Consultation Paper No. 5 /2010

Telecom Regulatory Authority of India

Consultation Paper

on

Tariff Issues related to Cable TV Services in Non-CAS Areas

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PREFACE

TRAI has undertaken the present consultation process on tariff issues for cable TV services in non-CAS areas. The consultation paper has been prepared based on inputs on financial and operational information given by the stakeholders, information obtained during meetings with the stakeholders and their associations, published secondary sources of information including annual reports and financial statements and interaction with international regulators.

2. The issues covered in this consultation paper include wholesale tariff, Retail tariff, a-la-carte provision of channels from broadcaster to MSO, carriage & placement fee, tariff for commercial subscribers and long-term solution through digitization with addressability.

3. It is hoped that stakeholders will benefit us with their detailed views before 25th April 2010. Comments will be posted on TRAI's website as and when they are received. Counter comments, if any, to the comments received may be sent to TRAI by 5th May 2010. As per the Supreme Court order, TRAI has to submit the report to the Court by 30th June 2010. Therefore, it will not be possible to extend the date for submission of comments beyond 25th April 2010. The comments may please be furnished to Secretary, TRAI preferably in electronic form. [E-mail: traicable@yahoo.co.in or bcs@trai.gov.in]. The Fax numbers of TRAI are 011-23220442/ 011-23213294.

(Dr. J. S. Sarma)
Chairman, TRAI

CHAPTER 1: INTRODUCTION

1.1 Background

1.1.1 Broadcasting and cable services came under the purview of the Telecom Regulatory Authority of India (TRAI) with effect from January 09, 2004. Since then TRAI has taken a number of initiatives for regulating the cable TV sector in India in exercise of both its recommendatory and regulatory powers vested with it as per the TRAI Act, 1997.

1.1.2 The following paragraphs provide a chronological view of the tariff orders/ amendments, for cable TV services in non-CAS areas.

1.1.3 On 15.1.2004, TRAI issued the Telecommunications (Broadcasting and Cable) Services Tariff Order 2004 [1 of 2004]. It was a short Order and prescribed that the charges, payable by the cable subscribers to cable operator, cable operators to MSOs/ Broadcasters, and MSOs to Broadcasters, prevalent as on 26.12.2003 shall be the ceiling with respect to both Free To Air (FTA) and pay channels, both for CAS (Conditional Access System) and non-CAS areas until final determination by the Authority on the various issues concerning these charges. 26.12.2003 happens to be the date on which Hon'ble High Court of Delhi passed an order directing the continuance of implementation of CAS in Delhi on trial basis.

1.1.4 After following a consultation process with the stakeholders, the Authority issued, on 1.10.2004, the Telecommunication (Broadcasting and Cable) Services (Second) Tariff Order 2004 (6 of 2004), referred to as the Principal Tariff Order, wherein it was stipulated that the tariff at various levels, namely cable subscriber to cable operator; cable operators to MSOs/Broadcasters and MSOs to Broadcasters, prevalent as on 26.12.2003 shall be the ceiling with respect to both Free To Air (FTA) and Pay channels. It however provided that if any new pay channel was introduced after 26.12.2003 or if any channel which was free to air on 26.12.2003 and converted to a pay channel, the ceiling prescribed above can be

exceeded to the extent of the rate of such channels, but only if these channels do not form part of a bouquet of channels existing on 26.12.2003. It also allowed for reduction of the ceiling in the event of number of pay channels being reduced. Consequent to this Order, the earlier Order of 15.1.2004 stood repealed.

1.1.5 From time to time amendments to the principal tariff order were notified. Till now there have been 9 amendments to the principal tariff order. The first amendment to the principal tariff order was carried out on 26.10.2004 by which a provision to include missing words "a broadcaster or" in the second proviso of clause 3 was made. The second amendment to the principal tariff order provided for increase in the cable charges on account of annual inflation of 7% over the ceiling of cable charges. The increase was to be effective from 1.1.2005. The third amendment dated 29.11.2005 provided for annual increase of 4%, (in addition to 7% for the year 2005) to be effective from 1.1.2006. The fourth amendment dated 7.3.2006 to the principal tariff order defined the terms 'ordinary cable subscriber' and 'commercial cable subscriber'. This amendment also provided for protection to the 'commercial cable subscriber' of ceiling of cable TV charges that were prevalent as on 1.3.2006 between them and their cable TV service providers. The Fifth Amendment dated 24.3.2006 provided that commercial cable subscribers are to make payment of subscription fee to the cable operator/MSO authorized by the broadcasters (so that the commercial cable subscribers take the signals only from the authorized source). The sixth amendment dated 31.7.2006 by inserting clause 3 B made a provision for determination of the similarity of rates of similar channels. The seventh amendment dated 21.11.2006 divided commercial cable subscribers into two categories and provided for separate tariff regime for these two categories. The eighth amendment dated 4.10.2007 provided for ceiling of cable TV charges at the consumer level based on the number of pay channels and the area-wise habitation across the country. The ninth amendment dated 26.12.2008 provided for 7% increase of annual inflation with effect from 1.1.2009 on the cable TV rates as prevailing on 1.12.2007 and also reclassified the cities for the purpose of determining consumer level ceiling of rates. The tariff orders and amendments are summarized in Annexure A.

1.1.6 The tariff dispensation for specified commercial subscribers as provided for in the seventh amendment dated 21.11.2006 to the principal tariff order is under appeal before Hon'ble TDSAT in appeal nos. 17(C) of 2006 (M/s East India Hotel Limited versus TRAI & Ors.), and 18(C) of 2006 (M/s The Connaught Prominent Hotels Limited Versus TRAI & Ors.). In these appeals, the appellants have sought fixation of same ceiling of cable TV charges for commercial cable subscribers as are applicable to the ordinary cable subscribers of CAS and non-CAS areas. TRAI has submitted to Hon'ble TDSAT that the tariff issues of commercial subscribers would be included in this consultation process. Accordingly, this issue is part of chapter 5.

1.1.7 A brief background of the events that led to TRAI undertaking the present de-novo tariff exercise for cable TV services in non-CAS areas is as follows.

1.1.8 On 21.5.2007, a consultation paper on issues relating to tariff for cable television services in non-CAS areas was issued by the Authority.

1.1.9 Pursuant to consultations held with stakeholders, the Authority issued, on 4.10.2007, the Telecommunications (Broadcasting and Cable) Services (Second) Tariff (Eighth Amendment) Order, 2007, effective from 1.12.2007. This Order prescribed that

a) The charges payable on 1.12.2007, increased by an amount not exceeding 4%, shall be the ceiling. This 4% increase was the same that was permitted by TRAI vide its third amendment order and stayed by TDSAT. Those service providers who have already availed this 4% increase were not permitted to again increase the charges. The Order simultaneously and additionally prescribed a ceiling on charges payable by the subscribers ranging from Rs.77 to Rs.260, based on the number of pay channels and the classification of cities.
b) If any new pay channel is launched after 01.12.2007 or any FTA channel is converted to a pay channel, the ceiling can be exceeded provided these channels are on a stand-alone basis or as part of new and separate bouquet. The rates of such channels must be similar to the rates of similar channels

existing on 1.12.2007.

c) It also provided that Broadcasters should offer channels on a-la-carte basis to the MSOs/LCOs and prescribed the chargeable rates for the individual pay channels.
d) The Order also prescribed that every broadcaster shall furnish certain information to the Authority.
e) The Order prescribed every LCO/MSO shall issue to every subscriber a bill every month showing the number of pay channels and FTA channels being provided, also inform the subscriber about changes, if any, in the channels. It also prescribed that receipts shall be given for all payments made by the subscriber.

1.1.9 An appeal was filed in the Hon'ble TDSAT against the above mentioned tariff amendment order. Hon'ble TDSAT vide its order dated 15.01.2009 set-aside this tariff amendment order and asked TRAI to study the matter afresh and issue a comprehensive Order.

1.1.10 The Authority filed an appeal in the Hon'ble Supreme Court of India against the order dated 15.1.2009 of Hon'ble TDSAT. The Hon'ble Supreme Court of India on 13.05.2009 passed an order directing TRAI to consider the matter de-novo as regards all aspects and give a report to the Hon'ble Supreme Court by 11th August, 2009. All parties were directed to co-operate with TRAI. The Hon'ble Supreme Court also desired TRAI to consider the feasibility of putting a cap on carriage and placement charges. Subsequently, the date for submission of report was extended by Hon'ble Supreme Court to end June, 2010.

1.2 The Present Consultation Process

1.2.1 The Authority convened interactive pre-consultation meetings with various stakeholders on 23.06.2009 and 24.06.2009. These meetings were held to identify issues for consultation for the *de-novo* exercise. The issues were also deliberated upon during the meeting with Consumer Advocacy Groups (CAGs) on

12.06.2009 in Mysore, and with the MSOs and Cable Operators on 13.06.2009 at Mysore and on 19.06.2009 in Srinagar.

1.2.2 TRAI sought to gather factual information to understand the true state of the market and establish the presence of business pressures faced by various stakeholder groups. Financial and operational information was also sought through a detailed questionnaire, customized to each stage of the supply chain. The format was released on 7.08.2009 on the TRAI website. Keeping in mind the timelines set by the Apex Court and the TRAI's approach to a consultation process, stake holders were given time to respond, initially, up to 17.08.2009. Thereafter, on requests of various stakeholders time was last extended up to 28.02.2010. The Hon'ble Supreme court had directed all stakeholders to cooperate with TRAI.

1.2.3 Inputs were sought from various stakeholders/ sub-sectors of the supply chain including broadcasters, aggregators (distribution agents of broadcasters), MSOs, Local Cable Operators (LCOs), DTH operators and subscribers (through consumer forums). The information was also sought from consumer advocacy groups. In addition, TRAI also conducted several meetings with broadcasters, aggregators, MSOs, LCOs and DTH Operators. TRAI also held meetings with industry associations such as the Indian Broadcasting Federation (IBF), News Broadcasters Association (NBA), MSO Alliance, Cable Operators and Distribution Alliance (CODA), Cable Operators Federation of India (COFI) and DTH Operators Alliance.

1.2.4 TRAI also relied on published secondary sources for information relating to the break-up of costs and revenues for different companies operating in this market. This included annual reports and financial statements published by listed companies, information filed by private limited entities in accordance with the Companies Act of 1956 and paid research and analysis conducted by prominent agencies.

1.2.5 TRAI also looked at how regulators across more than 10 countries[1] have responded to issues like pricing, addressability, carriage fee, a la carte provisions, effective competition and digitization in cable TV services. In addition to information in the public domain and access to paid research databases, TRAI established contact with regulatory counterparts and also reached out to industry experts to understand market dynamics and the context in which regulation was introduced in these countries.

[1] Countries analyzed include: Australia, Brazil, Canada, France, Germany, Singapore, South Africa, South Korea, Taiwan, United Kingdom (UK) and United States of America (USA).

CHAPTER 2: INDUSTRY SCENARIO

2.1 Changing Landscape of the Sector

2.1.1 The cable and satellite television market in India emerged in the early 1990s, spurred by major international events like the Gulf War and the growth of homegrown media companies. The industry has experienced rapid growth, with the number of subscribers increasing from just 410,000 in 1992 to more than 83 million[2] by the end of 2008 – a growth rate of nearly 40% every year for the last 16 years[3]. This expansion of subscriber base is mirrored by commensurate growth on the supply side. India today has a large broadcasting and distribution sector, comprising 485 television channels[4], 3,000-4,000 multi system operators[5], up to 60,000 LCOs[6], 7 DTH/ satellite TV operators[7] and several IPTV service providers[8].

2.1.2 In 2009, the revenue size of the Indian television industry was estimated at INR 25,700 crore[9]. Of this, INR 16,900 crore (66%) is attributed to subscription revenue generated from consumers and the balance INR 8,800 crore (34%) comes from the advertising market.

2.1.3 The last five years have changed the dynamics of the market significantly. Introduction of viewing platforms like DTH and IPTV, and digitization of the last mile (both voluntary and mandatory[10]) have led to a more diverse, rapidly evolving multi-platform market. From a scenario where 100% of the cable & satellite (C&S) population was dependent on analog cable services, DTH commanded around 20% market share in 2009. Uptake of digital services is increasing and choice is becoming possible at the consumer end. The figure below provides an estimate of the subscriber base of various platforms:

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[2] "Asia-Pacific Pay-TV & Broadband Market 2009"; published by Media Partners Asia
[3] 40% is the constant annual growth rate for the 16 years from 1992 to 2008
[4] Number of channels permitted to downlink in India, Ministry for Information and Broadcasting, reported in Business Standard 10th December 2009
[5] Based on information provided by MSO Alliance – an industry association representing the interests of MSOs
[6] Telecom Regulatory Authority of India "Foreign Investment Limits for Broadcasting Sector", 26 April 2008
[7] DTH players in India: Airtel Digital TV, BigTV, DD Direct+, DishTV, Sun Direct, TataSky and Videocon d2h
[8] Major IPTV players in India: Bharti, BSNL, MTNL and Reliance
[9] FICCI- KPMG Media & Entertainment Industry Report, released March 2010
[10] Refers to the roll-out of Conditional Access Scheme (CAS) in certain parts of the country

Subscriber Base of Various Platforms

#	Platform	Estimated number of subscribers (2009)
1	Analog cable	68 million
2	Digital cable	4 million
3	DTH	19 million
4	IPTV	Less than 1 million
	Total	**91 million (approximately)**

Figure 2.1: Current and Expected Uptake of different Platforms[11]

2.1.4 Conditional Access System (CAS) was mandated for cable services in the four metros – all of Chennai and parts of Mumbai, Delhi and Kolkata on December 31, 2006[12]. In these areas, pay channels are relayed over cable necessarily through CAS-enabled or addressable systems.

