayments for long distance and termination (as appropriate) (B / C / D)
  - (c) The implied margin (Rs / minute) earned on each type of call (E): in the case of ISD, must be after accounting for ADC, NLD and international settlement – the NLD rate assumes a 200km call, the settlement rate is illustrative;
  - (d) The usage assumptions – actual minutes used for each type of call (F), free bundled minutes (G) and chargeable minutes (H);
  - (e) The margin earned on charged calls ( $J = (G-H) \times E$ ) and
  - (f) Outpayments on bundled calls ( $K = D * G$ ).
- 5.28 The estimates of IUC termination are averages for circles and metros. *The distribution of usage minutes is illustrative.* The operator should be required to provide an anticipated usage profile, including the distribution of calls between circles and metros, where appropriate. In the absence of a usage profile, one must be imputed (as has been done above). A distribution of bundled minutes across actual tariff categories must be shown to allow accurate calculation of the outpayments associated with the bundle and consequent margin earned on charged calls.
- 5.29 Taking the bundle together: there are 595 minutes of airtime used, of which 290 are included in bundles, with 305 being charged to consumers. The total margin, after accounting for out payments on the charged calls, amounts to Rs 376, a contribution to airtime costs, while out payments on the bundled GSM and ISD minutes account for Rs 695, the majority of which is attributable to ISD costs. Actual ISD outpayments will obviously be determined by the actual calling pattern – the operator should provide a destination analysis with settlement rates to the international long distance operator as part of the bundle analysis. If no analysis is given, it should be imputed based on the top 10 IDD destinations.
- 5.30 The resulting profitability analysis seeks to determine the maximum airtime price that would be acceptable for the bundle to be considered cost reflective. Total revenue includes the bundle revenue and additional margin from charged calls. Outpayments on the bundled outgoing minutes are deducted. This leaves Rs 1381 to remunerate the airtime costs of the network (including all support costs). The allowance of Rs 2.32 per minute should be compared to the operators network costs.
- 5.31 As can be seen, it is not possible to conclude, solely from the retail tariff information, whether the bundle is predatory pricing or not. However, using the above approach and its powers of information provision, TRAI will be in a position to come to a clearer decision.

Bharti has also announced a scheme in which a 'Touchtel' landline connection worth Rs 3,000 comes free with an Airtel mobile connection. All customers going in for a new Airtel post-paid connection before April 30, 2003 would be entitled to a Touchtel fixed line connection at 'zero' deposit. In other words, the customer will not have to pay the Rs 3,000 initial deposit for the landline connectivity. However, the new customers are required to pay Rs 800 towards installation charges, which include the fixed line instrument. In this scenario Product Bundling can be considered competitive/ legitimate only if the Pure play Mobile Operators have the opportunity to offer similar schemes of cross sell

Incumbent integrated operator BSNL has offered the following scheme, "In case advance annual rental (security deposit) for existing PSTN connection is less than Rs. 1000/2000, subscriber is required to deposit the balance amount for taking the cellular connection as the case may be."

This practice will be deemed to anti-competitive because BSNL is giving special privileges to its fixed subscriber base, which a pure play operator will not be able to provide.

### **Situation analysis – vertical price squeeze**

- 5.32 A vertical price squeeze would occur for an pure play operator where the impact of free bundled minutes in an integrated operator's package implied that the NLD component of the call was reduced below the cost based level, implying a cross subsidy for the integrated operator between access and NLD. A pure play operator would not be able to obtain comparable NLD terms (since no operator would sell to a third party at a loss). In the event that all NLD operators were adopting this approach it would constitute an abuse of collective dominance.
- 5.33 It would, however, be legitimate for a group of operators to consolidate their business and deal through a single NLD operator. The greater volumes and ability to consolidate traffic and contract management would provide a defined cost advantage, which would be the basis for offering discounted STD rates.

### **Action**

- 5.34 TRAI should restrict the ability of NLD operators to apply vertical price squeezes by requiring the provision of IUC based cost analyses for tariffs and accounting separation between licensed entities. Immediate measures should be taken to assess cost compliance and impose enforcement orders where tariff are found to be non-compliant.

- 5.35 A vertical price squeeze would take place where prices for the NLD component fell below the IUC rates. In this circumstance, an integrated operator would be cross subsidising from its access business, restricting the margin available for an pure play operator.

## **Situation 2: Cost based pricing – floors and ceilings**

### **Issues**

- 5.36 Cost based tariffs provide strong evidence that a position of SMP is not being abused but there is a certain element of flexibility in deciding how cost based is defined. This extends from the standalone price, at one end, through FAC to LRIC at the bottom end. This gives the opportunity for an operator to price between FAC and LRIC and still be considered cost compliant.
- 5.37 Economic analysis suggests that in order to deter predatory pricing, a price floor should be set equal to the higher of: (long run) marginal cost and (long run) average incremental cost (LRIC). The logic behind this is that the only rational reason for a company to price below this level is to force competitors out of business. In the telecommunications industry, because of economies of scale, LRIC costs are typically above marginal costs (and in any case, marginal costs are difficult to estimate), and hence attention has been focused on LRIC.
- 5.38 In industries such as Telecommunications, which are characterised by significant common costs attributable to two or more services, the question arises as to what level of service disaggregation be done to calculate LRIC. This is because prices set at LRIC for one service would not cover the common costs for that service. This has led to the development of “combinatorial price-cost tests” for predatory pricing which compare prices and LRIC not only for individual services, but also for various combinations of services. In order to satisfy these tests, prices both must cover the LRIC of individual services and together cover the LRIC of combinations of services.
- 5.39 In practice, while such tests are widely applied by regulators, it is not clear that they provide an unambiguous indication of predatory pricing behaviour. For example, price reductions in the face of a fall in demand (resulting perhaps from a new market entrant) may result in prices not covering LRIC while a company seeks to adjust its cost structure downward in line with reduced demand. Recognising this, recent economic analysis of predatory pricing has focussed on the timing of changes in price and costs and on the role of price setting as a means of signalling to existing and potential competitors in situations where competitors have limited information about each other’s market behaviour. This approach, which draws on game theory, has however not yet had much impact on regulatory practice.

### **UK - Price floor & price ceilings**

In setting price floors for the BT, Oftel has taken account of economic arguments but has also focussed on protecting new entrants to market until they became fully established.

In 1995, the floor was initially set at fully allocated cost (FAC) while Oftel recognised that in the longer term LRIC might be the appropriate price floor.

The standard is now based on LRIC with Oftel taking the following factors into account in determining whether prices are predatory:

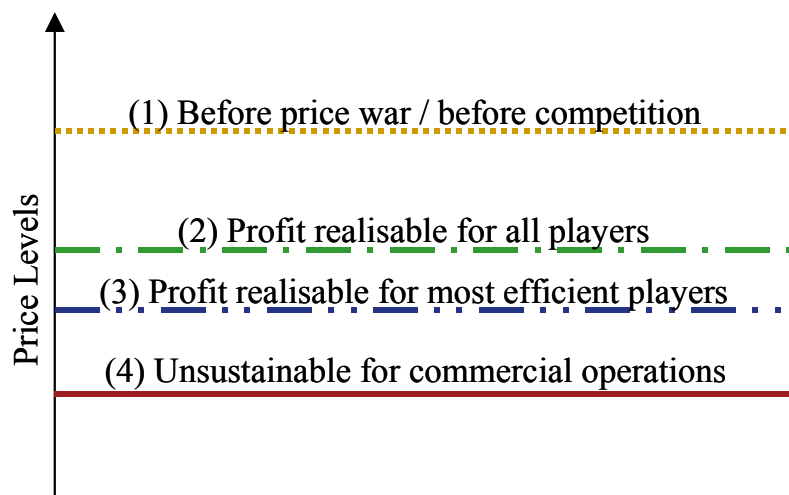
- a) Whether in the short run the undertaking will make an incremental profit, which will enable it to cover its costs
- b) Whether it is the undertaking's intention to eliminate a competitor; and
- c) Whether it would be feasible for the undertaking to recover its losses".

In assessing the relationship between prices and LRIC, use is made of combinatorial pricing tests to take account of common costs.

However for BT's "core network increment" (broadly the domestic network excluding the access network), rather than apply complex combinatorial tests, Oftel uses "distributed LRIC" (DLRIC) calculations to assess prices. These are calculated by adding intra-core common costs to the LRIC for elements of the core.

The approach adopted by Oftel is consistent with the approach adopted by the European Union, which treats pricing as predatory if it is "below the dominant company's variable costs and part of an anti-competitive plan"

5.40 An alternative way to review cost base pricing is to consider destabilising behaviour in the context of a price war or predatory pricing entry.



5.41 Situation (1) typically represents price levels that the incumbent or dominant operator was able to charge to customers before competition was introduced or before the price war began. Typically, the arrival of a third and fourth player in the market will not allow the first or first two players to sustain this price level.

- 5.42 Situation (2) typically occurs in moderately competitive markets where two or three players share the markets and are not engaging in price wars.
- 5.43 Situation (3) occurs after a price war and will probably lead to the survival of the most efficient operators. It is possible that the least efficient players will exit the market (for instance through a round of acquisition). This price level does not reflect any anti-competitive behaviour and is beneficial to the end user.
- 5.44 Finally Situation (4) is the level that only an incumbent or vertically integrated / cross-subsidising organisation can reach. At this price level, even the most efficient operators will be driven out of the market. It may denote two types of behaviour:
- (a) Temporary predatory pricing by a dominant operator a competitive operator that has access to large capital and can assume losses for a longer period of time than its competitors.
  - (b) Non-commercial objectives by an incumbent or state owned operator. The incumbent operator often benefits from certain lenience from the government as far as overall short-term profits are concerned in return for assuming responsibility for meeting certain policy objective. This may explain the reason why they would be in a position to sustain constant losses on a product. Alternatively, this price level may be reflective of a government policy to promote the usage of the service and may be subsidised by government funds.
- 5.45 In either of these cases, it is impossible for commercial competitors with limited access to capital to sustain such losses. Although non-commercial pricing may seem to benefit the end user in the short and longer term it creates inefficiencies in the market as it restricts entry and reduces consumer choice in terms of offer range, prices and quality of service.
- 5.46 Government should also consider **who** is subsidising the non-commercial prices offered to the public and what the objectives of the subsidy are. There are two main sources of subsidy for non-commercial pricing, as set out below with their implications.
- (a) If a vertically integrated (or an incumbent operator) offers a service at a loss, they will seek to cross-subsidise it with other more profitable ones. For instance, basic telephony would subsidise broadband deployment. This could almost be equivalent to privileging a lower proportion of the population (that can afford computers and broadband connections) against a larger proportion of the population that only subscribes to basic services.
  - (b) If the losses are born by state subsidy, loans or other financial package, the government will in effect use tax payer's money to subsidise the development of a service that may only benefit a small proportion of the population.

#### **Situation assessment – Wireless Local Loop tariff packages**

- 5.47 Reliance industries has entered the WLL market and is aggressively marketing its services at a headline rate of Rs 0.40 per minute for WLL to WLL services and Rs

0.50 for WLL to PSTN services. TRAI must consider the extent to which these services are cost reflective, predatory and / or embody a vertical price squeeze. If this proves to be case they must consider who is affected and take appropriate corrective action to ensure the market is not adversely destabilised.

- 5.48 In reviewing the tariff packages offered by the Reliance, TRAI must consider the following issues:
- (a) The extent to which the tariff is below cost:
  - (b) Whether the discount to IUC costs derives from any inherent cost advantage or from a first mover advantage:
  - (c) Whether the package was a promotion:
  - (d) What the potential impact of the tariff package and disruptive behaviour on other operators might be
- 5.49 Taking the IUC regime as a benchmark of cost based tariffs it would not be possible, for any plausible calling pattern, to recover the intermediate charges and earn a retail margin; if the IUC costs are benchmarked against BSNL FAC it is possible that they embody some inefficiencies. However the implied discount on IUC is such that such an explanation is implausible. The IUC regime does not provide for an origination charge, but does include a distance based NLD charge of between Rs 0.2 (for calls below 50km) and 1.10 (for calls over 500km), together with a termination charge of Rs0.50 on a WLL network. As a proxy to the origination cost, the termination charge (Rs 0.50 per minute) could be used. This is consistent with the approach taken in the IUC regime in which origination and termination charges are, broadly symmetric.
- 5.50 Where Reliance is offering services that include a long distance component, it is clear that the price does not cover its IUC costs. The only cases in which the Reliance tariff could be construed as cost reflective was if all calls are either:
- (a) Intra-circle STD of less than 50km terminating on the PSTN (in which case a distance slab of R0.20 and a terminating charge of around R0.20 apply;
  - (b) Calls terminate on PSTN metro networks, without an NLD component, in which a case a terminating charge of Rs 0.50 will apply; and
  - (c) Intra circle WLL calls which remain on-net, for which no IUC is payable.
- 5.51 Even taking the above into account, the current tariff leaves relatively little margin (or no margin) available after settling IUC costs to fund the operator's own costs. In the cases of (a) and (b) above, the outpayments equal the tariff. In terms of the profitability analysis of the form proposed for assessing the Airtel package, the implied maximum cost of airtime that would be necessary to ensure that the package was cost reflective, would be implausibly low.
- 5.52 It is reasonable to conclude, therefore, that the Reliance tariff package represents:

- (a) Predatory pricing, because the tariff is clearly not cost reflective; and
  - (b) Embodies a vertical price squeeze on other potential long distance customers, in that there is no retail margin to be exploited on the implied long distance component of the tariffs, which has implicitly been priced at or below zero.
- 5.53 It should be noted that it is not appropriate for Reliance to claim that, by virtue of its licence that it is effectively offering on-net calls using its own backbone and does need to account for IUC payments. Its inter circle services are substitutes for NLD operations and should therefore be accounted for and regulated in the same manner: this includes a degree of accounting separation and appropriate transfer pricing between access and long distance activities.
- 5.54 In developing a business, a new entrant could be allowed to offer promotional rates which fell below cost reflective levels, but the only way in which such rates could be offered in the longer terms would be if there was a policy of destabilising the market to reduce the level of competition and raise prices at a later stage. There is no specific period over which a “promotion” should be permitted. The intention, however, is that it should be time limited and that time limit should be consistent with lifespan of tariffs within the industry and the period over which the financial health of other operators could be adversely affected. As a benchmark, any “promotional” activity, which extended beyond three months, should be considered non-transitory. Reliance’s offer is not time limited, is predatory and should therefore be subject to TRAI investigation.
- 5.55 By way of example: BSNL’s initial tariffs in GSM contained no incoming airtime costs (under the Mobile Party Pays regime). When operators raised complaints to TRAI that this constituted predatory pricing, BSNL was restricted to making this offer for a maximum of 90 days. This provides an appropriate benchmark against which to consider Reliance’s tariff “promotion”.
- 5.56 When considering the potential effects of such predatory measures it is necessary to determine the potential competitors that will be affected by Reliance’s actions. As a result of the way its product is marketed and its technical capabilities, Reliance operates in the same market as the GSM operators, so far as a large proportion of potential customers are concerned. TRAI should therefore consider the impact of Reliance’s behaviour on the GSM operators. In this case it is not necessary for Reliance to exert SMP over the GSM operators: action should be taken by TRAI on the grounds of its predatory pricing activities. These have the ability to undermine the financial stability of the GSM operators within a short space of time, perhaps threatening the viability of one or more operators. It should be noted (as stated earlier) that it is not appropriate for Reliance to claim that by virtue of their different license, their market is not coincident from the GSM market.
- 5.57 The experience in UP (East), where Koshika engaged in predatory pricing behaviour, even though it was not dominant, presumably with the objective of buying market share provides strong rationale for TRAI to take action against Reliance’s predatory activities. Koshika’s action had a significantly destabilising effect on the UP (E) market causing all operators to suffer, with Koshika ultimately being forced out of business and having to surrender its licence. In an environment where operators can

sustain relatively limited anti-competitive behaviour before being forced into losses, destabilising actions should be subject to significant regulatory oversight and potentially be halted through the use of enforcement orders. Such an approach could also be appropriate for dealing with the Reliance, which is currently pricing significantly below cost. This should be followed by a requirement to provide more detailed cost information to support its tariff proposals.

#### **Situation assessment – BSNL tariffs**

- 5.58 In the context of pricing by BSNL, there is a strong presumption that it is only weakly competitive and that it would be unable to sustain a price below that of a private sector operator if it was required to compete on a level playing field basis. Any specific non-commercial pricing objectives would infringe on Competition Act provisions designed to avoid the creation of barriers to entry. In the context of its mobile business, cost advantage could only be obtained where the GSM business avoided such costs as site rental, leased line costs, maintenance, power etc.
- 5.59 Currently the company is pricing ISP services below those of the private sector competitors. It is likely that it is able to do this only if the ISP does not have to meet the full costs of its operations including costs such as leased line charges, back office systems and premises charges, which are likely to be picked up by the access business.
- 5.60 The transfer charging mechanisms outlined earlier should be implemented to ensure services are charged to the various BSNL businesses at commercial rates. In the meantime it would be appropriate to limit the extent of BSNL's price competition to be no lower than a benchmark private sector operator, say Tata. In this way BSNL's ability to destabilise the market through anti competitive pricing will be restricted.
- 5.61 In the absence of the appropriate transfer pricing mechanism, TRAI must implement measures to ensure that BSNL's tariffing in the GSM sector, also, does not destabilise the market. It should therefore be restricted from pricing below the level of private sector GSM operators. A parallel exists in China, where China mobile was restricted from undercutting China Unicom's price. Restricting BSNL's ability to engage in price competition will ensure that it must compete on other factors, such as coverage, network quality and customer service. (TRAI should however pay attention to whether BSNL's coverage and transfer pricing constitutes a barrier to entry for the other GSM operators – this is considered under access to the network.)

#### **Cost standard to be adopted by TRAI**

- 5.62 While theory provides that some flexibility in prices should be allowed between FAC and LRIC, within the current environment such flexibility cannot be adequately policed by TRAI due to lack of appropriate cost information. In the short term, a price floor of FAC should be adopted by TRAI as the appropriate standard. This would constitute the definition of a cost based price as required by the Competition Act 2002.

### **Situation 3: Cost based pricing & unlimited / unmetered usage**

- 5.63 The concept of cost based pricing may seem conflicting with unlimited usage of a resource.
- 5.64 The first step is to determine whether the operator offering un-metered services would be able to derive profit from the offer based on current and expected call patterns, incremental revenues and incremental costs incurred in the provision of service.

#### **UK – BT offering unmetered off-peak national and local calls packages**

In January 2002, BT introduced two new packages (BT Together – UK calls Option and BT Together – UK & Surf Calls Option).

Telewest (telecom operator) argued that this constituted predatory pricing, whereas Tiscali UK (telecom operator) complained that a wholesale / interconnect unmetered package should be made available to other operators. Oftel investigated the claims of both operators.

Oftel applied a series of tests to determine the effect on competition that these two packages may have. The first test to be considered was the narrowest relevant test, that is, whether BT incremental revenue from the customers for unmetered off peak geographic calls would exceed incremental cost of providing such calls.

#### ***Incremental revenues from unmetered off peak calls > incremental cost to provide them?***

Oftel deduced that if this narrow test was passed, the tariff would be competitive. If the test failed, other tests would be conducted through the broadening of the scope of services included in the test.

Incremental revenues were calculated based on the incremental price of the package, for instance, BT Together package of £9.79 and the Local Calls Option of £12.34. The difference is of £2.55. The £2.55 would be considered incremental revenues.

Incremental costs were calculated based on the cost of providing one minute of off peak local and national call and multiplying it by the expected demand in minutes.

*BT – as a licence condition – is required to provide a “Price Change Notices”, which represent cost stacks that provide retail cost and network charges incurred.*

Oftel calculated that with the current call patterns, the revenue levels from off peak usage would exceed costs. In addition, Oftel calculated the percentage by which existing call volumes could be increased before the costs would exceed incremental revenues.

Oftel concluded that there could “be substantial call stimulation before BT would fail even the narrowest test” and that as a result of the test being passed, there was no need to conduct other tests. Oftel concluded that BT’s unmetered packages were not anti-competitive and that “equally or more efficient operators should be able to at least match BT’s packages”.

- 5.65 The airtime packages of Airtel and other similar operators provide an example of unlimited airtime being included in a package. This, however, is not a true unmetered service because customers pay for NLD and termination components of their calls. In the event that a true unlimited package is offered e.g. unmetered internet access or local calls, TRAI must consider the effect to which the market will be stimulated by the package. This requires estimating the price elasticity of the service and will be market specific. TRAI will need to develop the skills to undertake this kind of analysis.

#### **Situation 4: Discriminatory pricing**

- 5.66 Discriminatory pricing describes the situation where an operator charges different prices to consumers for reasons other than cost (e.g. to favour an affiliate) and thereby gains an unfair competitive advantage. Accounting separation guidelines and strict rules on affiliate transactions and transfer pricing are designed to ensure that discriminatory pricing does not take place. For this reason, integrated operators, such as BT and Telstra, are required to publish detailed cost information and contractual information regarding their wholesale products. They are required to deal on an arm's length, commercial basis with their retail and other affiliated operations.
- 5.67 Failure to adhere to the terms of the non-discriminatory conditions provisions can result in significant fines and payment of damages to operators who have been disadvantaged.

#### **Situation assessment – BSNL tariffs**

- 5.68 Earlier, BSNL was charging differential prices to its cellular subscribers depending on whether they terminated their calls on BSNL networks (PSTN or cellular) or with another operator (PSTN or cellular). Furthermore, in return for using BSNL NLD or ISD services, a subscriber was not charged origination airtime.
- 5.69 Since the routing between the fixed and mobile networks does not depend on network ownership, then such discriminatory pricing is anti competitive. The same is true for the discriminatory access to NLD/ISD services. The IUC regime does not define termination charges separately for BSNL and other operators: charges have been determined on a service basis. This is standard regulatory practice.
- 5.70 In a calling party pays regime, on-net calls *may* be considered by regulators to be self-regulating, as they are part of the access package. In the case of BSNL, however, where the opportunity for cross subsidisation from other services is very great, on-net calls cannot be considered to be self regulating, *even within circles*.
- 5.71 The following conclusions can be drawn:
- (a) The only basis on which BSNL would be able to offer cheaper calls *on-net within circles*, compared to off-net termination on other networks, would be if it was subsidising its on-net termination costs from other activities.
  - (b) By charging differentially for interconnection with its own PSTN rather than that of a competitor it is guilty of discriminatory pricing; and

(c) By waiving the access charge to its own NLD / ISD business it is providing a cross subsidy from the NLD / ISD business into mobile.

5.72 These situations are prejudicial to the interests of other NLD operators and private sector mobile operators. This is anti-competitive behaviour, which should be controlled by performance orders to ensure parity of prices, terms and conditions between BSNL affiliates and third parties. It should be monitored by publication of affiliate transaction terms and audit of all internal contracts, and potentially by the pre-approval of BSNL tariff plans (in a more systematic way than is required of other private operators).

#### **Situation assessment – Reliance Infocomms**

5.73 Reliance Infocomms has introduced a tariff which discriminates between on-net and off-net calls. Reliance defines on-net as any Reliance WLL subscriber, irrespective of location. Similarly, off-net is equally defined on a nationwide basis. On-net charges are set at Rs 0.40 per minute, with an off-net surcharge of Rs 0.40, within a 400minute bundle, beyond which a distance based surcharge applies.

5.74 As discussed before, the Rs 0.40 on-net charge does not include any element of NLD, nor does it cover the IUC origination and termination charges for WLL services. These are being priced below cost. Charging a Rs 0.40 premium for termination on GSM allows Reliance to recover the GSM termination charge.

5.75 As the markets for GSM and WLL can be considered coincident for many customers differential pricing of this sort can destabilise the market and, as it is not cost reflective, will have an adverse effect on the GSM operators. In this instance it is non-charging of termination, for the WLL customer that creates the discrimination. Further, since there is no NLD charge, including a distance charge for termination on GSM, beyond 400minutes, creates an anti-competitive situation in which the GSM customer is effectively subsidising the long distance component of the WLL customer's tariff.

5.76 TRAI should serve an enforcement order to halt such discriminatory tactics and ensure that termination and long distance elements are included in the tariff of the WLL subscribers.

#### **Situation 5: Collusion**

5.77 A collusive situation could arise where a group of operators e.g. integrated operators with NLD licences prevented pure play operators gaining access to NLD on similar terms to which they provided the service to their own access businesses (fixed or mobile).

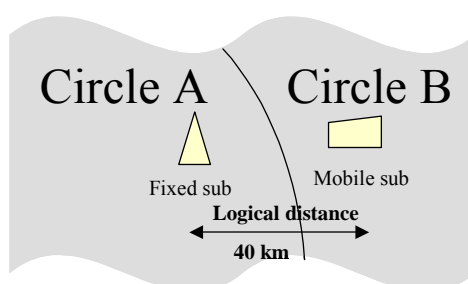
5.78 Such activity can have a rapid and significantly adverse effect on the finances of the pure play operators.