2.1.5 In the case of DTH and IPTV services, all content is required to be encrypted and transmitted through conditional access systems. Thus these platforms are necessarily compliant with the CAS mandate for cable services.

2.1.6 The rest of the country (i.e. where digitization and addressability are not mandated) continues to remain largely in an analog cable-dominated environment. However, the share of digital platforms is increasing gradually even in these areas, led largely by voluntary digitization and growing penetration of DTH. The scope of this consultation is restricted to cable services in Non-CAS Areas.

2.1.7 The following figure provides the distribution of cable TV homes in different parts of the country:

[11] Asia-Pacific Pay-TV & Broadband Markets 2009, Report by Media Partners Asia (MPA); FICCI- KPMG Media & Entertainment Industry Report, released March 2010; NRS 2006 Estimates for analog cable; Quarterly filings by DTH operators

[12] Ordered by The Hon'ble Delhi High Court on 20th July, 2006; Note: CAS in Chennai was already operational before this date.

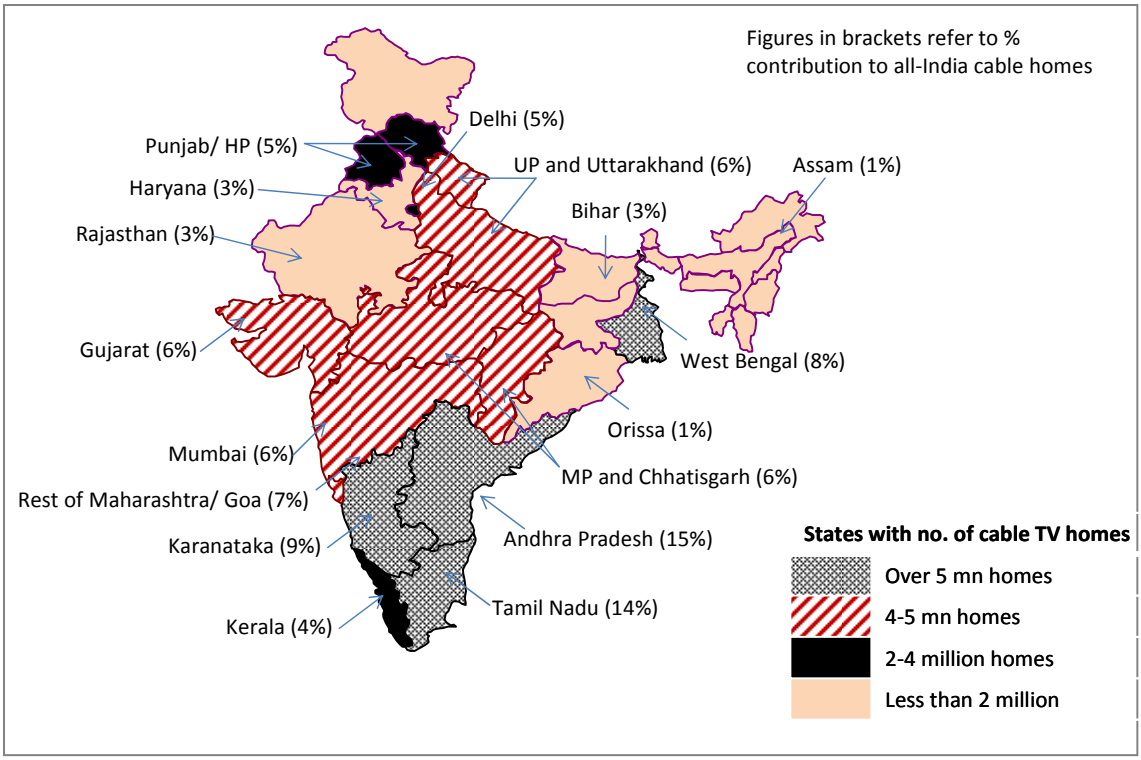


Figure 2.2: Share of Different States in All-India Cable TV Homes[13]

2.2 Overview of the Broadcasting and Distribution Value Chain

2.2.1 This section outlines the major broadcasting and distribution technologies present in India. The focus is on understanding the supply chain and the role of various stakeholders contained within this supply chain. The following platforms are present in India:

1. Terrestrial – this mode of transmission is owned and operated by the national public service broadcaster – Doordarshan
2. Cable
3. DTH
4. IPTV

2.2.2 Of these, the last three i.e. Cable, DTH[14] and IPTV are pay TV platforms (tariff-based services) and are relevant to this consultation.

[13] Market Survey by Francis Kanoi Marketing Research
[14] Except for Doordarshan Direct + which is a free to air platform.

Cable

2.2.3 The cable services value chain comprises four main supply side entities and the end consumer as shown in the figure below. The role of the broadcaster and aggregator is common across platforms.

Figure 2.3: Cable services value chain

Broadcaster

2.2.4 The broadcaster owns the content to be televised and received by the viewer. The broadcaster's role in the supply chain includes transmitting or "up-linking" the content signals/beams to the satellite (from where they are "down-linked" by the distributor).

2.2.5 485[15] channels are permitted to be down linked in India. These channels provide a mix of content across genres and languages.

2.2.6 The broadcasting business in India is primarily driven by two sources of revenue – advertising and subscription. There are two main types of broadcasting business models:

(1) Free to Air (FTA) broadcasters rely on advertising revenue as their primary source of revenue, and thus are dependent on the distribution supply chain only to ensure reach to their target audience.

(2) Pay TV broadcasters have a dual source of income. The channels need to ensure reach not just to earn advertising revenue but are also dependent on the distribution network to collect subscription revenue from the consumer.

2.2.7 In addition to content production costs, broadcasters also bear costs related to distribution and marketing of their content.

[15] Number of channels permitted to downlink in India, Ministry for Information and Broadcasting, reported in Business Standard 10th December 2009

2.2.8 The following trends are observed with respect to the broadcasting business model in India: Growing strength of large media houses: This is evident from the fact that ~100 pay channels are estimated to garner over 50% of the industry's domestic advertising revenue[16]. The television broadcasters are heavily dependent on advertising revenues. The industry size is split 66:34, in the favor of subscription revenue[17] at the retail level. However the income of major broadcasters is roughly in the ratio of 35:65 in favor of advertising revenue. This trend is evident in the publicly available results of companies listed on the stock exchange. The figure below represents this information:

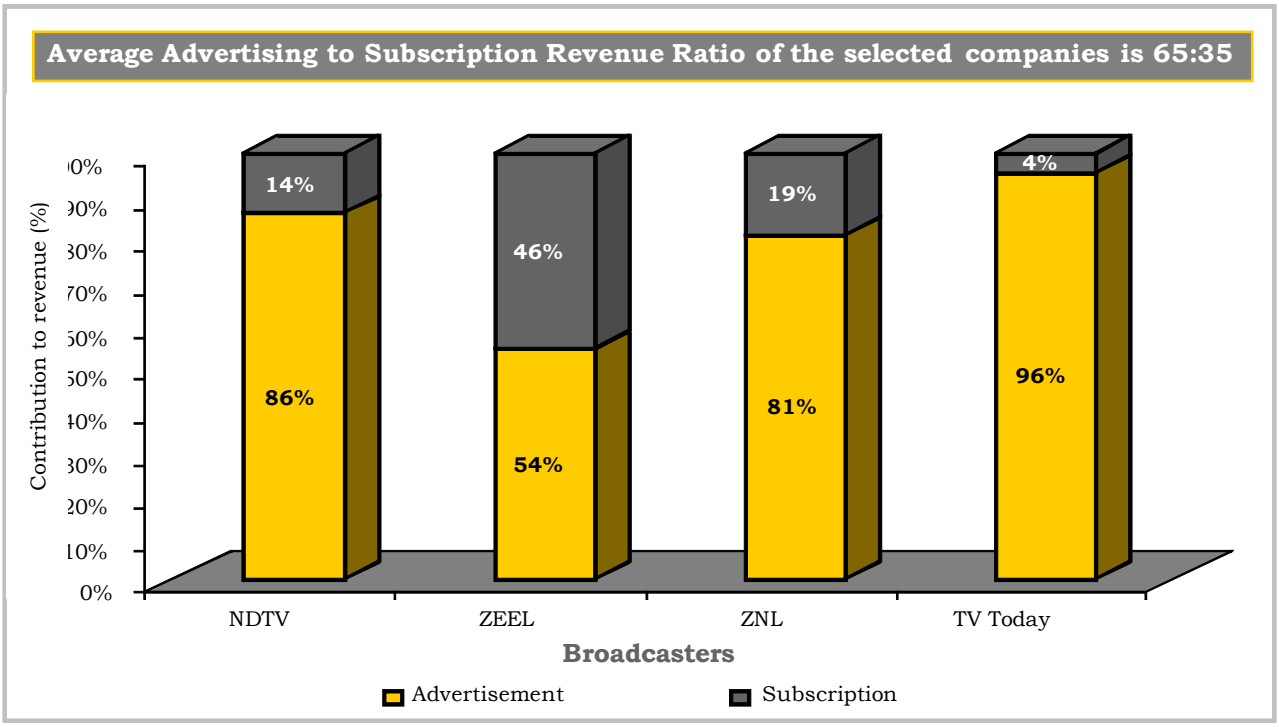


Figure 2.4: 2008-09 figures for Advertising and Subscription Revenue for four listed broadcasting companies[18]

Note: the subscription revenue for ZEEL includes contribution from international markets as well – leading to a higher share of subscription in total revenue. This analysis is based on an indicative set of companies based on publicly available information and does not include all companies in the sector.

[16] Based on analysis of data received from stakeholders during the consultation exercise
[17] Source: FICCI- KPMG Media & Entertainment Industry Report, 2008-09
[18] Published financial results for 2008-09 for the following publicly listed companies – New Delhi Television Ltd (NDTV), Zee Entertainment Enterprises and Limited (ZEEL), Zee News Limited (ZNL) and Television Today Network Ltd. (TV Today)

2.2.9 While the number of channels available in India has increased rapidly, the content of these channels is skewed in favor of advertiser-friendly markets. As the demands on broadcasters to invest in content and be present across multiple platforms increase, their operating cost base is increasing in proportion. To drive profitability and growth simultaneously, companies are looking at innovative ways of reducing their costs

Aggregator[19]

2.2.10 The role of the aggregator in the value chain is to provide bundling and negotiation services for subscription revenue on behalf of the broadcasters. However, not all broadcasters distribute through aggregators. (These broadcasters undertake distribution on a standalone basis.)

2.2.11 The sale of channels by the broadcaster/ aggregator to the distributor can take two forms a) A la carte: one channel is sold as a single unit and b) Bouquet: two or more channels are bundled and sold as a single unit.

2.2.12 There are 24 aggregators/ agents of broadcasters who distribute the 129 pay channels available in the country. Of these, the main aggregators are Zee Turner (33 channels), Star DEN (19 channels), MSM Discovery (18 channels) and Sun Group's Channel Plus (15 channels).

2.2.13 The business model of an aggregator is largely commission-driven. They charge the broadcaster commissions in the range of 5%-10%[20] for distributing these channels across different platforms.

2.2.14 These entities have a relatively small cost base, comprising salaries, travel and other operating costs. The key drivers of the aggregator business are a) Economies of scale i.e. large number of channels, b) Competitive offerings i.e. popular channels and innovative packaging and c) Market knowledge i.e. strong

[19] Aggregators are also termed as "distribution agents of broadcasters" by certain industries
[20] Based on information received from major aggregators during the consultation exercise

understanding of the market, both in terms of the subscriber base and their willingness and ability to pay for different channels.

2.2.15 A key trend observed in this market is the entry of large broadcasting alliances in aggregation. This may be attributed to the market environment in which pay channels operate, which is characterized by lack of addressability.

Multi System Operator (MSO)

2.2.16 The MSO's role is to downlink the broadcasters' signals, decrypt any encrypted channels and provide a bundled feed consisting of multiple channels to the LCO. The following paragraphs explain the evolution of the Multi-System Operator (MSO).

2.2.17 In the early days of cable, there were no MSOs and the broadcasters negotiated directly with LCOs as the number of broadcasters were limited and most channels were Free to Air.

2.2.18 However the number of operators grew significantly, driven largely by the prospects of this industry and the absence of a regime to cap the number of operators. As a result, the subscriber base became increasingly fragmented across thousands of LCOs. Thus it became expensive and ineffective for broadcasters to negotiate with several thousand operators.

2.2.19 As the cost of down-linking signals grew (in line with the number of channels), it also became inefficient for every LCO to invest in equipment to service a few hundred households.

2.2.20 The MSO then emerged as a "master distributor" who would purchase content from various broadcasters and provide it to multiple LCOs.

2.2.21 There are approximately 12,000 analog and digital head-ends currently used for down-linking channels in the country[21]. It is estimated that around 3,000-4,000 MSOs[22] are present in the Indian market today. The majority of these are small local (city-based) or regional (state-based) MSOs, with a subscriber base of a few thousand. The following MSOs have large networks and reach in the country – Asianet, DEN Networks Ltd., Digicable, Hathway Datacom, IndusInd Media and Communication, KAL Cables (Sumangali), Ortel and Wire and Wireless India Ltd (WWIL)[23].

2.2.22 The MSO business is dependent on the broadcaster/ aggregator for content and on the LCO for last mile connectivity and subscription revenue collection. Some MSOs also have "direct points" through which they service the last mile.