## Action by TRAI

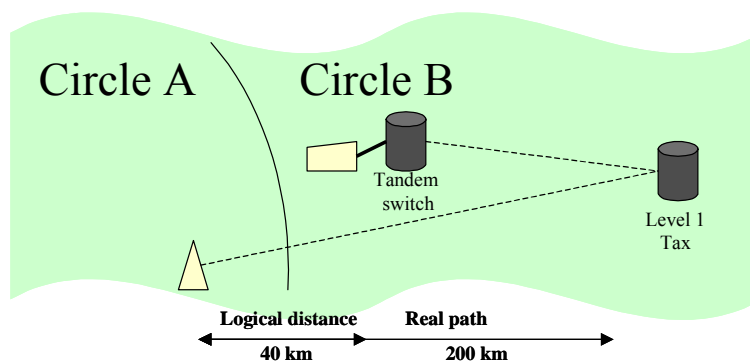
- 5.79 TRAI should require the publication of wholesale pricing information and implement non-discriminatory measures to ensure that integrated operators are not in a position to exercise collective dominance over the pure play operators.

### Situation 6: Routing path and charges to the end user

- 5.80 By virtue of BSNL being the fixed incumbent, it may be possible for the fixed line operator to derive some excess profit from controlling the routing of calls.
- 5.81 For instance, if a mobile subscribers in circle B calls a fixed line subscriber in circle A (at a physical distance of less than 50km), the mobile subscriber in circle B may find itself paying for a long distance (STD) call.



- 5.82 However, depending on where the level 1 TAX (trunk automated exchange) is situated, the mobile subscribers could pay for a much longer route as shown below.



- 5.83 The mobile operator owns or leases a link from its network to the tandem switch and onwards to a point of interconnection at the incumbent's level 1 TAX. The incumbent operator then carries the call from its level 1 TAX in Circle B to the subscriber in Circle A. The distance between the Level 1 TAX and subscriber in circle A is of 200km. Based on this, the mobile subscriber in B will be charged for a 200km STD charge, whereas in fact, the logical distance between the two subscribers is only 50km.
- 5.84 If the call had been made from from a fixed line, the subscriber would have been charged for a local < 50 km call, and not for a 200 km STD call. According to the IUC regime, the fixed line operator should be compensated for the actual costs of its transport of the call, whether 200km or 50km. At the wholesale level, therefore, the charges are cost reflective and appropriate. The apparent iniquity appears at the retail

level. However the mobile operator, in developing its retail pricing packages should take account of the variation in costs represented by the distribution of its originating calls: some would involve long distance on-net before being handed over to the fixed line operator, others would be short distance. This should be averaged out in the retail package that is offered to the consumer. In some instances, due to network topography a fixed line call will be cheaper for a cost based reason. Mobile subscribers accept this level of averaging in return for the flexibility offered by mobility and the certainty of knowing what the tariffs are. Operators find that the costs of attempting route by route pricing exceed the benefits from trying to price against it, and that anyway, such pricing is not an accurate indicator of the overall costs of rolling out the network.

- 5.85 In the event that a subscriber in City 1 in Circle A makes a call to City 2 in Circle B via the circle A operator's MSC in City 3, it is possible that the subscriber will be charged for two long distance calls. The first long distance charge would be levied by the mobile operator for the on-net backbone portion between the originating city 1 and the MSC / TAX handover point in City 3. The second would be the long distance inter-circle charge between City 3 and City 2 (in circle B).
- 5.86 Such a charging arrangement would appear to violate the principle that, for a call *within* a mobile network (City 1 to City 2) the distance principle cannot apply since a subscriber cannot know the routing of the call. For a call to a mobile, the calling party cannot know in which location within the circle a subscriber is at any given time. For this reason the termination charge will be based on an average call routing for all terminating calls. For a similar reason it would be inappropriate to introduce a distance element to the mobile portion of an off-net call. This requires that the mobile operator costs each route separately and maintains the information on its billing system, even though it will be used only to off net calls.
- 5.87 A similar averaging principle will apply to determining inter-SDCA charges for a fixed line operator. The inter-SDCA charge from one SDCA to each of its neighbouring SDCA's will be the weighted average of the actual call routings: some of which may be made through a distant TAX. In such an instance the cost of the inter-SDCA call would include an element of long distance switching according to the actual routing of the call.
- 5.88 Overall the charging principles, at wholesale level, appear to be cost reflective, although, at retail level it may be desirable for operators to pay more attention to averaging the costs of certain types of call.
- 5.89 One point, should however, be made. Since the mobile operator provides the entire interconnection up to the Level 1 TAX, BSNL NLD has no incentive to optimise its network configuration to minimise the overall cost of interconnection. In advanced regulatory environments the costs of the point of interconnection would be shared, with both parties having an incentive to plan efficiently.
- 5.90 TRAI should require operators to adhere to an average charging principle for on-net calls and termination charges, and, for consistency, the origination portion of off-net calls.

## Situation 7: Foreclosure (mobility restraints)

### Issues

- 5.91 Foreclosure is the pricing arrangement, which inhibits a customer from moving to an alternative supplier or attempt to lock a customer into a long-term supply arrangement. This has the direct effect of discouraging entry or expansion of a competitor in the market and longer term reducing the level of competition.
- 5.92 Assessing whether a specific arrangement is anti-competitive will be determined by factors such as: the length of the agreed term, the costs of incurred by the operator / service provider and the extent to which these costs could be amortised over the supply period for the service.
- 5.93 Anti-competitive behaviour may manifest itself through excessive exit charges, that are not related to costs or losses incurred by operators to disconnect services, or non-transparent lock in practices, such as SIM locked handsets.

### International best practice

#### United Kingdom Case Study: Subscriber Identity Module (SIM) Locking

Locking phones to specific SIM cards is a practice that has been used by mobile operators to prevent the use of a subsidised handset on another network. The SIM card itself is not actually locked and can be used on other handsets.

Handset manufacturers, at the request of mobile networks, lock handsets. The manufacturers also provide codes to networks to enable handsets to be unlocked. Most handsets can be unlocked by means of the network providing the customer with a code to enter into the handset.

Oftel carried out a review of effective competition in the mobile sector in 2001 and concluded that that SIM-locking was a barrier to consumers switching suppliers, and that the removal of locking, or easing of its terms, would benefit competition in a number of respects, including price, consumer choice and entry barriers.

Customer education and awareness was the chosen method to deal with the issue. Greater transparency from the mobile operators on the terms and amount of subsidy and SIM locking should be achieved and it should be possible to unlock phones once the subsidy on the handset has been repaid.

### Situation assessment

- 5.94 Reliance's Infocomm's Dhirubhai Ambani Pioneer Offer may provide some evidence of foreclosure. The offer covers a range of benefits as tariff plan of Rs600 per month that includes:

One off charges	
Upfront one off charge	3,000 Rs

<b>Pioneer Club Membership</b>	
<b>Monthly charges</b>	
Rental	240 Rs
Usage charges	160 Rs
Club privilege charges	100 Rs
Financing charge (not payable if upfront payment chosen)	100 Rs
<b>Total</b>	<b>600 Rs</b>
<b>Deposit</b>	
Local and intra circle circle beyond 400min and to non Reliance cities	1,000 Rs
STD beyond 400min and to non Reliance phones (also includes local deposit)	2,000 Rs
ISD calls (also includes local and STD deposits)	3,000
<b>Exit conditions</b>	
Deposit	Balance of refundable deposits
Membership fee	Non refundable
Monthly charge	40Rs per month commitment
Handset (if not returned)	Year 1: charge of 5,000 Year 2: charge of 3,000 Year 3: charge of 2,000

#### **Summary of the Pioneer Offer**

5.95 The exit and lock-in conditions appear onerous and, as such, could be investigated by TRAI as evidence of foreclosure. In this case, However, no action need be taken by TRAI for the following reasons:

- (a) It is not unusual for operators (basic or mobile) to ask for time commitment from their customers. Even if the 36 months commitment may seem long, it does not constitute foreclosure as the consumers are aware of the exit conditions.
- (b) The handset lock-in time and penalties on exit may seem large, however they represent the fact that handsets are subsidised. The consumer will only have to pay these charges if the handsets are not returned and are clearly informed of them.

#### **Conclusions on pricing**

5.96 It is clear that the Indian telecom market exhibits very many potentially anti-competitive practices. These practices will inevitably favour integrated operators over pure play locally based operators. In the current capital constrained environment, in which many operators find themselves, anti-competitive behaviour, either by an SMP operator or a new entrant will affect the solvency of pure play operators, in particular, very quickly. In these circumstances TRAI should use enforcement orders to bring such activities to a halt and place the burden on the relevant operators to substantiate the cost compliance of their plans.

- 5.97 It is clear that TRAI is currently exercising inadequate oversight over BSNL activities. These should be constrained by requirements for accounting separation, commercially based arms length transfer pricing and clear guidance on appropriate cost allocation. In the short term it should be restricted from engaging in price competition, which is presumed strongly to be anti-competitive and involve cross subsidisation.
- 5.98 The case of Reliance Infocomm, its pricing policy also stands out as predatory and discriminatory. It is not including any element of long distance pricing and violating the IUC principles. Although it may claim that, by virtue of its licence, it does not comply with the same cost standards as GSM or the NLD operators, this claim should be rejected. Its tariff plans should be considered alongside those of the GSM operators with the same requirements for the provision of cost based information and profitability analyses.
- 5.99 Pricing is a complex area and requires TRAI to take both proactive and reactive measures. In the current market environment, pre approval of tariffs is appropriate to ensure compliance with the principles and cost reflectivity and the IUC regime and to prevent anticompetitive behaviour. TRAI, however, must request the appropriate information to carry out its assessment and develop the appropriate skills necessary to carry out combinatorial tests on product bundles. An essential pre-requisite to completing the necessary analysis is an appropriate market assessment. Such analyses are a feature of the deliberations of all best practice regulators. In the current context an important conclusion is likely to be that the WLL and GSM market are coincident and that actions taken by WLL operators will affect GSM operators, who are at risk from potential anti-competitive activities aimed at destabilising the market.

## **Marketing**

### **Use of privileged information**

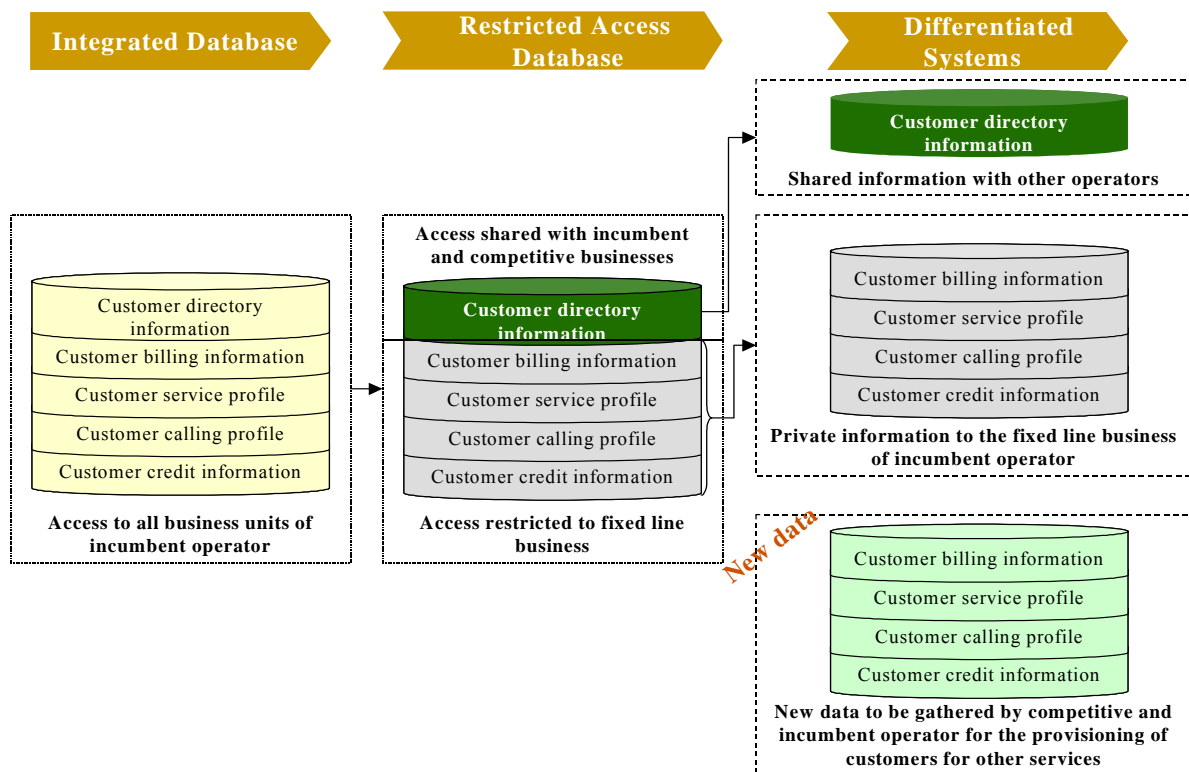
#### **Description of anti-competitive behaviour**

- 5.100 Incumbent operators have gathered significant information about their customer base for their fixed line business. Some of this information ought to be accessed by all operators in order to provide directory type services.
- 5.101 Each incumbent operator typically maintains a database that gathers all the information available about each client, including their nature (business / residential) address, number, the type of service they subscribe to, their calling profile, their socio-professional profile etc... Use of this database by the fixed line business of an incumbent operator is possible and does not pose any problems. However, the use of this information by other parts of the incumbent business (such as mobile, internet service provision etc...) is highly debatable for the following reasons:
- (a) Allowing access to the details of the fixed line customers to other parts of the business violates the privacy rights of each customer who has not agreed to provide its details to another part of the business.

- (b) Incumbent operator will have an immediate advantage in being able to cherry pick customers and offer them compelling offers based on sophisticated customer segmentation and thorough understanding of their communication needs. This leaves competitive operators at a clear unfair disadvantage and does not provide for a level playing field.
- (c) Incumbent operator benefit from a competitive advantage, as they do not have to gather customer details, perform credit checks and other subscriber provisioning activities. The reduction of customer provisioning procedure produces two competitive advantages to the incumbent operator: it limits provisioning costs for the incumbent operator and it enhances the customer provisioning experience.

5.102 Customer details need to be captured by a service provider for the exact service they are going to provide and no other purpose.

5.103 It is necessary for the incumbent operator to separate its systems and database. This can be done in an evolutionary manner, first by restricting access to common existing system, then by physically separating different systems as set out in the illustrative diagram below.



**International best practice**

5.104 Two case studies are presented hereafter: an example of database separation (UK) and an example of use of information for unsolicited advertisement (Hong Kong).

**United Kingdom Case Study – British Telecom, BTCellnet and customer information**

Most operators in the UK were concerned about the potential for BT to act anti-competitively by using customer information from the fixed market to gain an advantage in the mobile market or in the then emerging fixed mobile convergent market.

Oftel set up measures to prevent mis-use of customer information at the same time as account separation. BT was required to maintain physical separation between the databases within BT and BTCellnet that hold customer information.

The licences of BT and BTCellnet contain a licence Condition which requires them to maintain a Code of Practice on the Disclosure of Customer Information. BT also runs a compliance program to ensure that BT staff complies with its Code.

### **Hong Kong – Licence condition**

In Hong Kong, the Office of the Telecommunications Authority (OFTA) has included a clause in telecom operator’s licences that specifically prohibits the operator to not use their service, and prevent others from doing so to broadcast unsolicited advertising or unsolicited promotional information

### **Current practice in India**

- 5.105 To date, integrated operators may be in a position to use privileged information to gain market share in unrelated competitive services. This is prejudicial to the interests of pure play operators who do not have the ability to cross sell.
- 5.106 One of the possible reasons cited for the rapid growth of BSNL Mobile subscriber base is their access to their fixed line customer database and their ability to waive/perform quick credit check on existing fixed subscribers to convert them into mobile subscribers.

### **Recommended way forward**

- 5.107 Identifying the use of privileged information as an anti-competitive practice and ensuring that the regulator has the powers to enforce this condition. Actions the regulator could take to ensure that information is not misused:
- (a) Define roadmap for access and database separation, discuss it with operators and follow up on the implementation;
  - (b) Provide compliance guidelines to operators;
  - (c) Request compliance training to be undertaken by operator staff;
  - (d) Request regular quarterly / annual compliance reports by operator; and
  - (e) Regularly conduct “mystery shopper” tests to validate that information is not misused in practice.

5.108 Implementing these measures and publishing the reports regularly would encourage incumbent and vertical operators to comply with the separation and use of customer information.

## **Campaigns**

### **Description of anti-competitive behaviour**

5.109 Misleading or untruthful advertising is clearly an anti-competitive behaviour. Operators may use misleading advertising to entice customers to subscribe to their service under false pretences. This is not only damaging to the market and its competitiveness but also to the industry as a whole.

### **International best practice**

5.110 There is no absolute best practice in dealing with misleading and untruthful information, it varies greatly from one country to the other. Some country may have cross industry advertising monitoring board (such as in the UK) whereas in some others, the telecom regulator (in Hong Kong) deals with complaints from the public and monitors advertising of telecom services.

5.111 In the UK, non-broadcast advertising is monitored by an industry based agency which responds to complaints, which may of course originate from operators. It does not have a sectoral focus but is the established regulator for assessing print media claims. It is regarded as effective and balanced and has caused a number of campaigns by telecom operators to be moderated. As a non-legal body it makes swift decisions which are acted on by advertisers. Aside from this general body, leading regulators retain the power to review and restrain misleading advertising within the telecom sector. This extends to all forms of promotional material and circulars provided by operators. This oversight is effected by the regulator without the need to resort to legal action.

5.112 Campaigns are not generally subject to pre-approval.

### **United Kingdom Case Study – Non-broadcast advertising**

The British Code of Advertising, Sales Promotion and Direct Marketing (also known as the CAP code) is the legislation regulating monitoring advertising to ensure that advertisement are legal, decent, honest and truthful.

The Advertising Standard Authority (ASA) is the independent self-regulatory body for non-broadcast advertisements, sales promotions and direct marketing. The ASA deals with complaints coming both from the public and other operators. It is interesting to note that on average one in tenth complaint does not originate from the public but from one of the competitors.

### **Hong Kong – OFTA**

In Hong Kong, Telecommunications Ordinance states section 7M - Misleading or deceptive conduct:

“ A licensee shall not engage in conduct, which, in the opinion of the Authority, is misleading or deceptive in providing or acquiring telecommunications networks, systems, installations, customer equipment or services including (but not limited to) promoting, marketing or advertising the network, system, installation, customer equipment or service”.

The Office of the Telecommunications Authority (OFTA) published in 1996, the Advertising Code of Practice. All members of the industry are encouraged to adhere to the guidelines on a voluntary basis.

OFTA prefers adopting a light handed approach and promoting voluntary adoption of its recommendations in the Code of Practice, however it has the authority to enforce them through the use of Section 7M of the Telecommunications Ordinance.

Customers and operators alike can register complaints to OFTA. For instance, one of the complaints currently being examined by OFTA relates to misleading advertising from the mobile virtual network operator (MVNO) “Noodle” operated by i100. The website of the MVNO claims that “Noodle” is a brand new mobile communication network whereas Noodle does not own a network and leases connectivity services from another Hong Kong operator. In this case, OFTA is gathering information to assess whether i100 is in breach of section 7M of the telecommunications ordinance and of the Advertising Code of Practice.

### **Current practice in India**

5.113 The Consumer Protection Act currently prohibits misleading or untruthful advertising. While this provides a legal basis on which to inhibit misleading campaigns the remedies are likely to be slow and expensive. The potential for decisions to be subject to appeal makes this a cumbersome process that is not well suited to the fast moving environment of telecom campaigns.

5.114 Currently, WLL operators are advertising (for instance in Delhi) the fact that their service does not have any “roaming charges”. This is clearly untruthful and misleading information.

(a) Untruthful as the service provided, which has the functionality of roaming, is not roaming but a call forwarding services which will come at a fee to the subscribers

(b) Misleading as the provision of roaming services is not allowed under the licence conditions of a WLL operator and this contributes to blurring the consumer perception of the difference between Limited Mobility (LM) and truly Mobile services.

5.115 Offering WLL services outside of SDCA (Short Distance Charging Area) is prohibited under licence conditions that apply to WLL operators. Reliance has been advertising roaming access across 673 cities (although this has now been stopped).

5.116 Under its licence as a basic telecoms operator, Reliance is not permitted to offer roaming services. For this reason it is prohibited from installing Mobile Switching Centres (MSC), which are required if an operator is to offer roaming, in the sense that is understood in the GSM environment. It has, however, developed a technical solution, effectively using a non-geographic numbering plan and call forwarding, that gives it product the *same look and feel* as GSM roaming *to a significant proportion of its customer base*. In terms of a competitive market analysis, Reliance would be considered to be offering roaming services, irrespective of the technical solution used or its licencing as a provider of basic services. In this instance, therefore, the campaign should be stopped on two grounds:

- (a) The service is not accurately marketed (causing misunderstanding to consumers); but *more significantly*
- (b) The operator is not able to offer the service and should not be marketing services which it not, under its licence, able to deliver.

### **Recommended way forward**

5.117 While it is clear that regulating advertisement is a complex task, it is desirable that TRAI be empowered to monitor advertising in the industry and implement, as regulations, the provisions of the Consumer Protection Act, so far as they apply to telecom companies. This will ensure that advertisers are required to moderate their behaviour quickly, and release all parties from the need to engage in lengthy legal processes. TRAI should not review or censor advertisement before it is released. It ought to respond to complaints (whether they be from the another operator or from members of the public).

5.118 TRAI's powers in relation to telecom advertising should be equal to those set out in the Consumer Protection Act and its decisions should be binding on the licensees. In these circumstances there is no advantage to establishing a separate review body to monitor advertising: in the UK the ASA predates Ofcom and has retained its own areas of responsibility.

5.119 Publishing a Code of Practice or Advertising Guidelines and ensuring that all telecom operators voluntarily sign up to them would enable the regulator to issue notices or warnings when conditions set in the Code / Guidelines are violated. Agreement to present tariff proposals in a consistent manner, as TRAI has recently requested, should form part of such a code of practice.

## **Ownership of the network**

### **Access to interconnect**

#### **Description of anti-competitive behaviour**

5.120 Incumbent operators (or existing operators with already established networks) benefit from greater reach to consumers than competitive new entrants. They may abuse this position for instance, by refusing to interconnect with other operators. This would

particularly damage new entrants, as it is important for the take up of their service that they be interconnected with all existing operators. Not allowing new entrants to interconnect would put them at a clear disadvantage compared to existing operators and hence would not provide the level playing field necessary for successful competition.

5.121 There are different types of anti-competitive behaviours that can be characterised:

- (a) Refusal to interconnect
- (b) Blocking of calls
- (c) Differentiated quality of service

### **International best practice**

#### **USA example – FCC finding Verizon in violation of interconnection requirements**

Core Communications filed a complaint with the Enforcement Bureau of the FCC about delays in interconnection with Verizon in the Washington Metropolitan area.

The FCC investigated the case and concluded in April 2003 that Verizon had delayed for four months interconnecting with Core, and also failed to provide them with critical information about the delay and its expected duration.

“The delay occurred because Verizon allowed the capacity of certain crucial pieces of equipment within its network to exhaust and to remain at exhaust for an extended period. The Commission found, considering all of these circumstances together, that Verizon had not interconnected with Core in a reasonable manner. The Commission ruled that Verizon had violated the terms of its interconnection agreement with Core, and thus section 251(c)(2) of the Communications Act, by failing to provide Core with interconnection ``on rates, terms, and conditions that are just [and] reasonable ... in accordance with the terms and conditions of [its interconnection] agreement.””

As a result of the investigation, Core Communications is now allowed to file a new complaint to ask for damages.

### **Current practice in India**

5.122 Currently, TRAI is engaged in proceedings against three cellular operators that had allegedly blocked calls coming from Wireless Local Loop operators.

5.123 BSNL refused to interconnect with Bharti NLD operations and Bharti subsequently sued for damages. The DoT dismissed the claim.

5.124 The requirement to interconnect is a fundamental licence condition. The blocking of calls from other operators is clearly an anti-competitive conduct and is in violation of an operator licence conditions. In other jurisdictions, a performance order would have been issued and interconnection would have been provided. As can be seen from the

example of Verizon above, delay in the provision of interconnection has been found to provide grounds for operators to sue for damages. Bharti has therefore been treated in a discriminatory manner by DoT.

- 5.125 Another potential case of an abuse of dominant position is the refusal of BSNL to provide roaming interconnect to private GSM networks. BSNL's provision of services in class B cities derives from a barrier to entry, such as the concessional use of shared infrastructure, a case may be made that national roaming is one acceptable solution to eliminating the barrier.
- 5.126 BSNL may argue that its refusal to provide national roaming services should not be considered anti-competitive behaviour for the following reasons:
- (a) Infrastructure competition should be encouraged for the benefits of consumers and to provide coverage to a maximum of population;
  - (b) Coverage is a justifiable competitive advantage; and
  - (c) If BSNL provided national roaming to operators operating within the same circle, it would discourage competitive operators from rolling out further.

These arguments would hold some validity if BSNL GSM was bearing the full risk and commercial cost of rolling out its services in the class B cities. There is, however, a strong presumption that it is not, and that it is benefiting from effective cross subsidy from its fixed line business to create a barrier to entry against the private GSM operators.