2.2.23 The key growth drivers for the MSO business are the following. MSOs with significant reach (i.e. a large network) are able to reduce their costs by leveraging the same infrastructure on a large subscriber base. Operators need to leverage their scale of operations to receive bulk discounts for content purchased from broadcasters. The choice of markets (across states, cities and even localities) is an important determinant of the growth potential of an MSO. This increases the bargaining power of the MSO (since these are "must-reach" markets for the broadcaster). It also increases the potential of revenue from carriage[24] and placement[25] fee.

2.2.24 Recent trends observed in the MSO business are as follows. MSOs are observed to be gaining depth not just in their traditional markets but are also looking at lateral growth by entering new regions. One of the ways in which MSOs

[21] Based on inputs provided by MSO Alliance, major broadcasters and distributors
[22] Based on inputs provided by MSO Alliance
[23] Based on inputs provided by MSO Alliance on "National" MSOs
[24] Carriage Fee: Any fee paid by a broadcaster to a distributor of TV channels, for carriage of the channels or bouquets of channels of that broadcaster on the distribution platform owned or operated by such distributor of TV channels, without specifying the placement of various channels of the broadcaster vis-à-vis channels of other broadcasters
[25] Placement fee: Any fee paid by a broadcaster to a distributor of TV channels, for placement of the channels of such broadcaster vis-à-vis channels of other broadcasters on the distribution platform owned or operated by such distributor of TV channels

have tried to expand to new regions is by buying out LCOs. This has led to huge premiums being paid for LCO operations in markets where the MSO perceives value in reaching out directly to the consumer. The recent corporate participation and investor interest in the MSO business has led to two unique market outcomes. Certain states and cities (e.g. Delhi, Maharashtra, Haryana and Bangalore) have a large number of MSOs (5-7) servicing each city. In contrast, it has been reported that certain markets are characterized by the presence of a single MSO or by cartelization.

2.2.25 The incidence of Carriage and Placement Fee is a recent phenomenon in the MSO business. Traditional cable services consisted of signals being carried in analog mode, thereby significantly restricting the capacity of the cable[26]. Since the number of channels present in the market outnumbers the capacity, MSOs charge carriage and placement fee for channels to be carried on their networks. These payments are essentially a mechanism for the MSO to realize the efficient value of a "scarce" commodity – bandwidth to transmit channels.

2.2.26 The incidence of voluntary digitization is increasing among the national MSOs. These MSOs have started to undertake infrastructure upgrades and installation of digital, addressable systems even in non-CAS areas. Transmission of digital signals allows the operator to increase the capacity to up to ten times that of analog signals.

2.2.27 Large MSOs are also expected to move towards offering triple play services[27]. Globally, cable operators provide bundled cable, broadband and phone services. This allows the operator to reduce the cost of reaching a household (three services offered through a single wire rather than three separate wires) and significantly improves profit margins[28]. Once the necessary digital infrastructure

[26] Analog networks can support up to 106 channels, although for most networks in India it is in the region of 70-80 channels.
[27] Triple Play Services refer to television, phone and broadband services being provided by the same technology and being serviced by a single operator
[28] Based on interaction with industry experts and analysis of financial data, it is estimated that margins for triple play services can be up to 6-8 times higher than margins for pure play cable services

and subscriber management systems are in place, MSOs in India are also likely to differentiate their offering by providing multiple services to the end user.

Local Cable Operator (LCO)

2.2.28 The role of the LCO in the supply chain is to receive a feed (bundled signals) from the MSO and retransmit this to subscribers in his/ her area through cables.

2.2.29 The following information has been gathered regarding the number and type of LCOs operating in the market. Industry research and recent statements by major players estimate that there are up to 60,000[29] operators in the country. The business model is largely based on providing services to specific areas/ localities within a city. There is significant variation in the size of different LCO networks – ranging from less than 100 to over 10,000 subscribers. In all, the 60,000 operators service a total of 68 million analog cable households, at an average of 1,100-1,200 analog subscribers per operator[30].

2.2.30 The following operating models are observed in the LCO business:

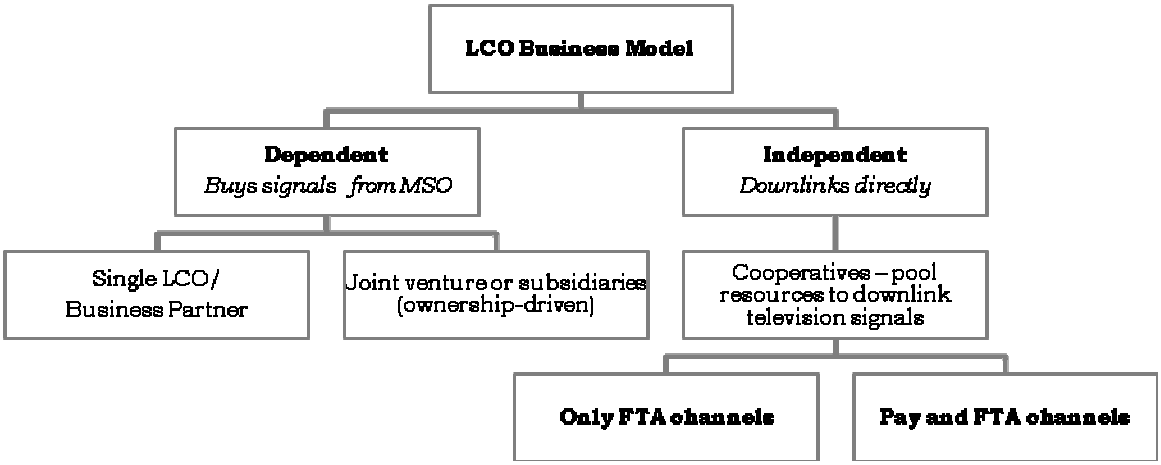


Figure 2.5: LCO Business Models observed in the India market

[29] Telecom Regulatory Authority of India "Foreign Investment Limits for Broadcasting Sector", 26 April 2008
[30] Based on data from NRS 2006 – that there are 68 million analog cable homes in the country

The traditional dependent LCO (or franchisee), purchases broadcasting signals from an MSO. However, there is no restriction on the LCO and he can choose to exit his agreement with one MSO at any time and subsequently enter into an agreement with another MSO based on business decisions. The joint venture/ subsidiary model has emerged as a result of the recent wave of consolidation and LCO acquisition by large MSOs. The MSOs have majority/ minority ownership interests in these LCOs. Typically MSOs provide more favorable terms and financial assistance to JV companies and subsidiaries. Independent Cable Operators or ICOs[31] are typically organized as cooperatives (groups of LCOs) that undertake investment for infrastructure in order to directly downlink channels and bypass the MSOs.

2.2.31 Recent trends observed in the LCO business show the emergence of the Independent Cable Operators (ICOs). This model has attracted interest by large investment banks and private equity funds in the recent past. Further, there has been an increase in the number of alliances, JVs and LCO buy-outs due to attempts at consolidation by national MSOs. Also, the pricing and marketing strategies of DTH operators are posing a strong competitive challenge to incumbent analog cable operators. Lastly given the nature of the cable business, where cabling the last mile is usually undertaken by a single party, monopolies at the subscriber level continue to persist.

Direct to Home (DTH)

2.2.32 The role of the broadcaster and the aggregator remain unchanged in the DTH value chain. Instead of a two-stage distribution value chain, there is a single distributor – the DTH operator.

Figure 2.6: DTH/ satellite services value chain

[31] ICO or ILCO (Independent Local Cable Operator) is the name used by the industry for these types of operators

DTH Operator

2.2.33 The DTH operator is responsible for both, negotiating with aggregators/ broadcasters and servicing the end consumer. The mode of transmission between the operator and the consumer is via satellite rather than cable. Required customer premise equipment includes a satellite dish (to receive signals) and a set top box to decode signals and provide conditional access to paid content. The box is linked to a subscriber management system allowing the consumer to change his product/ service offering as required.

2.2.34 There are currently seven DTH operators operating in India. These include a) DD Direct Plus, which is owned by Doordarshan and currently provides free DTH services and, b) Six private players – Airtel Digital TV, Big TV, Dish TV, Sun Direct, Tata Sky and Videocon d2h – who provide pay DTH services.

2.2.35 When evaluating the DTH business model it has been observed that the standalone nature of satellite transmission at the customer's premise allows DTH operators to be present across the country. Thus it can reach out to large geographic regions and to sparsely populated areas. Further, the provision of DTH services requires significant upfront investment and a long gestation period[32]. The business is characterized by high customer acquisition costs. It has been observed that, to demonstrate a strong enough proposition for the consumer to shift, DTH operators often subsidize customer premise equipment and spend heavily on marketing and promotion in the initial years of operation.

2.2.36 DTH has experienced growing uptake in specific regions in the country. Since its introduction in 2003, uptake has increased considerably – to ~19 million subscribers by end 2009[33]. Growth has been higher in certain types of markets such as: (a) "Cable Dark" markets – markets where cable was not present due to geographical distances or sparse population, (b) CAS markets – markets where addressability was mandated and consumers had to make switching

[32] Industry research, analysis of financial data from major DTH players and international benchmarks including BSkyB
[33] Information provided by DTH operators to TRAI, Quarterly Performance Report

decisions, and, (c) Affluent markets – certain sections of society that associate DTH with a premium product given options like Video on Demand (VoD), time shift viewing etc.

2.2.37 DTH is likely to face competition from digital cable in the near future. Although cable services are currently being provided mostly in analog mode, the major MSOs are undertaking investments to move towards digital transmission.

Internet Protocol Television (IPTV)

2.2.38 The IPTV supply chain is organized similarly, i.e. there is a single distributor connecting the broadcaster to the last mile.

Figure 2.7: IPTV services value chain

IPTV Service Provider

2.2.39 IPTV technology combines television distribution with broadband and telephony, and provides the option of Triple Play Services to the consumer. The signals for these services are transmitted through cable/ optical fiber networks. Owing to high speed two-way connectivity of this technology, there is greater potential of offering value added services like video on demand (VoD), time shift viewing and gaming.

2.2.40 There are presently four major IPTV service providers in India – MTNL, BSNL, Bharti Airtel and Reliance Communications – who offer services either themselves or through their franchises. In some case, these companies directly service the last mile as well as own the transmission head-end. In other cases, smaller service providers lease the transmission head end and provide IPTV services to subscribers.

2.2.41 The IPTV model is largely focused on triple play. Large investments are required to lay fiber optic cables till the last mile. Alternatively, companies can choose to lease the transmission network from infrastructure owners. IPTV services have the potential to offer value added services like online gaming, broadband and e-commerce can be easily bundled along with the IPTV service.

Consumer

2.2.42 The key stakeholder in the supply chain is the end consumer – as the survival of all industry players is dependent on consumer uptake of their products and services. Whether in the form direct payment of subscription revenue or indirect spends which lead to advertising revenue for the industry, the consumer is the focal point of the broadcasting and distribution sector.

2.2.43 The following trends are observed with respect to consumer choice and quality of service. Although these insights apply to consumers across the country, they are especially relevant to analog cable subscribers in non-CAS areas.

2.2.44 It has been studied that, given the observed dependence of the Indian broadcasters on advertising revenue, a large number of new channels have been targeted towards audiences that are attractive to advertisers. Such audiences include urban affluent populations ("SEC A" and "SEC-B"[34]) and large industrial states like Andhra Pradesh, Karnataka and Maharashtra. This has led to marginalization of consumers in less developed states. It has also led to limited content offerings developed for them. Such channels have found it difficult to enter the market given the high distribution costs that mass-based and advertiser focused channels like national news, general entertainment or sports are currently incurring.

2.2.45 It has also been observed that, a related point is the limited availability of subscription-driven content such as special interest channels (focused on niche concepts like golf, science etc.) and technologically advanced

[34] Socio-Economic Classification which is a function of various social and economic welfare indicators

content like high-definition (HD) channels. Once digitization removes the capacity constraint and there is visibility on the paying potential of subscribers – niche content can be expected to grow rapidly in India. This will be further enhanced by cross-platform competition from internet, mobile and other digital media.

2.2.46 Further it has been reported that there is lack of standardization pricing of services to consumers. The consumers are currently receiving and paying for different types of analog cable services. The choice of channels lies with the MSO/ LCO and not with the end consumer. Discounting and non-payment of dues are also prevalent in analog cable markets. These practices persist due to the high level of fragmentation at the last mile. Different billing and collection practices followed by LCOs also lead to differences in pricing and services.

2.2.47 There are differing trends observed with respect to uptake of digital television services in non-CAS areas. On one hand, urban markets like Bangalore have experienced strong digital uptake, even in the absence of any mandatory move to CAS. However, subscribers in small towns and cities prefer to remain on analog as the one-time cost of switching to digital services is too high.

2.3 Size of the Market

2.3. 1 The total revenue of the Indian television industry was estimated at INR 25,700 crore in 2009, of which advertising accounts for INR 8,800 crore (34%) and subscription accounts for INR 16,900 crore (66%)[35]. Based on further analysis conducted during the course of this exercise, the size of the subscription market for analog cable TV services is estimated at INR 13,500 crore[36]. The revenue from carriage and placement fee is estimated at approximately INR 900-1,000 crore[37].

[35] FICCI- KPMG Media & Entertainment Industry Report, released March 2010
[36] Based on analysis of information received from stakeholders during the consultation
[37] Based on analysis of information received from MSO Alliance

#	Distribution Platform	Estimated Size	Key Assumption(s)
	Analog Cable	INR 13,500 Cr	68 million subscribers x ARPU of INR 165 per month[38]

Figure 2.8: Estimated size of the analog cable television subscription market (2009)

2.4 Transactional Analysis

2.4.1 The key financial transactions in the analog cable supply chain are a) advertising revenue to the broadcaster, b) collection of subscription revenue from the consumer, and its distribution across the supply chain and c) payment of carriage and placement fee to the distributors by the broadcaster.
This is summarized in the figure below:

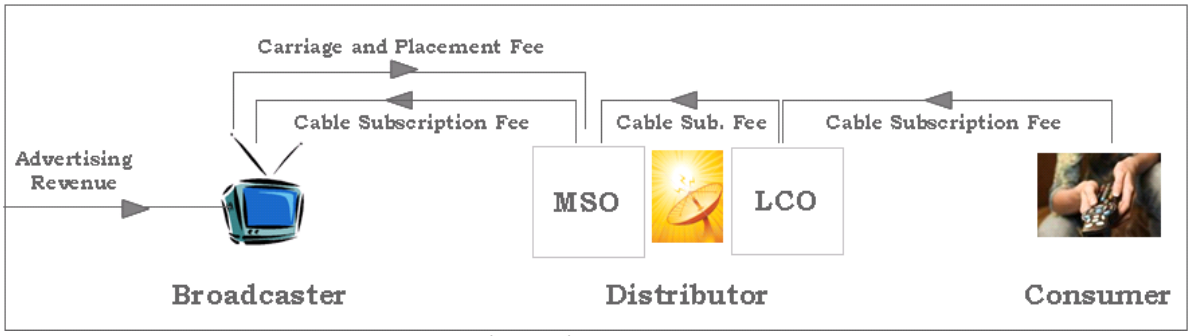


Figure 2.9: Key transactions in the industry

Advertising Revenue

2.4.2 The size of the television advertising market – which was estimated at INR 8,800 Crore in 2009 – appears to be low compared to global benchmarks. ASSOCHAM's report on the "Future of Advertisement Industry in India" provides the following comparison:

[38] Based on inputs provided by consumer advocacy groups during the consultation exercise

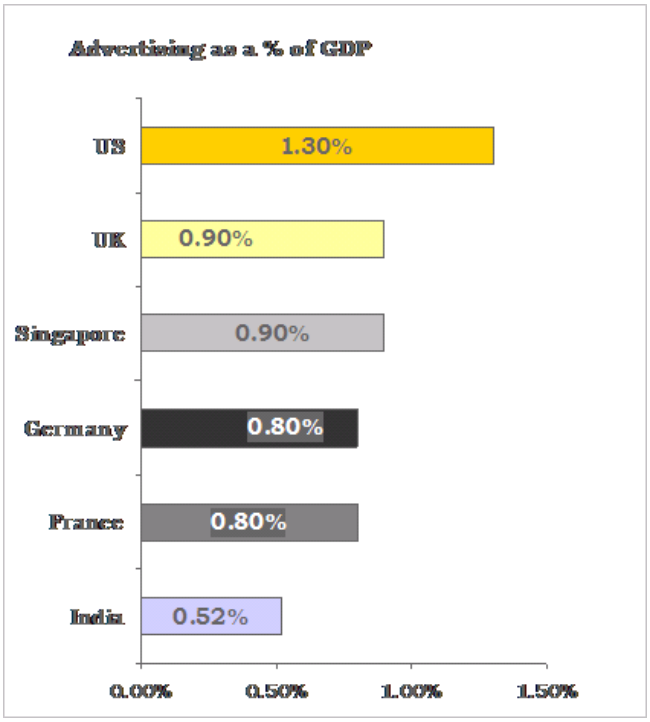


Figure 2.10: Advertising market as a % of GDP – for select international markets[39]

2.4.3 The average contribution of advertising (total advertising, all mediums) to GDP for the markets analyzed is 0.94%, with the US peaking at 1.3%. India, in comparison, is at 0.52%. This implies that there is potential for the market to nearly double in size, from the current estimate of INR 20,000 Crore.

2.4.4 It is also observed that in comparison with international markets, Indian broadcasters are dependent on advertising for a large portion of their income. This dependence has resulted in broadcasters' concentrated focus on 'advertiser friendly' genres and undertake limited investment in niche or targeted content. This trend is confirmed through the fact that there is a large number of channels in established ad-friendly genres like General Entertainment (GEC), vis-à-vis variety in niche genres like education and infotainment. This leads to an eventual restricted variety in the content being created for the consumer.

2.4.5 It is also important to note that the television advertising business is closely linked to the television audience measurement system/ ratings[40]. The

[39] Report on "Future of Advertisement Industry in India", published by ASSOCHAM (May 2007)

advertising revenue of a channel, in large part, is determined by how effective the channel is at delivering a pre-defined target audience. Thus, viewership of a channel (based on a representative sample of cities – known as metered markets) plays an important role in determining the advertising revenue potential of a channel. Given the lack of addressability in the market, the dependence on viewership measurement numbers also appears to be disproportionate.

Subscription Revenue

2.4.6 As mentioned earlier, the analog cable subscription market is estimated at INR 13,500 crore. The flow of content from the broadcaster to the consumer is compensated by the flow of subscription revenue in the reverse direction. The pass-through of television subscription – from the local cable operator, to the multi system operator and further down to the aggregator and broadcaster – is the key transaction that links the value chain. At each step, the stakeholder involved adds value to the service and receives a share of the revenue.

2.4.7 The estimated distribution of subscription revenue across the value chain, based on information received from stakeholders, is as follows.

Stakeholder	Broadcaster/ Aggregator	Distributor (MSO + LCO)
% of subscription revenue retained	~20% INR 2,900 Cr	~80% INR 10,600 Cr

Figure 2.11: Share of subscription revenue retained by stakeholders in the analog cable supply chain[41]

2.4.8 The following observations are relevant with respect to subscription revenue, and its distribution across the supply chain.

[40] There are two available systems for television audience measurement – (1) TAM Media Research is a joint venture company between AC Nielsen and Kantar Media Research/ IMRB and (2) Audience Measurement and Analytics (aMap) which was launched in 2004

[41] Analysis of data received from stakeholders during the course of the consultation exercise

2.4.9 There is very limited visibility on the subscriber base consuming and paying for the 129 pay channels[42] analyzed for this consultation. In the absence of addressability, the subscription revenue transaction is being undertaken either as a fixed fee (lump sum), or on the basis of a "negotiated" subscriber base. As per data received from major national and regional MSOs during the consultation exercise, the sum of their declared subscribers is in the range of 5-6 million. This is less than 10% of the estimated analog subscriber base of 68 million as published in the National Readership Survey (NRS) 2006 – which is the last survey conducted to measure the size of the television population. The maximum connectivity (number of subscribers) declared by major broadcasters/ aggregators through interconnect agreements is in the range of 4-5 million consumers[43]. This is also less than 10% of the estimated total base of 68 million (as per NRS).

2.4.10 It is observed that the average increase in subscription revenue of some large broadcasters is in the range of 15%-20%[44] p.a. There appears to be a discrepancy in light of the facts that: (1) all major channels/ bouquets are already currently operating at the prescribed limits and, (2) the permitted price increase as per TRAI's tariff orders is in the range of 4%-7% p.a. The key reason for this increase is negotiation on the basis of a lump sum, with the connectivity (number of subscribers) being merely a derived value. Any increase in revenue can thus be realized through an increase in the number of subscribers, and no corresponding increase in price is required.

2.4.11 Analog transmission, which by its nature is "non-addressable", creates an environment where reporting of subscriber numbers is difficult to validate. Further, the existing wholesale tariff is much higher than the revenue generated on the ground (ARPU paid by consumer). For example, the per connection tariff at the wholesale level is ~INR 700 month at the wholesale level, while the retail level ARPU is in the range of INR 165 per month. This is because

[42] Based on Non-CAS rates declared to TRAI up to 4th December 2008 – this list of pay channels has been used as the reference list for this consultation
[43] Based on analysis of interconnect agreements filed in December 2008 and June 2009
[44] Data received from stakeholders during the course of the consultation exercise

the wholesale tariff attempts to take into account the extent of loss (or limited pass through) that happens in the supply chain.

2.4.12 The distribution of subscription revenue across the value chain in India is different from the distribution observed in international markets. This is illustrated below:

Stakeholder	**Broadcaster/ Aggregator**	**Distributor (MSO + LCO)**
India	~20%	~80%
Analog cable – international markets	50%	50% - LCO acts as agent of MSO
Digital cable – international markets	60%	40% - MSO services subscriber directly

Figure 2.12: Share of subscription revenue retained by stakeholders in the cable supply chain – comparison of India and international markets [45]

2.4.13 The above comparison between India and international markets is based on the sources detailed out in the following paragraphs:

2.4.14 For India, the total subscription revenue has been calculated based on the number of subscribers and monthly ARPU. From this the share of broadcasters and distributors has been estimated using the data provided during the consultation exercise. It should be noted that this is an industry estimate – for specific transactions, this ratio may vary depending on the strength of the two negotiating parties.

2.4.15 For international analog markets – information has been obtained through interaction with regulators in Germany, Taiwan, Korea and parts of France. It is observed that unlike India where the LCO is a separate entity, the LCO in these markets acts as an agent for servicing the last mile and receives revenue from the MSO in the form of commission.

[45] Estimates based on information received from stakeholders, interviews with international media experts and analysis of results of publicly listed broadcasting and distribution companies

2.4.16 For international digital markets – information has been obtained through publicly listed broadcasting and cable companies in the USA and UK. It is observed that in the digital cable supply chain, there is no distinct LCO and MSO. A single company negotiates with broadcasters, downlinks content and services the last mile.

Carriage and Placement Fee

2.4.17 For a broadcaster dependent on advertising revenue, ensuring reach is critical. This is because higher reach implies greater access to the subscriber base – thereby providing an opportunity for the channel to improve its ratings. The following observations are relevant, with respect to emergence of carriage and placement fee. Carriage and placement fee provides the broadcaster access to an MSO's network. Due to the bandwidth constraints in the analog transmission mode, the MSO "allocates" certain frequencies to the highest paying channels. This phenomenon can be interpreted in simple economic terms as a "demand-supply" mismatch. With supply remaining unchanged at ~80 channels and the total number of channels having risen steadily to 485[46] – carriage fee reflects the entry barrier posed by analog transmission.

2.4.18 It is reported that carriage and placement fee is an internationally prevalent business transaction. However, the form of the transaction itself is not standardized and can vary significantly. Pay channels/ networks typically enter into a 'net transaction' where carriage fee is settled against the content cost paid by the MSO to the broadcaster, thereby leading to only one inflow or outflow for the channel/ network – depending on whether that party is a net gainer or loser from the supply chain. Further, carriage fee can also be paid through barter or exchange of some kind, such as equity stakes.

[46] Number of channels permitted to downlink in India, Ministry for Information and Broadcasting, reported in Business Standard 10th December 2009

2.4.19 In the United States, carriage fee is observed in the form of "Local Ad Avails" (LAAs) – where the broadcaster forgoes a percentage of advertising revenue in favor of the MSO. In such case, while the pay out in terms of the monetary value may be the same, the transaction does not appear as a cost item for the channel (and instead appears as lower revenue).

2.4.20 In cases where carriage and placement fee is paid to the MSO through a monetary transaction, the factors affecting the extent of carriage and placement fee are target audience delivered, popularity of the channel, bouquet composition and competition intensity within each genre.

2.4.21 Each MSO provides a unique target audience based on socio economic mix, spending power and audience profile. A particular market may be critical to a channel, given the channel's positioning and its advertiser base – in which case it would be willing to pay higher carriage fee to reach this audience.

2.4.22 Certain channels that have a steady demand in the market may pay lower carriage fee because the MSO would in any case want to carry those channels. For example, an established channel carried on prime band may pay no carriage fee. In contrast, a new entrant may pay carriage fee even to be placed on "Color" or "S" band.

2.4.23 It is observed that carriage fee is also negotiated on a bouquet or bundled basis (these bouquets are different from those for which subscription revenue is collected). Thus the composition of the bouquet that the channel is part of and the relevance of that bouquet to the MSO also determines the value paid by a certain channel.

2.4.24 If a genre has high competition amongst channels (and new channels continue to enter the market), then carriage fee is likely to be higher for that genre. This is because competition creates pressure on the number of frequencies allocated by the MSO to any particular genre.

2.4.25 It has been observed that carriage fee is a phenomenon predominantly observed in metered markets. As discussed earlier in this section, this is because channel and programme ratings are a key source of information for media planners, and are reported to determine spending for a large number of national advertisers.

2.4.26 Even within metered markets, the amount of carriage fee paid appears to be linked to the revenue potential of individual regions/ cities.

CHAPTER 3: ANALYSIS

3.1 Analysis of Business Models in the Supply Chain

3.1.1 To understand the current state of the industry and the financial and operational models of various stakeholder groups, a large scale data collection exercise was undertaken. Six customized questionnaires were designed for various groups – Broadcasters, Aggregators, MSOs, DTH Operators, LCOs with >500 subscribers and LCOs with <500 subscribers. Using the data received, representative P&L statements for stakeholder groups in the analog supply chain were developed. The objective of collating these figures was to understand the business models across the value chain and assess the need for intervention at various stages. Post publishing the first round of figures on 10.11.2009, TRAI has received several responses and additional data from stakeholders. These have been duly incorporated and the revised figures are provided in Annexure B.

3.1.2 This section provides a snapshot of data and nature of information received, as well as the methodology for creating the representative figures for each stakeholder group.