- 5.127 A further situation of infrastructure control arises in the NLD market when calls are switched between GSM operators and BSNL fixed lines. As commercial NLD operators do not have points of presence at low levels within the network, BSNL is able to route calls to its NLD operations, rather than a more cost effective route from a Level 1 TAX to the SCDA in which the terminating subscriber is located. It can charge the higher, NLD price, because the competing operators are not able to match its lower costs due to their restricted infrastructure. This benefit accrues to BSNL by virtue of its historic network configuration.
- 5.128 Such discriminatory routing provides a commercial advantage to BSNL over the commercial NLD operators. In the longer term this may be remedied as the commercial operators build out their networks and develop more points of presence in each circle. In the short term BSNL should be required to offer cost based interconnect using the most efficient routes.

## **Shared infrastructure**

### **Description of anti-competitive behaviour**

- 5.129 Incumbent and vertically integrated operators may provide some services between operating divisions at prices below cost or at no cost at all. This can be a significant source of competitive advantage to a business that must compete with operators that have had to bear all similar costs on a standalone basis. The lack of transfer prices

that are not established on commercial terms constitutes anti-competitive behaviour, where such terms are not made available to commercial operators. In the case of an incumbent operator, the source of these services may be its extensive PSTN reaching into rural areas with an extensive network of exchanges. The most desirable way in which this type of behaviour should be controlled is through requirements for accounting separation and the implementation of a structured set of transfer prices.

5.130 Typical symptoms of this anti-competitive behaviour may be:

- (a) Free – riding of mobile business on the fixed business backbones (for leased lines to sites and between core network elements);
- (b) Preferential wholesale tariffs to affiliated business;
- (c) Free or preferential site rental for collocated switch sites or based sites;

### Current practice in India

5.131 BSNL is a fully integrated national service provider. As it has not provided any separate accounts or transfers prices, there is a strong presumption that its mobile division has benefited from preferential transfer pricing arrangement, with many services not being charged to the GSM business. This should be investigated by TRAI.

5.132 The basis on which TRAI should consider whether the transfer charges have been set at commercial rates is set out below. The table distinguishes between those charging levels that could be considered a legitimate competitive practice, and those which would be clearly anti-competitive.

Summary of charges		
Description	Competitive	Anti-Competitive
Site rental	<input type="checkbox"/> Charged at market rate to mobile business <input type="checkbox"/> Site collocation should be open to other operators	<input type="checkbox"/> Charged at less than market rate or free
Site acquisition costs	<input type="checkbox"/> Market rate	<input type="checkbox"/> Nonexistent
Site preparation costs – civil costs	<input type="checkbox"/> Construction costs borne by mobile business	<input type="checkbox"/> Construction costs borne by fixed line business
1 <sup>st</sup> line maintenance	<input type="checkbox"/> Transfer price charged to mobile business <input type="checkbox"/> Service should be opened to other operators	<input type="checkbox"/> Charges borne by fixed business
Power generator	<input type="checkbox"/> Transfer price charged to mobile business <input type="checkbox"/> Service should be opened to other operators	<input type="checkbox"/> Charges borne by fixed business
Security	<input type="checkbox"/> Transfer price charged to mobile business <input type="checkbox"/> Service should be opened to	<input type="checkbox"/> Charges borne by fixed business

	other operators	
Leased line rental	<input type="checkbox"/> Charged to mobile business <input type="checkbox"/> Service should be opened to other operators	<input type="checkbox"/> Not charged to mobile business
Leased line provisioning time	<input type="checkbox"/> Standard provisioning time compared with other operators	<input type="checkbox"/> Faster provisioning time for affiliate than for other operators

### **Recommended way forward**

- 5.133 Account separation and transfer pricing are the remedies to these anti-competitive behaviours.
- 5.134 TRAI should carefully monitor that other operators are given access to the same facilities and services that the affiliated operator is benefiting from.
- 5.135 Encouraging operators to share exchange sites and passive infrastructure such as towers, would provide additional cost – savings for all parties and benefit the roll out of mobile services in less urban areas.
- 5.136 TRAI should consider mandating national roaming into the class B cities where BSNL operates by virtue of concessional terms obtained by the GSM business from its PSTN. Such roaming could be time limited, dependent on BSNL’s ability to implement appropriate transfer prices and hence compete on a level playing field basis.

### **Control of standards and protocols**

#### **Description of behaviour**

- 5.137 Incumbent operators have inherited systems that are sometimes old dated or proprietary. If such is the case, new entrants have to interface with these systems and may incur additional charges as far as their billing system, settlement systems and signalling platforms are concerned.
- 5.138 Incumbent operator may attempt to impose excessive development and maintenance charges in the determination of cost based elements for interconnection and other charges.

#### **Recommended way forward**

- 5.139 Certain inefficiencies of incumbent operators should not be passed on to new entrants, as a result, all efforts should be made to ensure that open standards and well recognised interfaces are implemented in systems which new entrants may wish to interconnect to.

## Access to capital

### Cost of capital

#### Issue

- 5.140 In a capital-intensive industry such as telecom, the price at which a company raises funds, its cost of capital, is a crucial determinant of its profitability. Cost of capital is used repeatedly by regulators to determine, amongst other things:
- (a) Allowed revenues under price caps;
  - (b) Interconnect rates;
  - (c) Evidence of securing and exploiting a dominant position.
- 5.141 One of a regulators key task is to ensure the overall financial health of the sector. Broadly speaking this will be achieved when operators are earning returns equal to their costs of capital. Establishing the cost of capital for each operator is therefore a key regulatory objective for regulators in all industries.
- 5.142 Cost of capital varies between operators according to ownership and capital structure: lower where the owner is a government, higher where equity is used in preference to debt. It also varies by market: mobile is riskier than fixed line operations, long distance is riskier than access.
- 5.143 Typically incumbent operators have easier access to capital funds than smaller players or new entrants, and in addition benefit from (quasi) sovereignty due to large state shareholding in the company. Larger firms are also able to raise capital in foreign markets.

#### Response

- 5.144 The cost of capital should be assessed separately for each operator. This has been done most recently by the UK Competition Commission in its review of mobile termination rates. It has also been done by NERA in its work on the cost of capital for Hong Kong operators. This analysis distinguished between incumbent and new entrants in the fixed line market and, further the differences between the costs of undertaking broadband, as compared to narrowband investments.
- 5.145 In the Indian context, TRAI should therefore consider separately:
- (a) BSNL, as a state owned integrated operator;
  - (b) MTNL, as a state owned access provider;
  - (c) Integrated long distance / mobile operators; and
  - (d) Pure play mobile operators.

## Scale of available resources

### Issue

- 5.146 Economies of scale and scope can allow an incumbent operator to benefit from lower long run total service incremental cost than new entrants. They also spread common costs and overhead across larger base of customers.
- 5.147 Simply having access to greater capital resources does not, in itself, create an anticompetitive situation: the issue is how those resources are used to gain advantage in the market. In this respect having access to significant capital will only be the source of regulatory intervention if those resources are used to engage in anti-competitive behaviour such as predatory pricing or introducing vertical price squeezes.
- 5.148 In the event, for example, that BSNL entered a price war, with the objective of buying market share, the issue of concern to TRAI would be that it was selling services at a substantial loss, requiring a cross subsidy from a monopoly area, rather than the issue of those losses probably being covered by government.
- 5.149 Where an operator benefits from favourable borrowing and capital repayment terms (e.g. BSNL), this represents a competitive advantage compared to operators, which are forced to borrow on commercial terms. Where possible TRAI should ensure that the benefits of these arrangements accrue to monopoly access services rather than competitive services. It should do this by ensuring that a commercially based transfer prices are set between the PSTN access business and other, competitive businesses such as ISD, NLD and GSM. These would involve on lending between the business at market rates rather than the concessional rates enjoyed under the sovereign guarantee.
- 5.150 The EU is currently investigating the French government's provision of concessionary financing terms to France Telecom. If finds evidence of such finance, the French government may be required to charge France telecom, at commercial rates for the financing provided, on the basis that it represented state assistance which would have a detrimental effect on competitive operators. This provides an appropriate model for TRAI to consider the provision of concessional finance to BSNL.

## Licensing costs

- 5.151 In the mobile industry licence costs, typically for spectrum, require significant capital investment. Differences in the incidence of licensing costs between operators can therefore have a significant impact on the competitive balance within the industry and the ability of any individual operator to respond to destabilising behaviour.
- 5.152 A number of issues arise in the Indian mobile industry to affect the competitive balance including:
- (a) MTNL and BSNL have not been required to pay entry fees and their license fees have also been reimbursed back;

- (b) WLL operators, which compete in the mobile market, have paid entry fees that is significantly lower than GSM operators;
- 5.153 BSNL and MTNL benefit from an unfair cost advantage compared to other operators. The WLL operators benefit from an unfair cost advantage compared to GSM and the first movers in GSM are suffering the excess burden from licence fees that cannot be recovered.
- 5.154 TRAI should streamline and harmonise the licence fees arrangements. It should be noted that this does not require the amalgamation of licences.

## Appendix A: Case study - Australia

### Current institutional structure for the industry

The Australia Telecommunications industry is governed by the following key legislations.

	Competition laws	Telecom laws	Regulations
Australia	Competition Law: Trade Practice Act 1974 (section XIB)	Telecommunications Act 1997	ACA ACCC

The Minister for Communications, Information Technology and the Arts and the Minister for Finance and Administration have joint responsibility for the Government's shareholder role for Telstra (the incumbent operator). The Telecommunications Division currently holds 50.1 per cent equity in Telstra, with 49.9 per cent held by private shareholders.

The Government's role is to establish the telecommunications policy framework, including the laws and regulations under which service providers operate.

**The Australian Communications Authority (ACA)** is responsible for regulating telecommunications and radio-communications, providing information on consumer issues, standards and compliance, emergency services, numbering, mobile phone matters and important legislation.

**The Australian Competition and Consumer Commission (ACCC)** is an independent statutory authority, providing information on complaints and details on the Trade Practises Act 1974 and the Prices Surveillance Act 1983, which the Commission administers.

### Principal operators

Key players in the Australian Telecommunications markets are

Fixed access	Telstra (Incumbent operator) Optus (Singapore Telecom) AAPT (Telecom New Zealand) Many non-facilities based resellers.
Fixed National Long Distance and Fixed International	Telstra (approx 40%) Optus (approx 18%) AAPT (approx 6%) OneTel (around 5%) And a multitude of smaller niche players.
Mobile	A total of 4 operators <ul style="list-style-type: none"> <li>❑ Telstra (GSM and CDMA) – around 40%</li> <li>❑ Optus (GSM) – around 30%</li> <li>❑ Vodafone (GSM) – around 20%</li> </ul>

	□ Orange (CDMA)
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The Australian Telecommunications market is fairly vertically integrated especially for the top two players issued from initial duopoly, Telstra and Optus.

Telstra has significant market power and is in a dominant position in the access market where it is estimated that they operate close to 90% of the combined residential and business access lines. It should be noted that approximately 20% of the Telstra owned residential lines are sold as wholesale products to resellers.

The IDD and NLD market is also dominated by Telstra and Optus but is however very competitive, thanks to a multitude of smaller resellers and service provider which have driven prices down by as much as 18% per year in the early years of liberalisation.

The mobile market is segmented between GSM and CDMA provider and saw the exit of the smaller player (OneTel) following bankruptcy. Telstra and Optus still dominate the mobile market but have seen firm competition from Vodafone in the GSM arena and Hutchison Orange in the CDMA world.

## **Brief history**

In 1991 the Government passed a new Telecommunications Act to reflect the need to reform the Telecommunications industry. The changes were designed to eventually lead to the opening of the market to full-scale competition. Telecom and the Overseas Telecommunications Corporation (OTC) were merged to form a single government player, the Australian and Overseas Telecommunications Corporation, renamed Telstra in 1993. In addition, after a long bidding process for a second telecommunications licence, a single private player, Optus, was allowed to enter the Australian telecommunications marketplace for national long distance and international telephone calls. Certain measures were set in place to enable Optus to gain a foothold beside Telstra, including guaranteed access to Telstra's existing infrastructure on reasonable terms. Optus began using its own infrastructure from 1993. All other players were prevented from entering the general telephone market until 1997. The Telstra / Optus duopoly in fixed line services remained until 1997.

An independent industry regulator "Austel" was introduced in 1990.

In the mobile arena, Telecom (Telstra) started providing mobile services in 1987 and Optus began mobile telephony operations in 1991. This renewed duopoly came in the mobile industry to an end when Vodafone was granted a licence in 1992, the terms of the licence indicated that the network had to be a totally digital network.

On 1 July 1997, the industry was opened up to full competition. All limitations on the number of licensed players were removed and anti-competitive conduct was prohibited. Telecommunications regulation was aligned with general competition law, with the Australian Competition and Consumer Commission (ACCC) overseeing competition policy regulation across all sectors. The Australian Communications Authority (ACA) still provided some technical regulation, but the main emphasis was on encouraging industry self-regulation.