Broadcaster

3.1.3 TRAI received responses from several broadcasters – some of which provided channel-wise financial and operational data, while others have provided company-level data. The data in Annexure B takes into account only those channels that participated in this exercise and provided data to TRAI. Data was collated at a genre-level, on the basis of the following genres:

Genre	Comments, if any
1. GEC English	
2A. GEC Hindi Category 1	Split in to Category 1 and Category 2 – based on a high operating cost and a low operating cost model[47].
2B. GEC Hindi Category 2	
3A. GEC Regional Category 1	Split in to Category 1 and Category 2 – based on a high operating cost and a low operating cost model
3B. GEC Regional Category 2	
4. English News	Split in to English, Hindi, Business and Regional News – based on language and/or nature of content
5. Hindi News	
6. Business News	
7. Regional News	
8. Sports	
9. English Movies	Split in to English, Hindi and Regional Movies – based on language of content
10. Hindi Movies	
11. Regional Movies	
12. Kids	
13A. Niche Category 1	Split in to Category 1 and Category 2 – based on a high operating cost and a low operating cost model
13B. Niche Category 2	

Figure 3.1: Classification of television channels by genre for the purpose of financial analysis

3.1.4 The data for broadcasters has been collated in three steps, the results of which are provided in Annexure B1, B2 and B3.

3.1.5 The first step collates the data only of those channels that provided channel-wise break up of information to TRAI. Genres where not even one channel provided such information to TRAI are marked as Not Applicable (N/A). Simple averages of channel-wise data for key revenue and cost items are used to form Annexure B1.

3.1.6 These averages do not provide a true representation of the financial health of the industry. Firstly, while figures for several genres in Annexure B1 are

[47] A cut-off point is determined using the 3-year average of operating cost to separate channels between Category 1 and Category 2. Channels above the point are analyzed in Category 1 and below the mean in Category 2.

showing negative EBITDA margins – this is in contrast to the profit margins declared by several publicly listed broadcasters. These companies have declared profits, such as TV Today Network Ltd. (28%), Zee Entertainment Enterprises Ltd. (39%), Zee News Ltd.(16%) and Sun TV Network (47%). Secondly, this is also in contrast to the growth trends projected by industry research (such as the FICCI Frames report released in March 2010). Thirdly, these negative figures do not provide a logical explanation for the recent growth in the number of channels and the number of applicants awaiting approval for a broadcast license. In the last few years, number of TV channels has increased many folds from 136 channels in year 2005 to close to 500 channels today. The Ministry of Information & Broadcasting, vide its letter D.O.No.1501/34/2009-TV(I) dated 08 October 2009, has indicated that 423 channels are currently permitted to uplink from India, 76 are permitted to uplink abroad and another 170 fresh applications are awaiting approval. The exponential growth in the number of channels and a large waiting list of channels for approval indicate that there is a strong business case for television channels. However the simple averages in Annexure B1 indicate the contrary. As an example, figures from two popular genres are provided below. The figures for other genres are available in Annexure B1.

2A	Genre	GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	346	
	Advertising Revenue	*INR Cr*	318	92%
	Subscription Revenue	*INR Cr*	28	8%
	Operating Costs	*INR Cr*	367	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-6%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	32	
	Advertising Revenue	*INR Cr*	31	97%
	Subscription Revenue	*INR Cr*	1	3%
	Operating Costs	*INR Cr*	111	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-244%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

Figure 3.2: Representative figures from Broadcasting Annexure B1

3.1.7 This variance from general industry trends may be on account of several reasons. This may include variations in the operating model of channels and/ or the inclusion of channels at the early stages of growth, which is likely to

push down the average margins. The channel-wise averages also depend on the allocation methodology adopted by various networks.

3.1.8 The second step attempted to use the data provided by certain companies – who provided company-level data, but did not allocate it to the various channels owned and managed by them. This was added to the channel-wise data included in Annexure B1. A set of weights for allocation was developed using the average operating cost by genre from Annexure B1. This set of weights was used to allocate the company level data, and is provided in the annexure for reference. Genres where not even one channel had provided channel-wise data – and correspondingly where no weight could be developed – are marked as Not Applicable (N/A). These averages are provided in Annexure B2.

3.1.9 Even after this step, the averages in B2 do not provide a true representation of the financial health of the industry. The weights and corresponding allocation may be limited by multiple factors. For example, the weights have been derived from a set of figures – Annexure B1 – which is observed to be in contrast to general industry trends. In addition, applying a standard set of weights cannot take into account factors such as the number of channels in each network, the genre mix of channels in each network and, other variations. As an example, figures from the genres discussed above are provided below. The figures for other genres are available in Annexure B2.

2A	Genre	GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	419	
	Advertising Revenue	*INR Cr*	380	91%
	Subscription Revenue	*INR Cr*	39	9%
	Operating Costs	*INR Cr*	446	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-6%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	
4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	81	
	Advertising Revenue	*INR Cr*	72	88%
	Subscription Revenue	*INR Cr*	9	12%
	Operating Costs	*INR Cr*	109	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-35%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

Figure 3.3: Representative figures from Broadcasting Annexure B2

3.1.10 The third step was to collate the data using certain filtration criteria to remove the impact of aberrations. Representative figures for the broadcasting industry after applying these criteria resulted in Annexure B3. Figures from the same two genres are provided below. The figures for other genres are available in Annexure B3.

2A	Genre	GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	600	
	Advertising Revenue	*INR Cr*	420	70%
	Subscription Revenue	*INR Cr*	180	30%
	Operating Costs	*INR Cr*	450	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	25%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	100	
	Advertising Revenue	*INR Cr*	80	80%
	Subscription Revenue	*INR Cr*	20	20%
	Operating Costs	*INR Cr*	130	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-25%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

Figure 3.4: Representative figures from Broadcasting Annexure B3

3.1.11 The figures in Annexure B3 for the 13 genres will be taken forward for testing of the models for regulatory intervention and working out the wholesale and retail tariff using various methodologies such as revenue share, retail minus, and cost plus, among others. (Methodologies are discussed in detail in Chapter 5.)

Aggregator

3.1.12 The data in Annexure B takes into account only those Aggregators that participated in this exercise and provided data to TRAI. The data for Aggregators has been collated in two steps, the results of which are provided in Annexure B4 and B5.

3.1.13 The first step was to collate the data using a simple average of all data provided by Aggregators. However the averages may not include variations on account of the operating model followed by various aggregators (e.g. commission based or rights based) or the accounting policies adopted by various companies. These figures resulted in Annexure B4, and are provided below:

All figures are 3 year averages - unless explicitly mentioned

Aggregator			Comments
Average Bouquet Size	*Channels*	24	
Total Revenue - Collections	*INR Cr*	557	*Revenue is the total subscription revenue collected*
Total Operating Cost	*INR Cr*	334	*Costs are total operating costs*
EBITDA Margin	%	40%	

Figure 3.4: Representative figures from Aggregator Annexure B4

3.1.14 The second step was to collate the data using certain filtration criteria to remove the impact of aberrations. Representative figures for aggregators after applying these criteria resulted in Annexure B5, and are provided below:

	Type of Aggregator	Average Bouquet Size	**15+ channels**
1	Revenue	INR Cr	182
2	Costs	INR Cr	197
3	Earnings before Interest, Taxes, Depreciation and Amortizarion (EBITDA)	%	-9%
5	Genre-wise connectivity - in the range of:		
	GEC ENGLISH	*million households*	2.8
	GEC HINDI CATEGORY 1 & 2	*million households*	5.6
	GEC REGIONAL CATEGORY 1 & 2	*million households*	5.6
	NEWS ENGLISH	*million households*	2.7
	NEWS HINDI	*million households*	5.6
	NEWS BUSINESS	*million households*	3.5
	NEWS REGIONAL	*million households*	5.6
	SPORTS	*million households*	4.6
	MOVIES	*million households*	5.6
	CHILDREN	*million households*	3.5
	NICHE CATEGORY 1 & 2	*million households*	2.8

Figure 3.5: Representative figures from Aggregator Annexure B5

3.1.15 The figures in Annexure B5 will be taken forward for testing of the models for regulatory intervention and working out the wholesale and retail tariff using various methodologies such as revenue share, retail minus, and cost plus, among others. (Methodologies are discussed in detail in Chapter 5.)

Multi System Operator (MSO)

3.1.16 The data in Annexure B takes into account only those MSOs that participated in this exercise and provided data to TRAI. The data for MSOs has been collated in two steps, the results of which are provided in Annexure B6 and B7.

3.1.17 The first step was to collate the data using a simple average of all data provided by MSOs by category – National MSOs with >2mn subscribers and Regional MSOs with 1-2 mn subscribers. However these averages may not include variations such as the impact of acquisitions/ expansion on the financials of individual MSOs. These figures resulted in Annexure B6, and are provided below:

All figures are 3 year averages - unless explicitly mentioned

Type of MSO		**National**	**Regional**
Revenue	*INR Cr*	**241**	**56**
Subscription Revenue	*INR Cr*	140	14
Carriage and Placement Fee Revenue	*INR Cr*	70	19
Other Revenue - Balancing Figure	*INR Cr*	30	23
Costs	*INR Cr*	**274**	**108**
Programming Costs (Subscription Revenue paid to Broadcasters)	*INR Cr*	166	47
Other Costs - Balancing Figure	*INR Cr*	111	61
Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	%	-14%	-64%

Figure 3.6: Representative figures from MSO Annexure B6

3.1.18 The second step was to collate the data using certain filtration criteria to remove the impact of aberrations. Representative figures for MSOs after applying these criteria resulted in Annexure B7, and are provided below:

	Type of MSO	Geographical Footprint	**National**	**Regional**
	Connectivity: No. of subscribers	Million House Holds	*2 million +*	*1-2 million*
1	Revenue	INR Cr	290	90
	Subscription Revenue	%	42%	n/a[2]
	Carriage and Placement Fee Revenue	%	48%	n/a[2]
	Other Revenue	%	10%	n/a[2]
2	Costs	INR Cr	277	75
	Programming Costs (Subscription Revenue paid to Broadcasters)	%	52%	52%
	Other Costs	%	48%	48%
3	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	%	4.60%	16.30%

Note 1: these averages are based on steady state companies, aberrations arising from the impact of acquisitions or financials of early stage companies have not been considered.
Note 2: n/a indicates that the details have not been provided by stake holders

Figure 3.8: Representative figures from MSO Annexure B7

3.1.19 It is important to note that the figures in both Annexure B6 and B7 are an average of multiple operators. Thus, they are not likely to be an exact match to the revenues and costs of any single operator. It must also be mentioned that while the primary determinant of an MSO's business model is scale (number of subscribers), the figures cannot account for variations on account of certain factors. For instance, the extent of competition in the market – the more intense the competition at the MSO level, the lower the ability of the MSO to recover subscription revenue from the LCO. The revenue potential of an MSO varies due to the extent of reach and target audience delivered by the MSO – the larger the reach and the more relevant the target audience, the higher the revenue potential for carriage and placement fee. Also, success in translating voluntary digitization to higher retail ARPUs, is observed to vary from network to network – based on competitive pressure from analog cable and DTH. Finally, given the fragmentation, varying years of operation and lack of visibility on the distribution supply chain, there are practical issues in assessing the value of infrastructure pertaining to analog cable services.

3.1.20 The following additional observations are made with respect to the MSO operating model. The extent of under-reporting and revenue loss at the last mile – is borne out by the fact that even leading MSOs have limited visibility on the consumer. The declared subscriber base of the major MSOs is in the range of 5-6 million homes (as opposed to NRS 2006 which estimates 68 million homes). The MSO model has become increasingly dependent on carriage fee over the last three years. It accounts for nearly 50% of the revenue for national MSOs. Revenue from carriage and placement fee has almost doubled between 2006-07 and 2008-09 for large MSOs[48]. From a macro-perspective, carriage fee (estimated at INR 900-1,000 Crore) constitutes only 5% of the television industry's revenue. However it is a significant source of income for the MSO – contributing up to 50% of his/ her total revenue – thus indicating its criticality to the MSO business model. The changing role of the MSO, in the context of digitization, and the need to invest heavily in the last mile is posing additional margin pressure. This pressure stems from the need

[48] Based on data received from stakeholders

to acquire smaller MSOs and LCOs to improve visibility, as well as the need to invest in digital services to effectively compete with DTH.

3.1.21 The figures in Annexure B7 will be taken forward for testing of the models for regulatory intervention and working out the wholesale and retail tariff using various methodologies such as revenue share, retail minus, and cost plus, among others. (Methodologies are discussed in detail in Chapter 5.)

Local Cable Operator (LCO)

3.1.22 The data in Annexure B takes into account only those LCOs that participated in this exercise and provided data to TRAI. The data for LCOs has been collated in two steps, the results of which are provided in Annexure B8 and B9.

3.1.23 The first step was to prepare simple averages of LCOs by category – LCOs with >500 subscribers and LCOs with <500 subscribers. These averages constitute Annexure B8.