The Australian Communications Industry Forum was established as an industry body to facilitate and manage this regulation, including the development of codes of practice and technical standards.

In September 1997, 16.6% of Telstra shares were issued on the open stock exchange; a further 33.3% of the company was sold off in 1999, bringing the privately owned portion of Telstra to 49.9%.

ACCC regularly reviews competition in the Telecommunications industry in order to determine amongst other the price controls on Telstra.

## Powers and tools of regulator

The typical powers of regulators are split between the ACA and the ACCC. The ACA mostly deals with consumer protection, licensing and as a “technical regulator” while the ACCC handles competition matters as well as interconnect and tariff regulations, as detailed in the tables below.

<b>Licensing and spectrum</b>						
Determine form of licence / classes	Issue operating licence	Determine number of licensees	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
ACA	ACA	ACA	ACA	ACA	ACA	ACA
<b>Interconnect</b>						
Set policy for interconnect	Arbitrate on disputes / determine terms		Determine cost standard	Develop models	Review and publish RIO	
ACCC	ACCC		ACCC	ACCC	ACCC	
<b>Account Separation</b>						
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication	
ACCC	ACCC	ACCC	ACCC	ACCC	ACCC	
<b>Tariff regulation</b>						
Regulate tariffs	Tariff review	Determine tariffs under regulation	Determine form of regulation (e.g. Price cap / ROR)	Monitor anti-competitive actions		
ACCC	ACCC	ACCC	ACCC	ACCC		
<b>Cost of capital</b>						
Determine method			Calculate rates			
ACCC			ACCC			
<b>Ownership, mergers and acquisitions</b>						
Terms and conditions		Referral levels / approvals		Foreign ownership levels		
ACCC		ACCC		ACCC		

In addition to these the Australian Communications Authority and the ACCC' powers extend to:

Regulation of mobile termination charges	ACCC
Separation of data	ACCC
Controls on advertising	ACCC

## Enforcement orders & dispute resolution procedures

The Trade Practices Act 1974 (the Act) establishes a dispute resolution framework for disputes concerning the supply of services that have been 'declared' by the ACCC. In addition, under the Telecommunications Act 1997 the Commission acts as the arbitrator of 'last resort' in resolving disputes concerning matters such as pre-selection and number portability.

The ACCC dispute resolution framework reflects a negotiate/arbitrate model. If parties cannot reach successful commercial negotiations, the Commission may step in, if requested and establish the terms & conditions that will govern the relationship between carriers.

When a carriers or service providers, cannot commercially agree on the terms and conditions of access, there are various ways to resolve their dispute.

One is to notify the Commission of an access dispute, with a view to initiating arbitration procedures. **Arbitration** is a process where each party puts its case to the Commission. The Commission then makes a determination that binds the parties; it may undertake its own analysis and seek material in addition to that provided by the parties. The Commission has the power to issue an **interim arbitration** to ensure the smooth running of operations. This interim arbitration will be revoked when the final arbitration is issued.

Within 21 days of the Commission's final determination, a party to the determination may apply to the Australian Competition Tribunal for review of the determination. A review by the Tribunal is a re-arbitration of the access dispute and the Tribunal has the same powers as the Commission for the purposes of the review. In such a case, the operation of any interim determination may re-commence.

In the case of competition issues, the ACCC may issue different types of notices and orders. The Commission will issue a **Part A competition notice** when it has reason to believe that a carrier or content service provider has engaged, or is engaging, in an instance of anti-competitive conduct.

On receiving a part A competition notice the ACCC would expect that the carrier or CSP would cease to engage in the conduct detailed in the notice. When the carrier or CSP contravenes the competition rule by engaging in the conduct detailed in the notice, the ACCC has a variety of options. For example, it may seek orders for, and commence proceedings to recover, pecuniary penalties of up to A\$10 million and A\$1 million per day that the conduct continues.

If a part A competition notice is in force in relation to a carrier or CSP, the ACCC may issue a written advisory notice advising the notice recipient of the action it should take, to ensure compliance with the part A notice. An **advisory notice** is not legally binding; it is an advice on how the recipient can change its conduct to avoid contravening the Act.

**Part B competition notices** are optional notices, which the ACCC can issue to assist the proof of a contravention of the competition rule. Once issued, a part B competition notice does not conclusively establish that a carrier or CSP has engaged in anticompetitive conduct, this would be determined by court.

### **Operating arrangements – budget staffing funding**

Funded through the Federal Budget, the ACA collects substantial revenue on behalf of the Commonwealth. Revenue is collected through telecommunications carrier and radio-communications licence fees and charges, as well as through charges on telecommunications numbers, which generate \$60 million per annum.

The ACA also collects revenue from price-based allocation of spectrum. More than \$3 billion dollars has been raised through auctions of spectrum licences since 1997.

The ACA counts 400 staff and is organised around the following groups:

- ❑ Radio-frequency planning
- ❑ Spectrum marketing
- ❑ Corporate management
- ❑ Standards and compliance
- ❑ Telecommunications licensing
- ❑ Telecommunications analysis
- ❑ Consumer and Universal Service Obligation
- ❑ Customer services
- ❑ Legal

The ACCC is allocated government budget, the total budget for the Commission for the year 03/04 stands at A\$ 66.6 millions, out of which A\$5.8 million have been ear marked for the Telecommunications Division.

## Appendix B – Case study - USA

### Current institutional structure for the industry

The USA's Telecommunications industry is governed and regulated by the following set of laws:

	Competition laws	Telecom laws	Regulations
USA	Sherman Act 1903	Communications Act 1934 Telecommunications Act 1996	FCC (federal) and PUC or PSC (state)

The Federal Communications Commission (FCC) is an independent United States government agency, directly responsible to Congress. The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite and cable.

Each state has a Public Utility Commission dealing with intrastate regulatory affairs.

### Principal operators

The USA market is extremely fragmented; the key players can be identified in the table below.

Fixed access	ILEC (see history) – over 85% CLEC (see history) – rest
Fixed long distance and Fixed international	AT&T (around 35%) MCI (around 20%) Sprint (around 10%) Multitude of smaller, regional and niche providers
Mobile	Six nationwide providers <ul style="list-style-type: none"> <li>□ AT&amp;T Wireless</li> <li>□ Sprint PCS</li> <li>□ Verizon Wireless</li> <li>□ VoiceStream</li> <li>□ Cingular Wireless</li> <li>□ Nextel</li> </ul> Multitude of smaller operators

Incumbent local exchange carriers (mostly Baby Bells) still largely dominated the local access market. Competitive LEC have had the option to either resell services, build overlapping infrastructure or lease unbundled network elements platforms (UNE-P) from the ILEC at cost based prices. The use of UNE-P has increased the reach of CLECs by lowering

the investment barriers to entry and has seen significant take up amongst CLEC. It is estimated that over 44% of the service provided by CLEC is using UNE-P.

Fixed long distance and international long distance have faced severe competition from hundreds of regional and niche players that entered the market (782 companies were registered in 2000 for the provision of long distance services). However, AT&T and MCI still jointly dominate the market.

The mobile sector is extremely competitive with 6 nationwide players and some smaller operators. However technology and spectrum usage vary greatly for each operator and each state.

## **Brief history**

The USA differs from most countries in the fact that it never nationalised its Telecommunications Industry. AT&T's leading position emerged from its network development and the strength of its research & development and patents owned. There has traditionally been a multitude of small and large telecommunications company servicing cities or states. AT&T increased its dominance and became the parent of the Bell System, which provided both local and long distance services.

AT&T was later supported by the belief that natural monopoly was the most cost effective way to deliver telecommunications services, and regional regulators promoted consolidation and the avoidance of duplicated infrastructure.

In 1969, the FCC authorised MCI to provide the first long distance competitive service to AT&T. In 1974, an anti-trust lawsuit was brought against AT&T by the government, which was finally settled in 1982. The result became the "Modification of Final Judgement" (MFJ), which restructured the telecommunications sector in the USA. In order to prevent AT&T to use its control of the local loop to obstruct competition in the long distance market, AT&T was required to divest its local telephone companies (a.k.a. Regional Bell Operating Companies – RBOCs or Baby Bells). RBOCs were consolidated into seven Regional Holding Companies (RHCs).

RBOCs were prevented from originating calls that would cross the boundaries of districts called LATA (Local Access Transport Areas).

This enabled competition among interstate and long distance services to blossom in the 80's and 90's. However the market of local access remained largely non competitive, as the lines were largely owned by the incumbent local operators (either RBOC or pure play operators). In addition to this quasi monopoly, the FCC did not have the authority to rule intra-state telecommunications, which were controlled by state regulatory commissions.

The Telecommunications Act of 1996 established a policy to promote competition at all levels of telephony and directed local exchange carriers (LEC) to interconnect or provide unbundled access for competitors. The terms ILEC designate incumbent LEC while CLEC refer to competitive LEC, i.e. new entrants in the local access market.

Today, the FCC still regulates **inter**-state and international communications while PUC (Public Utility Commission) regulate **intra**-state regulations.

## Powers and tools of regulator

The FCC concentrates all the powers of the regulator for nationwide and intra state services as set out below. On matters of spectrum allocation, the FCC and the National Telecommunications and Information Administration (NTIA), which is part of the Department of Commerce, share responsibility.

<b>Licensing and spectrum</b>						
Determine form of licence / classes	Issue operating licence	Determine number of licencees	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
FCC	FCC	FCC	FCC	FCC	FCC and NTIA	FCC and NTIA
<b>Interconnect</b>						
Set policy for interconnect	Arbitrate on disputes / determine terms	Determine cost standard	Develop models	Review and publish RIO		
FCC	FCC	FCC	FCC	FCC	FCC	
<b>Account Separation</b>						
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication	
FCC	FCC	FCC	FCC	FCC	FCC	FCC
<b>Tariff regulation</b>						
Regulate tariffs	Tariff review	Determine tariffs under regulation	Determine form of regulation (eg. Price cap / ROR)	Monitor anti-competitive actions		
FCC	FCC	FCC	FCC	FCC	FCC	
<b>Cost of capital</b>						
Determine method			Calculate rates			
FCC			FCC			
<b>Ownership, mergers and acquisitions</b>						
Terms and conditions		Referral levels / approvals			Foreign ownership levels	
FCC		FCC			FCC	

## Enforcement orders & dispute resolution procedures

The Enforcement Bureau of the FCC functions in two main ways in the area of local competition enforcement. One involves FCC-initiated investigations into whether a particular company, or class of companies, is violating the Communications Act or the FCC's rules. The

second involves resolving disputes between industry participants either through mediation and settlement, or formal complaints leading to published FCC decisions.

## **Investigations**

The FCC has authority to initiate investigations regarding compliance with the statute or FCC rules. It has discretion to determine whether and what it will investigate, as well as the manner and time period of the investigation. In conducting investigations, the Enforcement Bureau often writes a letter of inquiry to the company in question seeking information regarding compliance. This may be in the form of interrogatories that must be answered under oath. It may also include a request for documents. Such a letter is an information-gathering tool.

Upon completion of the information-gathering process, the Commission may decide that action is not warranted. If the facts indicate a potential violation of law, the agency may initiate enforcement action. This could take place in the form of a notice of apparent liability for forfeiture. In extreme cases, the Enforcement Bureau may recommend to the Commission that it initiate hearing proceedings to revoke a license or authorisation

## **Disputes**

Any person may file a formal complaint with the FCC against a common carrier (wireline, wireless, or international) alleging that the carrier has violated the Communications Act or the FCC's rules. The FCC is charged with adjudicating such formal complaints and determining whether the conduct is unlawful. In appropriate cases, the agency may award monetary damages. The Commission may also award permanent injunctive relief if necessary.

## **Operating arrangements – budget staffing funding**

The FCC is organised around six bureaus:

- ❑ Wireline competition
- ❑ Enforcement
- ❑ Wireless Telecommunications
- ❑ Media
- ❑ Consumer & Governmental Affairs
- ❑ International

The Commission is funded through federal budget. Its estimate budget requirements for the year 2004 are of around US\$ 280million.

## Appendix C: Case study - United Kingdom

### Current institutional structure for the industry

The Office of Telecommunications (OfTel) is the regulator for the UK telecommunications industry.

OfTel works closely with the Department of Trade and Industry, which introduces the Telecommunications Bill to the House of Commons.