3.1.24 The averages are observed to be inconsistent in certain areas. For example, the number of households was observed to be higher than the number of connections. In certain cases, the sum of individual cost items (content, technology, customer servicing, repairs, overheads etc.) is not equal to the total cost provided in the operating costs section. In certain other cases, the cost of content paid to the MSO does not match with the operating costs for programming. Similarly, the ARPU and subscriber figures are not the same as the subscription revenue. This can be observed in the figures for both types of LCOs as per Annexure B8:

		Key data inconsistencies observed
	All figures are 3 year averages - unless explicitly mentioned	
2008-09		
Average no. of channels	66	
Average no. of pay channels	30	
Average no. of FTA channels	35	
Average no. of Local Cable Channels by MSO	3	
Average no. of Local Cable Channels by LCO	1	
Average no. of households	825	*Number of households is 4x no. of connections*
Average no of connections	289	
	(INR)	
Total Revenue 2008-09	677,439	
Subscription Revenue	547,639	*Does not equal figure of INR 555,731 in Pricing Question*
Carriage and Placement Fee	-	
Advertising Revenue - own channels	17,901	
Others	-	
Derived Total Revenue (sum of individual items)	**565,541**	
	(INR)	
Total Operating Cost 2008-09	149,350	
Programming Cost	262,849	*Does not equal figure of INR 321,723 in Pricing Question*
Technology and Transmission Cost	12,064	
Customer Servicing Cost	51,575	
Local channel content cost	143,699	
Any other costs	18,000	
Derived Total Cost (sum of individual items)	**488,188**	*Derived total cost is 3.3x the provided total operating cost*
EBITDA Margin - Total Revenue, Total Cost	78%	
EBITDA Margin - Derived Total Revenue, Derived Total Cost	14%	
	(INR)	
Retail Pricing	**2008-09**	
Average collection	555,731	*Does not equal figure provided under Revenue*
	(INR)	
Content Cost	**2008-09**	
Average payout to MSO	321,723	*Does not equal figure provided under Operating Cost*

Figure 3.9: Representative figures from LCO Annexure B8 (>500 subscribers)

		Key data inconsistencies observed
	All figures are 3 year averages - unless explicitly mentioned	
LCO Details		
Average no. of connections	189	
Average Pay Channels	26	
Average FTA Channels	32	
Average Local Cable Channels	15	
ARPU (INR per month)	169	
	per month	
Connectivity and Link Charges		
No. of connections	480	*Does not match with figure of 189 connections given above*
Monthly Fee to MSO/ Broadcaster	15,151	*i.e. INR 181,818 p.a. - does not equal figure of INR 74,575 in operating cost question*
	(INR p.a.)	
Revenue	**189,887**	*This figure is derived from individual line items*
Subscription Revenue	182,523	
Carriage and Placement Fee	3,095	
Advertising Revenue - own channels	4,269	
	(INR p.a.)	
Operating Cost	**161,608**	*This figure is derived from individual line items*
Content/ Programming	74,575	*Does not equal figure of INR 181,818 p.a. provied in Connectivity*
Collection	34,812	
Repairs & Maintenance	31,410	
Any other costs	20,811	
EBITDA Margin - Derived Total Revenue, Derived Total Cost	15%	

Figure 3.10: Representative figures from LCO Annexure B8 (<500 subscribers)

3.1.25 The second step was to collate the data using certain filtration criteria to remove the impact of aberrations. Information gathered during interviews with LCOs, from consumer advocacy groups and from MSOs who have direct points, has been used to supplement the information received from LCOs. In order to remove aberrations/ inconsistencies related to the scale of the LCO – these figures are collated on a per subscriber basis. Representative figures for LCOs after applying these criteria resulted in Annexure B9, and are provided below:

1	ARPU	*INR per subscriber per month*	165.00
2	Operating Costs	*INR per subscriber per month*	110.00
	Cost of Content (paid to MSO)	*INR per subscriber per month*	40.00
	Collection Costs	*INR per subscriber per month*	30.00
	Infrastructure Maintenance Costs	*INR per subscriber per month*	40.00
3	EBITDA Margin	*%*	33%

Note: these figures are based on steady state companies, aberrations arising from the impact of expansion or financials of early stage companies have not been considered.

Figure 3.11: Representative figures from LCO Annexure B9 (per subscriber basis)

3.1.26 Efforts were made by TRAI earlier to survey the subscription fee being paid for cable TV services. In 2007, prior to drafting the Eighth Amendment, TRAI had commissioned a market study that reported the average cable bill in January 2007 as INR 200 per month (post tax). It was also reported during the survey that the figure varied from INR 149 per month (Kochi) to INR 322 per month (Shillong).

3.1.27 For the current exercise, the revenue figure (monthly cable bill or ARPU) in Annexure B9 is based on an average of the responses from consumer advocacy groups that responded with information. This was also confirmed during meetings with MSOs and LCOs. Although the ARPU of INR 165 is calculated at an all-India level, there is high variation in monthly subscription fee which can range from INR 70 to INR 250 across cities. Consumer groups have reported that monthly costs in Mumbai are as low as INR 70, whereas in certain cities they could go up to INR 250. The information received from consumer groups on ARPU is provided below:

Information on ARPU Received from Consumer Advocacy Groups

State/ Region	City	*Monthly Cable Charge (INR) paid to LCO*
Pondicherry	Pondicherry	250
West Tripura District	Agartala	150
West Tripura District	Sdar	150
West Tripura District	Bishalgarh	150
West Tripura District	Sonamura	150
West Tripura District	Khow ai	150
West Tripura District	Teliamura	150
Gujarat & Rajasthan	Himmatnagar	250
Gujarat & Rajasthan	Idar	200
Gujarat & Rajasthan	Khedbrahma	200
Gujarat & Rajasthan	Modasa	250
Gujarat & Rajasthan	Meghraj	250
Gujarat & Rajasthan	Shamlaji	250
Gujarat & Rajasthan	Prantij	250
Gujarat & Rajasthan	Bichhiw ada	100
Gujarat & Rajasthan	Kherw ada	150
Gujarat & Rajasthan	Dungapur	200
Tamil Nadu	Chennai	100
Tamil Nadu	Chennai	130
West Bengal	West Bengal	160
Kerala	Kerala	125
Karnataka	Sagar	125
Karnataka	Shimoga	100
Theni District	Local	100
Jodhpur Dist / Rajasthan	Jodhpur Dist	175
Orissa	Cuttack City	250
Orissa	Cuttack City	250
Orissa	Bhubaneswar City	250
Orissa	Bhubaneswar City	250
Orissa	Berhampur	180
Orissa	Paradeep	180
Orissa	Puri	180
Orissa	Rourkela	180
Orissa	Sambalpur	180
Orissa	Angul	180
Orissa	Koraput	180
Orissa	Balasore	180
Chandigarh	Chandigarh	100
Panchkula	Panchkula	150
Mohali(S.A.S. Nagar)	Mohali	250

Figure 3.12: Information on monthly cable charges (1/2) received from different consumer advocacy groups (CAGs)

Information on ARPU Received from Consumer Advocacy Groups

State/ Region	City	*Monthly Cable Charge (INR) paid to LCO*
UP	Kanpur (Urban)	150
UP	Kanpur (Urban)	150
UP	Kanpur (Urban)	125
UP	Kanpur (Urban)	150
UP	Kanpur (Urban)	250
UP	Kanpur (Urban)	150
UP	Kanpur (Urban)	150
UP	Kanpur (Urban)	250
UP	Kanpur (Urban)	250
UP	Kanpur (Rural)	125
UP	Kanpur (Rural)	125
UP	Kanpur (Rural)	125
UP	Kanpur (Catts)	150
Uttar Dinajpur	Islampur	150
Uttar Dinajpur	Islampur	150
Uttar Dinajpur	Islampur	150
Uttar Dinajpur	Raiganj	150
Uttar Dinajpur	Raiganj	150
Uttar Dinajpur	Raiganj	150
South Dinajpur	Balurghat	125
South Dinajpur	Balurghat	150
Malda	Malda	75
Malda	Malda	150
Malda	Malda	75
Darjeeling	Siliguri	200
Darjeeling	Siliguri	150
Darjeeling	Darjeeling	150
Darjeeling	Darjeeling	100
Darjeeling	Bagdogra	200
Darjeeling	Bagdogra	150
Jalpaiguri	Jalpaiguri	150
Jalpaiguri	Jalpaiguri	90
Jalpaiguri	Aliporeduar	150
Jalpaiguri	Aliporeduar	65
Coochbehar	Coochbehar	150
Coochbehar	Coochbehar	150
Coochbehar	Dinhata	150
Average (INR per month)		**165.00**
Max (INR per month)		**250.00**
Min (INR per month)		**65.00**

Figure 3.13: Information on monthly cable charges (2/2) received from different consumer advocacy groups (CAGs)

3.1.28 The monthly fee is not just a function of the subscriber's ability to pay, but is also dependent on the cost of operations in a city. Cities with multi-dwelling units and densely populated areas tend to have low incremental costs of adding a subscriber. However smaller cities or hilly areas, that are sparsely populated may have a higher cost of operations (such as cost of cabling etc). Retail level pricing of cable services also depends on the consumer's ability to pay – due

to the non-addressable nature of analog services – it is possible for the LCO to undertake differential pricing for the same service. In some case, it is reported that the price of the service is also linked to the total number of channels transmitted, and the share of pay channels in the total. Since there is considerable variation in the service across the country, this leads to variations in the retail price.

3.1.29 The following additional observations are made with regard to the LCO business model, based on the qualitative inputs received during the information gathering exercise. The LCO has an effective last mile monopoly – except for emerging competition from the DTH sector – he does not compete with anyone for offering pay TV services to the consumer in certain localities. The LCO gains heavily in areas where there is intense competition at the MSO level – either through subsidized content costs or through other forms of compensation (e.g. set top box seeding, infrastructure up-gradation etc.). The location of the LCO (whether present in a metered or non-metered market) affects the cost of content borne by the LCO. It is observed that in metered markets, the LCO is likely to receive content at discounted rates (due to the advertising potential of his markets). Correspondingly the discount is minimal in non-metered markets, thereby leading to a higher payout by such LCOs. There is evidence of tax evasion in the cable industry. The last publicly available CBET report in 2005-06 shows only INR 75 crore of service tax being collected from the industry[49]. On a base of 68 million subscribers (as per NRS 2006) paying an average of INR 165 per month, the estimated service tax collections from analog cable should be in the range of INR 1,400 crore per annum.

3.1.30 The figures in Annexure B9 will be taken forward for testing of the models for regulatory intervention and working out the wholesale and retail tariff using various methodologies such as revenue share, retail minus, and cost plus, among others. (Methodologies are discussed in detail in Chapter 5.)

[49] Central Bureau of Excise and Customs, Service Tax Figures from last annual report which is publicly available (2005-06)

3.2 Analysis of Business Issues in the Supply Chain

3.2.1 This section analyzes the key challenges faced by industry stakeholders and consumers in the television and broadcasting sector. It attempts to isolate the cause of the challenges, and identify possible approaches to resolution. These challenges include technology, business and customer service issues, and have been voiced in numerous representations received by TRAI (for prior and ongoing consultations).

3.2.2 The sector is large, complex and fragmented – and the starting point for this analysis is the concerns put forth by stakeholders. A list of representations and key concerns are provided in Annexure C. Based on these concerns, six business issues are:

1. Lack of visibility on the subscriber base
2. Lack of transparency in business and transaction models
3. Differential pricing at the retail level
4. Incidence of carriage and placement fee
5. Incidence of regional and state based monopoly
6. Frequent disputes and lack of collaboration among stakeholders

1. Lack of Visibility on the Cable Subscriber Base

3.2.3 There is no reliable information on the number of subscribers receiving cable TV services. Subscription revenue transactions are being conducted on the basis of a "negotiated" subscriber base. Based on information received from stakeholders and inter-connect filings – it is observed that the "negotiated" base is less than 10% of the estimated base of 68 million analog cable homes. It is reported to TRAI that the most widely distributed channels reach around 40 million homes – thus the connectivity is approximately $1/6^{th}$ of the reach. This mismatch is absorbed by the channel/ bouquet pricing, which is approximately 6 times higher than the retail price. The level of under-reporting

varies considerably from area to area, and also depends on the relative bargaining power of the stakeholders. The extent of discounting on the content price is also not consistent or standardized. It is reported that the distribution of subscription revenue is skewed due to the lack of visibility. There is reportedly a limited pass through of subscription revenue to the broadcaster and MSO.

3.2.4 The reason for this limited pass through could be the lack of transparency in the system and the non-alignment of business models across the supply chain (i.e. every stakeholder is aligned to a different subscriber base).

2. Lack of Transparency in Business and Transaction Models:

3.2.5 Today, the subscriber base is a derived number based on a pre-defined content cost and the reported/ ceiling wholesale price. The price of a channel cannot be effectively negotiated using subscriber uptake numbers as a measure of the channel's strength/ popularity. Pricing decisions are thus made in the absence of data. This has led to a dependence on intermediaries (such as aggregators and distribution agents) to guarantee revenue. Inputs from the industry suggest that the industry's subscription revenue is further fragmented by payouts and commissions to these intermediaries. There is the lack of trust and transparency amongst stakeholders. This makes the lump sum deals in-efficient as the quantum is decided in the absence of relevant business information. This is in contrast to the DTH sector in India and international cable markets, where content deals may be in the form of a fixed fee (lump sum) but are supported by information sharing and full addressability across the supply chain.

3. Differential Pricing at the Retail Level:

3.2.6 The following industry practices are observed with respect to differential retail pricing observed primarily in analog networks. While retail rates are capped under the prevailing tariff order, the Average Revenue per User (ARPU)

per month varies considerably from operator to operator. Based on data received from consumer advocacy groups, the monthly cable bill varies from INR 70 per month to INR 250 per month from area to area, and from operator to operator. There are instances of discounts to multi-connection households or additional connections in a household being provided for free. Some LCOs have indicated that close to 10-15%[50] of the subscribers in their area do not pay for cable services.

3.2.7 The impact of differential pricing is borne both by consumers and industry. The lack of standardized pricing negatively affects consumer interest as some pay more than others for the same product. It also affects the level of transparency in the supply chain as broadcasters/ MSOs have limited visibility on what ARPU various LCOs are actually collecting.

3.2.8 Intense competition among major MSOs to penetrate markets has led to an increase in M&A activity i.e. acquisition of LCOs. In some cases, there are reported instances of introduction of non-registered LCOs, commonly known non-operators[51]. These operators charge artificially low prices in order to garner more subscribers. The persistence of such entities in the absence of a strict enforcement regime creates retail price irregularities.

4. Incidence of Carriage and Placement Fee

3.2.9 The following industry practices are observed with respect to the carriage and placement fee transaction. Analog cable dominates the market with over 75% of C&S homes availing these services. Cable has a capacity to carry a maximum of 70-80 channels in analog mode, however there are currently over 400 channels present in the market. This has led to a demand-supply mismatch and "auctioning" of frequencies by distributors to channels who are willing to pay

[50] Based on inputs received during industry meetings with LCOs
[51] Non-operators are cable operators who operate in the market (i.e. provide cable services) without a valid registration number

more to be carried. Broadcasters have raised concerns over a sharp rise in their distribution costs over the last 2-3 years, led largely by an increase in carriage and placement related outflows. Data received from certain channels shows that these costs have increased in the range of 25%-60%[52] per annum over the last three years.

3.2.10 The reason for this could be the capacity constraint of analog cable. Additionally, the current environment is characterized by limited pass through of subscription revenue, which increases dependence on advertising revenue for broadcasters, and carriage fee revenue, for MSOs.

3.2.11 Despite the lack of capacity and limited scope for VAS, analog services continue to persist due to the following reasons. In the current market presence on analog networks is essential for broadcasters to reach out to a majority of their viewers. This creates a vicious cycle where broadcasters pay large amounts to be on analog networks, and distributors continue to see a financial incentive for owning analog networks. Carriage and placement fee has become an important revenue source for the distributor, who uses this to address the shortfall in subscription revenue. Both MSOs and DTH players have reported that this is a legitimate revenue stream for them, similar to the concept of purchasing 'shelf space' in the FMCG industry.

5. <u>Incidence of region and state based monopoly:</u>

3.2.12 It has been reported to TRAI that there are instances of specific regional and state based monopolies within the country. These monopolies create a barrier to entry for new players who are precluded from entering these markets. In the long run, this is likely to impact the choice and pricing available to the consumer. Lack of visibility at the last mile, especially with respect to subscriber numbers, creates practical issues with assessing the presence or absence of

[52] Based on analysis of data received from stakeholders during this exercise

monopoly. To detect and control monopolistic situations, the industry requires a framework within which information can be gathered and analyzed.

6. Frequent disputes and lack of collaboration among stakeholders

3.2.13 The absence of relevant business information has led to frequent disputes between stakeholders. These disputes often go into litigation, and are observed largely in areas of access to content (for the distributor), carriage (on specific networks) and pricing of content. This is likely to lead to efficiency loss and adversely impact growth of the industry.

3.2.14 Across all the six business issues identified in the non-CAS areas, the analysis indicates a strong inertia to move to addressable systems. Either due to legacy reasons or due to business pressures, stakeholders have aligned their business models to operate in a non-transparent and inefficient environment. In order to break this cycle – the market may need to push on addressability as the desired outcome for improving efficiency. This can be undertaken through digitization of the distribution value chain, and introduction of a structured growth regime for the cable industry. This is outlined in the figure below:

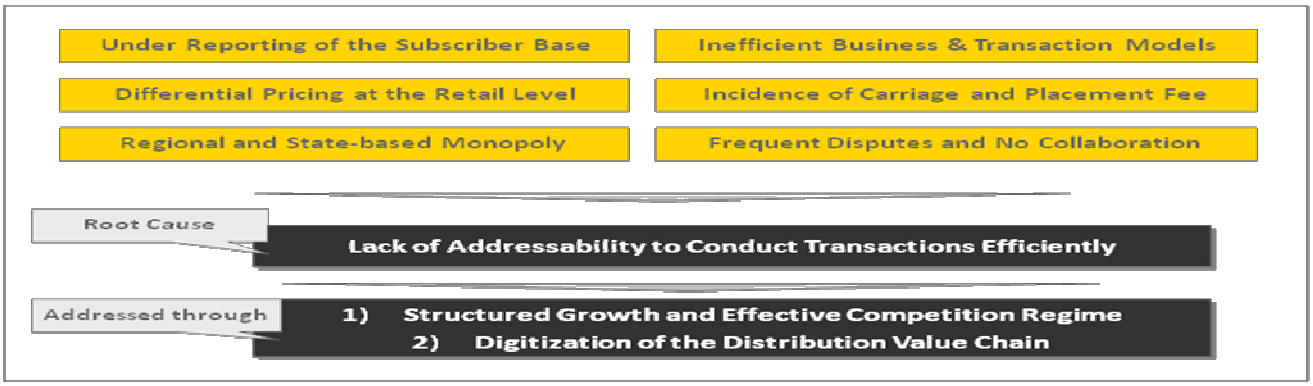


Figure 3.14: Summary of Analysis

Key Findings

3.2.15 In the long run, the cable TV service industry may need to fall under the purview of a structured growth regime. The licensing regime can also be

supported by a strong disclosure and audit mechanism – that will allow continuous monitoring of the industry. It will also create a culture of transparency around key business and consumer metrics – especially the number of subscribers. A third possible step is the introduction of measures that specifically addresses the issue of monopolistic tendencies. It is important to mention here that in the absence of addressability – it is logically not possible to establish the presence or absence of effective competition. Thus definitions of monopoly or effective competition become relevant only where the base is measurable and dependable. The first two steps –should thus be seen as a pre-requisite to effective competition.

3.2.16 Digitization of the distribution value chain, with addressability (through installation of subscriber management systems and mandatory information sharing) – provides a technologically superior and practical solution to the addressability issues faced by the sector. The technology will lend itself easily to audit and disclosure. It will also provide a solution to the bandwidth constraint and ease the demand-supply mismatch with respect to number of channels and capacity of distribution. It has the potential to dramatically improve the quality and variety of television services available to the consumer. In addition, digitization will open up a very large revenue stream for the industry – if triple play services are provided. This is equally beneficial to the consumer as it will promote broadband uptake and internet use.

3.2.17 Therefore the issues for consultation are:

1. Are the figures in Annexure B3 representative for the different genres of broadcasters? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the genre, and not of your company.

2. Are the figures in Annexure B5 representative for aggregators? If not, what according to you are the correct representative figures? When

providing representative figures, please provide figures for the category, and not of your company.

3. Are the figures in Annexure B7 representative for the national MSOs? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

4. Are the figures in Annexure B7 representative for the regional MSOs? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

5. Are the figures in Annexure B9 representative for the LCOs with > 500 subscribers? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

6. Are the figures in Annexure B9 representative for the LCOs with =< 500 subscribers? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

7. What according to you is the average analog monthly cable bill in your state or at an all India level?

8. Is the market for cable services in non-CAS characterized by the following issues:

- **(i) Under-reporting of the analog cable subscriber base**
- **(ii) Lack of transparency in business and transaction models**
- **(iii) Differential pricing at the retail level**
- **(iv) Incidence of carriage and placement fee**
- **(v) Incidence of state and region based monopolies**

(vi) Frequent disputes and lack of collaboration among stakeholders

9. Are these issues adversely impacting efficiency in the market and leading to market failure?

CHAPTER 4: INTERNATIONAL EXPERIENCE

4.1 Coverage and Methodology of the Bench-Marking Study

4.1.1 This chapter provides an overview of international regulatory practices in the broadcasting and distribution industry in major markets around the world.

4.1.2 This section relies on data and insights from multiple primary and secondary sources. Primary data has been gathered through discussions and correspondence with international regulators such as the Federal Communications Commission (FCC) in the US and the Office of Communication (OfCcom) in the UK. Additional sources of information are secondary research on specific international regulations and interaction with industry experts from these countries to understand the business need and the impact of regulations and stakeholder feedback on the same.

4.1.3 Eleven international markets were analyzed as part of the international bench-marking exercise. These markets were selected on the basis of the following parameters:

- Geographical spread – across continents
- Economic status – mix of developed and developing countries
- Prevalence of multiple platforms
- Experience of dealing with similar issues

4.1.4 The following eleven countries were analyzed:

1. United States
2. United Kingdom
3. Germany
4. France
5. Canada
6. Australia
7. Korea
8. Singapore

9. Taiwan
10. South Africa
11. Brazil

4.1.5 The key trend observed across all countries studied is that the guiding principle for regulators is to promote growth through effective competition. While countries may differ in the definition of its scope, effective competition essentially implies the presence of the following market conditions[53]:

- Buyers have access to alternative sellers for the products they desire (or for reasonable substitutes) at prices they are willing to pay.
- Sellers have access to buyers for their products without undue hindrance or restraint from other firms, interest groups, government agencies, or existing laws or regulations.
- The market price of a product is determined by the interaction of consumers and firms. No single consumer or firm (or group of consumers or firms) can determine, or unduly influence, the level of the price.
- Differences in prices charged by firms (and paid by consumers) reflect only differences in cost or product quality/attributes.

4.1.6 When the conditions of effective competition are met, supply and demand forces act freely and prices are automatically aligned to the value attached by the consumer for particular products and services i.e. when there is high demand and low supply, the value attached is high and hence prices rise and similarly if there is low demand and high supply, the value attached is low and prices drop. Thus, market forces interact in a way that consumer needs (of best possible choice and quality of service at the most reasonable price) are met automatically.

4.1.7 However, when these conditions are not met, consumer interests can be harmed as there is no market driven process for meeting their needs.

[53] Effective competition conditions as defined by the 'ICT Regulation Toolkit': http://www.ictregulationtoolkit.org/en/Page.About.html#

Establishing the "Need" for Regulatory Intervention

4.1.8 Regulators view themselves as 'enablers' who support the market indirectly by encouraging effective competition. However if the market does not meet the conditions of effective competition then regulators have stepped in directly to protect the interests of the consumers. Such direct interventions act as stop-gap or short term solutions that control the market till it corrects itself and is mature enough to self-regulate.

4.1.9 The following points provide examples of how certain countries have defined their role:

- The regulatory principles for UK regulator Ofcom[54] clearly state that 'Ofcom will intervene where there is a specific statutory duty to work towards a public policy goal which markets alone cannot achieve.'
- The French network regulator ARCEP[55] works towards encouraging 'the exercise of fair and effective competition to the benefit of users'. ARCEP further states that 'competition is not an end in itself; its goal is to provide consumers, whether individuals or businesses, with better quality service at better prices and a variety of services which meet their expectations.'
- The Australian Communication and Media Authority (ACMA)[56] defines its responsibility as 'promoting self-regulation and competition in the communications industry, while protecting consumers and other users'.

Addressability as the Cornerstone of Effective Competition

4.1.10 Addressability is a crucial pre requisite for effective competition. If sellers (broadcasters and distributors) do not know how many buyers (subscribers) are ultimately purchasing their product (channel), retail prices and revenue arrangements amongst stakeholders cannot be negotiated on any scientific basis and hence cannot be left up to free market forces. This, as

[54] Details available on Ofcom's website: http://www.ofcom.org.uk/about/sdrp/
[55] ARCEP stands for Autorité De Régulation Des Communications Electroniques et Des Postes is the French broadcasting and distribution industry regulator -http://www.arcep.fr/index.php?id=13&L=1
[56] Details available on ACMA website : http://www.acma.gov.au/WEB/STANDARD/pc=PUB_REG_ABOUT

discussed above, adversely impacts the consumer. Information about the size of the market and the uptake of various platforms, products and services among the television viewing audience is essential for defining and encouraging effective competition.

4.1.11 Almost all countries studied have tackled the issue of addressability through enforcement of a strong licensing mechanism, through deployment of digital technology or through a combination of both these measures.

4.1.12 Licensing regime: In this case, cable operators have to be licensed with a local or central regulatory body, without which they are not allowed the 'right of way' to operate. Licenses are granted and regularly reviewed on the basis of certain conditions, including declaration of the total households serviced by those operators. Some countries like Taiwan have strong penalties in place for operators that under report the number of subscribers (such as cancellation of their license). Examples of major media markets that operate through a licensing system are US, Germany, Korea and Taiwan.

4.1.13 Further in countries like the US, in addition to mandatory licensing requirements, operators also have an additional market driven incentive to declare. This is because a larger subscriber base gives them better negotiating power and also increases the level of investor interest in the company.

4.1.14 Digital Technology: Digital technology enables operators to put in place subscriber management systems, which preclude the need of physical audit altogether. These systems work in a hub and spoke model wherein each subscriber gets a unique ID through a device, for example a set top box. This is then tracked back to the mainframe of the operator. The system ensures that each subscriber is accounted for, thus permitting complete transparency and addressability at the local operator level. Most countries are already taking forward strong initiatives to digitize, so tackling addressability issues through this route is an added benefit.