	Competition laws	Telecom laws	Regulations
UK	Competition Act 1998	Telecom Act 1984	OFTEL

### Principal operators

Fixed access	British Telecom (over 80% of access lines) NTL Telewest Energis Colt
Local calls <i>Market share in call revenues</i>	British Telecom (71%) NTL (13%) Telewest (10%)
Fixed long distance <i>Market share in call revenues</i>	British Telecom (75%) NTL (11%) Telewest (4%) Others.
Fixed international <i>Market share in call revenues</i>	British Telecom (58%) NTL (7%) Telewest (4%) Others.
Mobile <i>Market share in subscribers</i>	A total of 4 operators Vodafone (34% market share) Orange (26%) mm02 (22%) T-Mobile (18%)

### Brief history

In 1982, the Government announced plans to privatise British Telecom and, at the same time, to award a full telecommunications licence to a network competitor. The Government also announced in 1983 that BT and Mercury Communications would operate within a seven-year duopoly for fixed national networks and public telephony.

BT was finally privatised in 1984 where the Government sold 51 per cent of its equity. In December 1991, a further 25 per cent of the Government's equity was sold with the remainder was floated in July 1993. BT became a fully privatised company.

The first step the government took to ensure a level playing field was to form an independent regulator, the Office of Telecommunications (OfTel), in 1984. The second step was to place over 50 strict regulatory conditions on BT (as the incumbent) when it was first licensed. These included a Universal Service Obligation and social obligations such as running emergency services and phone booths, as well as an obligation to assist competitors in areas such as pricing, interconnection and non-discrimination. OfTel also introduced the price control formula (RPI-X) to encourage greater efficiency from the incumbent operator.

Subsequently on, the OfTel restricted the incumbents operations in certain key areas, in order to ensure the rapid establishment of a competitive market. In 1984, the licences were issued to cable TV networks and OfTel actively encouraged them to offer telephony services in combination with cable entertainment as direct competition to BT. At the same time, both BT and Mercury were prohibited from providing cable entertainment services over their telephony networks.

In the mid 90's, number portability was introduced and a framework for interconnection was established. Account separation was then introduced to ensure fair pricing of interconnection services, followed by the introduction of wholesale price cap.

The mobile phone duopoly, which initiated between British Telecom (BT Cellnet) and Vodafone ended in 1993 with the launch of One2One (now T-mobile, then owned by Mercury) and in 1994 with the arrival of Orange on the market. The market dynamics have changed dramatically in ten years and have seen British Telecom divesting completely from Cellnet, One2One being bought by T-Mobile of Germany and Orange by France Telecom. Today, market shares are almost evenly distributed between the four operators with Vodafone at the head and T-mobile at the bottom.

Regulatory focus has gradually changed from the initial aim of improving the quality of service and the efficiency of British Telecom. Subsequent priorities have been the opening of competition and controlling of BT's dominance. Regular reviews of the state of competition on the market take place and influence OfTel's priorities. These reviews also influence the review of the RPI-X scope and the extent to which services fall into price caps.

The UK telecommunications market is fully liberalised and OfTel, while still controlling prices for BT (which is still dominant in the access market) is now turning to another area of monopoly: mobile termination. It is expected that the mobile sector will now face greater scrutiny from the regulator.

OfTel has also started to "de-regulate" in areas where strict regulation was not appropriate anymore, for instance OfTel has recently lifted some interconnection restrictions on Vodafone and Cellnet.

## **Powers and tools of regulator**

<b>Licensing and spectrum</b>						
Determine form of licence / classes	Issue operating licence	Determine number of licences	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
OFTEL	OFTEL	OFTEL	OFTEL	OFTEL	OFTEL	OFTEL
<b>Interconnect</b>						
Set policy for interconnect	Arbitrate on disputes / determine terms		Determine cost standard	Develop models	Review and publish RIO	
OFTEL	OFTEL		OFTEL	OFTEL	OFTEL	
<b>Account Separation</b>						
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication	
OFTEL	OFTEL	OFTEL	OFTEL	OFTEL	OFTEL	
<b>Tariff regulation</b>						
Regulate tariffs	Tariff review	Determine tariffs under regulation	Determine form of regulation (eg. Price cap / ROR)	Monitor anti-competitive actions		
OFTEL	OFTEL	OFTEL	OFTEL	OFTEL		
<b>Cost of capital</b>						
Determine method			Calculate rates			
OFTEL			OFTEL			
<b>Ownership, mergers and acquisitions</b>						
Terms and conditions		Referral levels / approvals		Foreign ownership levels		
OFTEL		OFTEL		No foreign ownership limitations		

In addition to these OFTEL's powers extend to the following, except for advertising:

Regulation of mobile termination charges	OFTEL determines the level of mobile termination charges
Profitability analyses for tariff promotions	OFTEL sometimes carries out profitability analysis when it investigates complaints.
Separation of data	OFTEL produced guidelines and imposed on British Telecom to separate access to customer information. Access to customer information restrictions is a part of operating licences.
Controls on advertising	The Advertising Standard Authority, a voluntary self-regulating body handles advertising across industries.

## **Enforcement orders & dispute resolution procedures**

Oftel follows a standard investigation procedures, as used for instance to investigate allegations of anti-competitive behaviour or licence breaches.

### **Preliminary Investigation**

When a dispute is brought to Oftel, a Preliminary Investigation takes place in order to decide whether there is case and whether to proceed to a full investigation. Oftel would typically inform the complainant of the outcome of this first analysis within 30 working days.

### **Investigation**

If the dispute remains unresolved at this stage, and it is one that Oftel believes it is appropriate to assist with, an Investigation Phase will take place. The full investigation involves the gathering, analysis and assessment of detailed information to allow the Oftel to reach an informed decision on whether any enforcement action is needed. Investigation times vary in length depending on the level of complexity of the claim. Oftel will typically complete the investigation within 6 months.

Upon completion of an investigation, both the complainant and the organisation complained about are advised of Oftel's findings and the reasons for its decision.

### **Enforcement**

In many instances, the parties to a dispute will come to an agreement before Oftel's investigation is complete. However, in certain circumstances, it may be necessary for the Oftel to enforce the decision against one or both of the parties.

Before enforcing a decision, Oftel will consult publicly on his conclusion as to how the dispute in question should be settled. That consultation involves at least all the interested parties. The extent of the consultation process depends on the nature of each investigation. At the completion of the consultation, Oftel will direct that the relevant operator or operators settle the dispute in the way Oftel has indicated.

If necessary, Oftel may enforce the decision by civil proceedings for an injunction.

### **Right of appeal**

Any decision regarding the enforcement of a resolution to a dispute can be appealed through application to the courts. The Competitions Appeal Tribunal is the institution designated to handle appeals.

## **Operating arrangements – budget staffing funding**

Oftel is funded by money voted by Parliament but, in common with many other regulatory bodies, most of the costs of the office are recovered through fees charged to holders of licences.

Oftel is organised around three directorates:

- ❑ Regulatory Policy;
- ❑ Compliance; and
- ❑ Business Support.

It should be noted that revenues from 3G licence fees was allocated to the Ministry of Finance and did not increase Oftel's budget.

Oftel's budget for the year 2002 / 2003 was of GBP 19 million.

## Appendix D: Case study - Hong Kong

### Current institutional structure for the industry

Hong Kong's Telecommunications industry is governed and regulated by the following set of laws:

	Competition laws	Telecom laws	Regulations
Hong Kong	No competition law	Telecom Ordinance (Section 106 of the HK basic law)	Sector specific: OFTA

The Telecommunications Authority (TA) the statutory body responsible to regulate the Telecommunications industry in Hong Kong.

The Office of the Telecommunications Authority (OFTA) is the TA's executive arm.

### Principal operators

Key players in the Hong Kong markets are

Fixed access	Pacific Century Cyber Works (PCCW) – Incumbent operator Hutchison Global Communications (HGC) Wharf T&T New World Telephone (NWT) Hong Kong Broadband Network (HKBN)
Fixed long distance	Not relevant in Hong Kong
Fixed international	All fixed line and mobile operators have IDD provider Multitude of smaller IDD providers
Mobile	A total of 11 networks operated by 6 operators Hutchison “Orange” (around 40% of market share) CSL (15-18%) Smartone (15 to 18%) New World Mobile Sunday Peoples A number of Mobile Virtual Network Operator have started to appear in the Hong Kong market such as Noodle, China Motion etc...

PCCW still dominates the residential and business fixed line access of the market with 79% of business access lines and 84% of residential access lines (Source PCCW annual report – March 2003).

PCCW previously owned CSL (2<sup>nd</sup> operator in terms of subscriber numbers but with average revenue per user almost twice that of its competitors). It gradually sold its mobile arm to

Telstra, first 50% then 100% in 2002. PCCW does not currently own any mobile operations in Hong Kong.

Long distance is not relevant in Hong Kong due to the size of the territory. In addition to this, all local calls and calls to mobiles are included in the line rental fees.

All fixed line operators and mobile operators provide IDD services. A large number of pure IDD providers also exist in the market. Competition in the IDD market is very intensive; PCCW still leads the market in terms of revenues and usage.

The Hong Kong market has been fully liberalised since 1<sup>st</sup> January 2003, the scope of government involvement and intervention is strictly limited as it does not own shares in the incumbent operator.

The mobile sector in Hong Kong is one of the most fiercely competitive in the world with 6 infrastructure-based operators competing for just over 6 million mobile subscribers. Growth has stagnated in Hong Kong with mobile penetration levels at 89% of the population. Intensive price wars have occurred many times in the market, but it is estimated that most operators today derive some operating profits.

The overall level of vertical integration in the Hong Kong market is relatively low (specifically since the fixed line operator does not operate mobile services). However PCCW is still regarded as the dominant operator for fixed access and is subject to more regulatory actions than any of the other players in the market.

Overall, the Hong Kong telecommunications market is very competitive.

## **Brief history**

Fixed line services competition was introduced in 1995, following the expiry of Hong Kong Telecom (now known as PCCW) franchise. Hong Kong Telecom and three entities (New World Telephone, New T&T and Hutchison Communications) were licensed to provide competitive local fixed line services. Number portability was implemented in 1997.

The Hong Kong government suspended the external services monopoly of Reach (50% owned by PCCW) in 1998, eight years ahead of its planned expiry. Competition started on 1<sup>st</sup> January 1999 and has led in significant decrease in International Direct Dialling (IDD) call rates.

The Hong Kong government a progressive liberalisation policy in May 1999, its implementation led to the opening to competition of all sectors of the telecommunications market — local and external, services-based and facilities-based. The local fixed telecommunications network services (FTNS) market has been fully liberalised since 1<sup>st</sup> January 2003.

External facilities market was opened to competition on 1<sup>st</sup> January 2000 and fully liberalised by 1<sup>st</sup> January 2003.

The mobile market started in 1984 with the allocation of two licences for AMPS analogue services to the then PCCW owned CSL and Hutchison. In 1987 and 1988, CSL and Hutchison were granted licences to provide TACS mobile solution.

In 1993, CSL launched a GSM network, Hutchison followed in 95 launching both GSM and CDMA network operations. The mobile licensing regime was revised in 1996 and six operators were granted licences. Real competition in the Hong Kong mobile market started then. The introduction of mobile number portability (MNP) on 1<sup>st</sup> March 1999 further strengthened competition in the market.

Mobile services follow a mobile party pays (MPP) regime; as a result, mobile operators are not subject to call termination regulations. However, 2G mobile operators who have been granted 3G licences now face a new type of regulation as they become subject to account separation ruling. Account separation guidelines are currently being drafted by OFTA after extensive consultation with the industry. These is the first time worldwide that an regulator has specifically imposed account separation to pure play mobile operators and is likely to set a trend to other developed markets.

OFTA was established on 1<sup>st</sup> July 1993; firstly, its focus was the opening of the telecommunications market to competition and the licensing of new operators. These activities gradually shifted to focus on interconnect and related issues that aimed at allowing new entrant to competitive on a level playing field with incumbent operator.

The key issues that OFTA is focussing on are:

- ❑ The allocation of 3G licences and its subsequent consequences on account separation for mobile operators;
- ❑ Local loop unbundling, interconnection and broadband interconnect, in view of further opening the local access & broadband competition; and
- ❑ Reviewing and refining the handling of competition complaints and the consumer protection.

## **Powers and tools of regulator**

OFTA is the executive arm of the Telecommunications Authority (TA). The TA is the statutory body responsible to regulate the Telecommunications industry in Hong Kong.

The powers of OFTA are consistent across the full range typical regulatory activities as shown in the roles & responsibilities tables below.

<b>Licensing and spectrum</b>						
Determine form of licence / classes	Issue operating licence	Determine number of licencees	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
OFTA	OFTA	OFTA	OFTA	OFTA	OFTA	OFTA
<b>Interconnect</b>						

Set policy for interconnect	Arbitrate on disputes / determine terms	Determine cost standard	Develop models	Review and publish RIO	
OFTA	OFTA	OFTA	OFTA	OFTA	
<b>Account Separation</b>					
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication
OFTA	OFTA	OFTA	OFTA	OFTA	OFTA
<b>Tariff regulation</b>					
Regulate tariffs	Tariff review	Determine tariffs under regulation	Determine form of regulation (eg. Price cap / ROR)	Monitor anti-competitive actions	
OFTA	OFTA	OFTA	OFTA	OFTA	
<b>Cost of capital</b>					
Determine method		Calculate rates			
OFTA		OFTA			
<b>Ownership, mergers and acquisitions</b>					
Terms and conditions	Referral levels / approvals		Foreign ownership levels		
OFTA	OFTA		No foreign ownership limitations		

In addition to these OFTA's powers extend to:

Regulation of mobile termination charges	Not applicable in Hong Kong due to the Mobile Party Pays regime
Profitability analyses for tariff promotions	OFTA requests this for new offers from PCCW only.
Separation of data	OFTA published a voluntary code of practice on access to customer information It is also a duty of the operator, as specified in its licence, not to share customer information without consent
Controls on advertising	OFTA published a voluntary advertising code of practice. OFTA responds ex-post to complaints from consumers or other operators.

### **Enforcement orders & dispute resolutions**

OFTA's powers are very wide ranging, it has the power to define and implement its policies. To date, OFTA has adopted a light-handed approach to regulation; it expects carriers to resolve issues through commercial negotiations.

On new regulatory issues, OFTA typically issues consultation papers to which stakeholders respond. OFTA will then publish **guidelines** and / or code of practices that operators are expected to implement. These form the basis for most of the operations and consumer protection guidelines.

Upon receipt of complaints, OFTA will launch investigation and issue **directives** that “direct” or force the concerned operator to act upon its provision.

For tariffs, interconnection and access to facilities, OFTA aims to intervene only when commercial negotiations do not reach conclusions, in which case OFTA will arbitrate and impose terms. Any party may ask OFTA for a determination if they estimate that negotiations have failed. As part of the determination process, OFTA will usually issue a consultation paper to the industry, collect views and issue **determinations** that will impose the tariff levels or other conditions to operator.

### **Operating arrangements – budget staffing funding**

OFTA is as an independent government department and has been operating on a trading fund basis, its funding is derived from licence fees.

OFTA is organised around four major branches:

- ❑ Regulatory affairs;
- ❑ Competition affairs;
- ❑ Operations; and
- ❑ Support

OFTA currently counts 340 staff, 87 of which on non-civil servant contracts.

## Appendix E: Case study – Malaysia

### Current institutional structure for the industry

The Malaysian Communications and Multimedia Commission (MCMC) is the regulator for the communications and multimedia industry in Malaysia.

The MCMC works closely with KTM the Ministry of Energy, Communications and Multimedia.

KTM deals with policy issues and the MCMC acts as a single autonomous regulatory body for the industry. An appeals tribunal with full judiciary powers is in place for recourse.

	Competition laws	Telecom laws	Regulations
UK		Communication and Multimedia Act 1998	Communication and Multimedia Act 1998

### Principal operators

Fixed access	6 licensed telcos (only 5 are operational) <ul style="list-style-type: none"> <li>❑ Telekom Malaysia</li> <li>❑ <i>Celcom (recently acquired by Telekom Malaysia)</i></li> <li>❑ Maxis Communications</li> <li>❑ <i>Time Telekom (recently acquired by Maxis)</i></li> <li>❑ DiGi Telecom</li> <li>❑ Prismanet</li> </ul>
Local calls <i>Market share in call revenues</i>	Telekom Malaysia
Fixed long distance <i>Market share in call revenues</i>	Telekom Malaysia
Fixed international <i>Market share in call revenues</i>	Telekom Malaysia
Mobile	Telekom Malaysia Maxis

<i>Market share in subscribers</i>	DiGi (Following consolidation in the industry, Celcom was acquired by Telekom Malaysia and TimeCel by Maxis)
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## Brief history

The deregulation of the Malaysian telecom industry started in 1987 with the corporatisation of Telecom Malaysia and the restructuring of the Department of Telecommunications (JTM) as a regulatory agency.

In 1990, market liberalisation started with the introduction of new players in the sector. Followed in 1994 with a new National Telecommunications Policy.

Interconnect provisions and competition were further introduced in 1995.

From 1997, the Malaysian government encouraged consolidation among market players.

In 1998, the new Communications and Multimedia policy was introduced. This was the first time that the notion of “convergence” was introduced into the Malaysian telecom policies and acts. 1998 also saw the creation of the Communications and Multimedia Commission of Malaysia (MCMC) as the regulatory agency.

Finally, the Telecommunications Act 1950 and Broadcasting Act 1988 were abolished and replaced by the Communications And Multimedia Act 1998.

1999 USO was introduced.

Tariff rebalancing started on 1<sup>st</sup> January 2002 by government initiative.

## Powers and tools of regulator

Licensing and spectrum						
Determine form of licence / classes	Issue operating licence	Determine number of licences	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
MCMC	MCMC	MCMC	MCMC	MCMC	MCMC	MCMC
Interconnect						
Set policy for interconnect	Arbitrate on disputes / determine terms		Determine cost standard	Develop models	Review and publish RIO	
MCMC	MCMC		MCMC	MCMC	MCMC	
Account Separation						
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication	
Not	Not available	Not	Not	Not	Not	

available		available	available	available	available
<b>Tariff regulation</b>					
Regulate tariffs	Tariff review	Determine tariffs under regulation	Determine form of regulation (eg. Price cap / ROR)	Monitor anti-competitive actions	
MCMC	MCMC	MCMC	MCMC	MCMC	
<b>Cost of capital</b>					
Determine method			Calculate rates		
Not available			Not available		
<b>Ownership, mergers and acquisitions</b>					
Terms and conditions		Referral levels / approvals		Foreign ownership levels	
Not available		Not available		MITI	

In addition to these MCMC's powers extend to the following, except for advertising:

Regulation of mobile termination charges	Not available
Profitability analyses for tariff promotions	Not available
Separation of data	Not available
Controls on advertising	Regulated by the following codes <ul style="list-style-type: none"> <li><input type="checkbox"/> Kod Pengiklanan</li> <li><input type="checkbox"/> Garis Panduan Penyiaran</li> </ul>

## **Enforcement orders & dispute resolution procedures**

### **Dispute resolution**

A new dispute resolution process takes effect on July 1<sup>st</sup> 2003. The guiding principles of the dispute resolution process are detailed below.

The MCMC holds a preliminary inquiry within 30 days of receipt of the Notification of Dispute in order to assess whether the dispute falls within the Multimedia and Communication Act and whether MCMC should decide the dispute.

Following the preliminary inquiry, the Commission notifies the parties to submit a Statement of Case within 14 days, which will detail the claims, gather facts and remedies sought.

The Commission will decide on the dispute based on the written submissions of the parties, when possible, a decision will be made within 30 days of the submission by the parties. The decision made by the Commission may also be enforced by the High Court.

### **Operating arrangements – budget staffing funding**

Not available.

## Appendix F: Case study - Singapore

### Current institutional structure for the industry

IDA was created to perform three distinct functions:

- Regulatory and policy-making functions;
- Promotional, industry development and public outreach tasks; and
- Logistical and technical support, as the manager of the IT and network systems, for government offices

IDA combines policy making, implementation and enforcement.

	Competition laws	Telecom laws	Regulations
Singapore	Telecom competition code of practice	Info-communications Development Authority of Singapore Act 1999	Info-Communications Development Authority Act of 1999

### Principal operators

Fixed access	SingTel  StarHub (negligeable market share, mostly concentrated on business)  Singapore Cable Vision (merged with StarHub)
Local calls	SingTel  StarHub (negligeable market share, mostly concentrated on business)
Fixed long distance	Not applicable in Singapore

Fixed international	SingTel (88% of outgoing minutes market share)  StarHub
Mobile  <i>Market share in subscribers</i>	A total of 3 operators  <ul style="list-style-type: none"> <li>❑ SingTel (55%)</li> <li>❑ MobileOne (33%)</li> <li>❑ StarHub (12%)</li> </ul>

## Brief history

In 1992, Singapore Telecom (SingTel) was corporatised and spun off from the Telecommunications Authority of Singapore (TAS). Prior to 1992, TAS was both the operator and regulator. After 1992, TAS implemented the gradual introduction of competition through licensing of services.

During the early to mid 1990's, SingTel operated under an exclusive licence to provide basic domestic and international telecom services until 31 March 1997. SingTel was also allowed to provide mobile services.

In May 95, MobileOne (M1) was granted the second mobile licence, although it did not launch its services until April 1997.

In 1996, the government started a second phase of liberalisation and announced full competition for April 2002. SingTel's exclusivity period was cut by seven years to April 2000. Initially, it was planned that two new fixed line licenses would be granted, however in 1998, the government opted for a duopoly from April 2000 to April 2002 and granted the licence to StarHub (which also picked a third mobile license).

However, the third phase of liberalisation started in January 2000, when the government changed the date of full competition from April 2002 to April 2000. Both SingTel and StarHub were compensated for the loss of their exclusive and duopoly guarantees (StarHub received around S\$ 1 billion and SingTel received S\$ 1.5 billion in 1997 and 859 million in 2000).

IDA was created as a regulator in 1999, interconnect regime was imposed on SingTel in 2001.

## Powers and tools of regulator

<b>Licensing and spectrum</b>						
Determine form of licence / classes	Issue operating licence	Determine number of licences	Issue apparatus licence	Set licence fees	Allocate spectrum	Manage spectrum
IDA	IDA	IDA	IDA	IDA	IDA	IDA
<b>Interconnect</b>						
Set policy for interconnect	Arbitrate on disputes / determine terms		Determine cost standard	Develop models	Review and publish RIO	
IDA	IDA		IDA	IDA	IDA	
<b>Account Separation</b>						
Determine framework	Applicability	Granularity	Determine transfer prices	Define audit requirements	Publication	
IDA	IDA	IDA	IDA	IDA	IDA	
<b>Tariff regulation</b>						
Regulate tariffs	Tariff review		Determine tariffs under regulation	Determine form of regulation (eg. Price cap / ROR)	Monitor anti-competitive actions	
IDA	IDA		IDA	IDA	IDA	
<b>Cost of capital</b>						
Determine method			Calculate rates			
IDA			IDA			
<b>Ownership, mergers and acquisitions</b>						
Terms and conditions		Referral levels / approvals			Foreign ownership levels	
IDA		IDA			Government	

In addition to these IDA's powers extend to the following, except for advertising:

Regulation of mobile termination charges	Not applicable, MPP regime
Profitability analyses for tariff promotions	Data not available
Separation of data	Data not available
Controls on advertising	Telecom Competition Code of Practice

## **Enforcement orders & dispute resolution procedures**

The code of practice for competition provides procedures that must be followed by IDA.

IDA must provide a written notification to the licensee of its intent to conduct enforcement action that details which provisions of the Code are believed to have been violated.

The licensee must respond within 15 days to the notice, after which IDA will review the pleading and may issue a temporary cease and desist order pending its review.

If IDA finds that the licensee has violated the code, it may take several actions:

- ❑ Issue a warning to the licensee;
- ❑ Issue a cease and desist order;
- ❑ Issue a directive to take remedial action;
- ❑ Impose fines up to the statutory maximum of S\$1 million; or
- ❑ Suspend, cancel, shorten the duration of all or part of the licence.

### **Right of appeal**

Any decision made by IDA that affects operators may be appealed to the Ministry within 14 days of the decision being made. During the 14-day period and the time the Ministry considers the appeal, the IDA cannot enforce its decision. The Ministry's ruling on appeal is final.

Operators may also file suit in a Singaporean court. Although this is a possibility, no operator has yet taken a case to court against the government – operators explain this mostly for the following reasons:

- ❑ Delays and time lags in the judicial system
- ❑ General tendency to avoid confrontation
- ❑ Uncertainty about how willing a court might be to break with government policy.

### **Operating arrangements – budget staffing funding**

The IDA is organised around eight departments

- ❑ Technology;
- ❑ Infocomm Industry Programme Development;
- ❑ Government Systems;
- ❑ Corporate Development;

- Policy & Regulations;
- Central Business Services;
- Online Development; and
- Local Enterprise Internationalisation and International Operations

IDA counts 934 staffs, which come from a range of engineers (35%), IT experts (35%), business (20%) and economist (10%) backgrounds. Only 110 staff work in the policy and regulation group and 28 persons work in the Central business services group (which takes active policy development role).

IDA's funding consists of three divisions:

- The regulatory and policy-making operations are completely funded through regulatory fees for licensing, spectrum and numbering.
- The operating budget of the promotional group is funded through a government grant.
- Government systems operations are funded through contracts with individual agencies where the unit's employees work.

Typically, the amount of revenues derived from fees exceeds budget, as this occurs, the excess funding is transferred to support operations of the promotional groups.

For the year 2000, IDA's operating budget was of approximately S\$130 million (USD 71million). Direct costs for regulatory operations were SGD 18 – 20 million.