4.1.15 While licensing has to be a top-down initiative driven by the regulator, technological up gradation that enables addressability can be both top-down and bottom-up as the operators also have strong commercial incentives to digitize

Overview of Regulations Relevant to this Consultation

4.1.16 This chapter focuses on instance of regulatory intervention in the short-listed countries across the following areas:

- Regulation at the retail level
- Regulation on transactions amongst business entities (at the wholesale level)
    - Regulation on wholesale tariff
    - Regulation on Placement and carriage fee negotiations
- Regulation mandating A-la-carte provisions at wholesale/ retail levels
- Regulation encouraging digitization

4.1.17 The following table provides a summary of the intervention observed in these countries:

	Retail rate regulation	Wholesale rate regulation	Placement/ carriage fee regulation	Mandatory A-la-carte provision	Clear definition of effective competition	Direct intervention to promote digitization
US	○	☒	☒	☒	✓	✓
UK	☒	○	☒	☒	○	✓
France	☒	☒	☒	☒	○	✓
Germany	○	☒	☒	☒	✓	✓
Canada	○	☒	☒	☒	✓	✓
Australia	○	☒	☒	☒	○	✓
Taiwan	✓	☒	☒	○	Limited info	✓
Singapore	☒	☒	☒	☒	Limited info	
South Africa	☒	☒	☒	☒	☒	✓
South Korea	✓	☒	☒	☒	○	✓

	Retail rate regulation	Wholesale rate regulation	Placement/ carriage fee regulation	Mandatory A-la-carte provision	Clear definition of effective competition	Direct intervention to promote digitization
Summary	Regulated only when necessary	Not regulated	Not regulated	Not regulated	Defined to some extent	Mostly mandated

☒-Does not exist, ✓- Exists, ○-Regulation depends on presence of other market factors

Figure 4.1 Summary of International Regulation Observed (note: due to limited information, Brazil has not been considered for this summary)

4.1.18 Three broad trends are observed from the above comparison:

1) The first priority for the regulator has always been to protect the consumer. This can be seen by the fact that 6 of the 11 countries studied have defined regulations based on market conditions (such as regulating retail rates in the absence of effective competition amongst local operators, as in US or Canada) or direct interventions at the retail level (such as price caps that are in place in Korea and Taiwan).
2) Second, while there are no direct regulations at the whole sale level (be it for wholesale rates or for placement and carriage fee); there are provisions to protect other stakeholders in the industry as well. This means that regulators work towards promoting effective competition across the value chain, The industry and regulator are also empowered to invoke intervention in the absence of effective competition. For example, unusually high fees or charges for any transaction across the value chain is subject to a retrospective review in Germany. The review is intended to check if the fee charged is in line with the costs incurred or if it includes unsubstantiated surcharges.
3) Third, an important observation across countries has been that regulators continually adapt their policies to ensure that they promote every platform equally through 'platform agnostic' regulation. It is pertinent to mention that regulations should be platform agnostic only when the platforms themselves are comparable (i.e. when platforms compete with each other on similar parameters). Thus the regulators have to play a balancing act of (1) developing

each platform to a stage where it can compete on its own (2) ensuring that the regulations at this stage are equal to all parties.

4.1.19 For example, in France, cable and satellite were subject to different 'must carry' regulation, as cable platforms were classified as broadcasters and satellite were seen as being distributors. As a result, cable had a must carry clause for channels such as TF1, M6 and Canal Plus, but satellite had no such obligations. Cable operators objected to this and according to a new regulation, all DTT-only[57] channels have been given "must deliver" status (must deliver means that channels must be delivered if the channel wants to be, but the channel is not obliged to offer itself to platforms), rather than must carry status, on all platforms.

4.1.20 Similarly, while measuring effective competition at the retail level in the US or Canada, the market share of DTH and IPTV players is calculated alongside cable operators as all three are considered to be substitutable delivery mechanisms at the retail level. In fact, in 1996 the US congress modified its legislation to free cable operators from rate regulation in areas where the telecom operator began offering an IPTV service. No market share test was required. In recognition of the ubiquitous network coverage of incumbent telecom carriers, the launch of IPTV services was sufficient to trigger cable rate deregulation.

4.2 Analysis of Specific Instances of Regulatory Intervention

Regulations Governing Pricing and Services at the Retail Level

4.2.1 Retail level transactions refer to transactions between subscribers and cable operators, based on: 1) retail tariff charged and 2) the services provided by the operator. A key point observed across the countries studied is that where retail pricing/ tariff regulation exists, it is always interpreted in the context of the services offered. Thus retail tariff and services are closely linked.

[57] Our understanding is that Canal Plus, TF1 and MG are channels available on the digital terrestrial platform

4.2.2 Since retail level regulation is relevant to a large subscriber base and multiple service providers, ground level enforcement is critical. Two key trends have emerged regarding enforcement from the countries studied. These include:

- Close monitoring: While countries have defined different monitoring mechanisms based on their local market reality, regulators have ensured that they keep a strong check on the market.
- Strong penalties for non compliance: Based on the countries studied, if operators are found to be non compliant, penalties can range from official reviews of their pricing policy to cancellation of their license to operate.

4.2.3 The different ways through which retail regulation has been taken forward include:

- **Mandating retail tariff and services together**: In US and Canada, retail rates are only regulated in markets that are believed to have 'ineffective competition'. In both these cases, the regulator has clearly defined how effective competition is measured at the retail level. The rates are however regulated only for 'basic tier' of services (which has also been defined by the regulator) that all cable operators are mandated to provide to their subscribers.
- **Mandating a range for tariff and reviewing them proactively in context of services**: Korea and Taiwan have a defined price cap at the retail level, within which all services have to be provided to the consumers. There is also a strict licensing regime in both these countries, wherein an operator has to be registered in order to operate. Additionally, both countries undertake a periodic review, where operators have to submit information about their pricing policy (including any proposed increase in rates), subscriber base as well as the services that they provide, which is approved by the regulator.
- **Mandating services and regulating prices through a reactive mechanism:** In Germany, the regulation is primarily driven by services. A key reason for this is because Germany mostly has Free-to-air services and pay TV penetration is very limited. Also since Germany is divided into 16 distinct regions or *landers*, a decentralized approach towards provisions of service is seen as being necessary,

given the diversity amongst regions. The state media authorities[58] or LMAs mandate tier-ing of channels at the local level and give clear guidelines on the kind of services that must be made available to consumer. While there is no cap or restriction on tariff linked to these tiers, tariff can be reviewed retrospectively through a clearly defined review process undertaken by the central regulator.

4.2.4 With regard to regulatory intervention at the retail level, it appears to be defined in the context of both pricing and services. Retail level regulation is observed to be platform agnostic – countries that have a price cap have applied it similarly across all (comparable) platforms. (For specific instances of retail rate and/ or services-related intervention, please refer to Annexure D.)

4.2.5 Retail rate regulation is almost always undertaken in predominantly analog cable markets. This may be attributed to: (1) the bundled nature of an analog service (which prevents choice at the consumer level) and (2) the variance in the quantity and quality of channels across operators. Thus the ceiling protects consumer benefit at a general level, ensuring no individual service exceeds the defined price cap for the group.

4.2.6 In digital, addressable markets, it is observed that retail level regulation is focused on the basic tier. The pricing of additional tiers is left to the business decisions of the operator.

4.2.7 All countries that have taken forward retail level regulation have also supported the enforcement of this regulation through a strong (and often, decentralized) monitoring mechanism.

4.2.8 With respect to B2B transactions, regulators are observed to adopt a policy of minimum intervention. The overarching objective is to allow equal power of negotiation to all stakeholders, thus enabling free market forces to operate.

[58] The state media authorities are called 'Landesmedienanstalten' and are present across the 16 '*landers*' or regions that have been defined in Germany.

4.2.9 This is not the case if either restrictive competition or unfair market power is established. To address this, there are provisions that can be invoked to ensure effective competition is restored across the value chain, allowing stakeholders to operate in a "level playing field". This is borne out by instances of wholesale rate regulation on an exception basis – such as the ongoing investigation of Sky by OfCom, or the dispute resolution undertaken by the French media regulator CSA to determine the wholesale contract value between Voyage (documentary channel) and Canal+ (leading DTH/ satellite operator). (For specific instances of intervention at the wholesale/ B2B, please refer to Annexure D.)

4.2.10 Finally, the research indicates that regulators and governments have played a role in providing incentives to stakeholders in order to digitize and have also communicated technological changes to the consumer in order to ease resistance at the local level. (For specific instances of digitization-related intervention, please refer to Annexure D.)

CHAPTER 5: REGULATORY INTERVENTION IN THE ANALOG NON-ADDRESSABLE ENVIRONMENT

5.1 Introduction

5.1.1 This chapter evaluates the need for and possible forms of regulatory intervention in the analog market. Addressability (through digitization) has been identified as the sustainable solution to address the issues faced by the sector. However this chapter looks specifically at five areas of intervention:

- Wholesale tariff (from broadcaster to MSO)
- Retail tariff (from LCO to consumer)
- A la carte provision at the wholesale level (from broadcaster to MSO)
- Carriage and Placement Fee controls (paid by broadcaster to MSO)
- Commercial tariff (For identified commercial subscribers)

5.1.2 Given that this paper is part of a *de novo* exercise undertaken by TRAI, the Authority has evaluated a broad range of regulatory interventions. The following paragraphs take up each of the five areas (transactions) and evaluate the possible forms of regulatory intervention, and the applicability in non-CAS markets. Each form of intervention is discussed on the parameters of Concept, Calculation Methodology, Benefits, Instances of Use, Information Pre-requisites and Applicability to Non-CAS Markets.

5.2 Wholesale Tariff

5.2.1 It may be said that given the lack of addressability in the market, and low levels of trust among stakeholders – price control is one way to align the value chain. In the current system, the majority of pay channels are sold through exclusive arrangements by 3-4 aggregators. In the absence of market data on the uptake for various channels – there may be a case for price control. This would limit the ability of the aggregator to undertake anti-competitive/ monopolistic pricing at the wholesale level. Stability and transparency (through a defined tariff)

will also positively impact consumer interest – as stability is likely to be passed through to the retail level.

5.2.2 Another point of view is that there is adequate competition in the broadcasting sector – with multiple channels in each genre. The changing viewer-ship ratings among channels in a genre – indicate that channels are continuously innovating to gain popularity. This may also be seen as evidence of no clear domination/ monopolistic tendency. Thus releasing the market from price controls may be feasible, as competition will not allow for indiscriminate pricing at the wholesale level.

5.2.3 Given the merit of arguments both for and against wholesale tariff interventions, the following market scenario could be possible at the wholesale level.

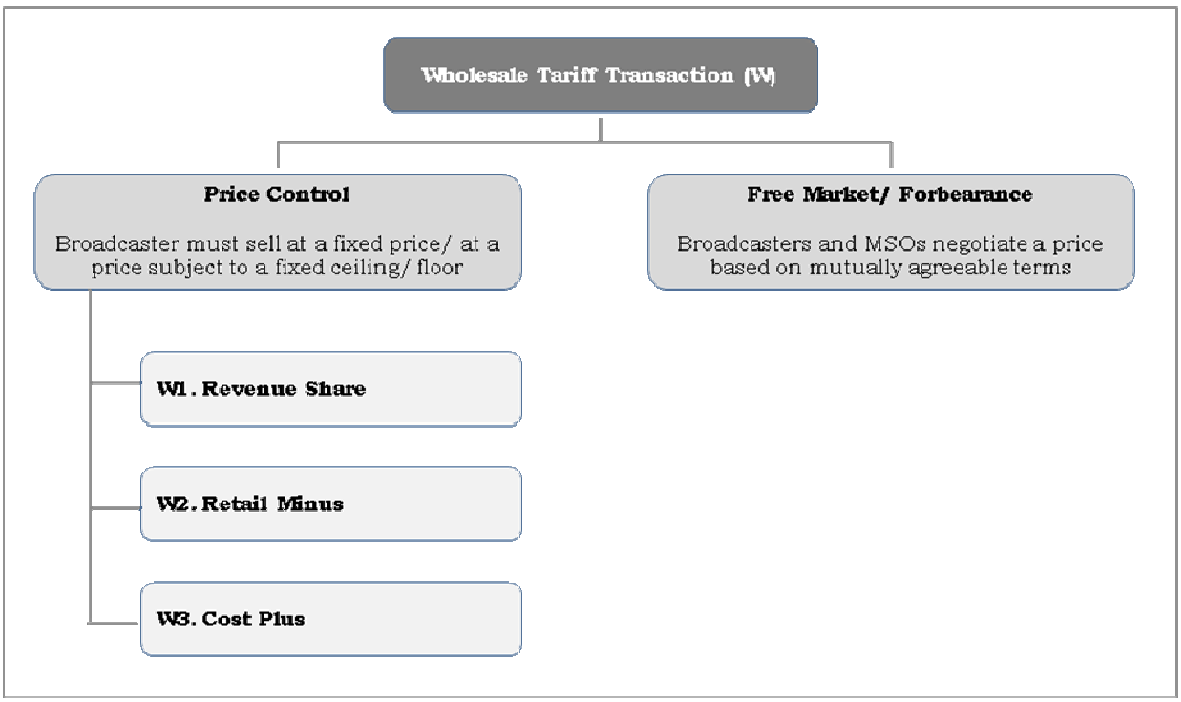


Figure 5.1: Forms of Wholesale Tariff (Free Market and Price Control)

Price Control

5.2.4 Three internationally prevalent tariff estimation methodologies are available for determining the applicable wholesale tariff:

- W1: Revenue Share Mechanism
- W2: Retail Minus Model

o W3 : Cost Plus Model

W1: Revenue Share Mechanism

5.2.5 This method of tariff determination allows for sharing of the subscription revenue generated at the consumer end (retail level) by all stakeholders in the value chain. Thus all parties receive a pre-defined share of revenue – this is similar to the current tariff regime for digital cable services in CAS areas – where revenue is shared in the ratio of broadcaster (45%), MSO (30%) and LCO (25%). This share is usually based on: (1) the contribution of various stakeholders to the cost base of the service and, (2) the expected return on capital employed by various stages of the supply chain.

5.2.6 Calculation of tariff through the revenue share model is illustrated below:

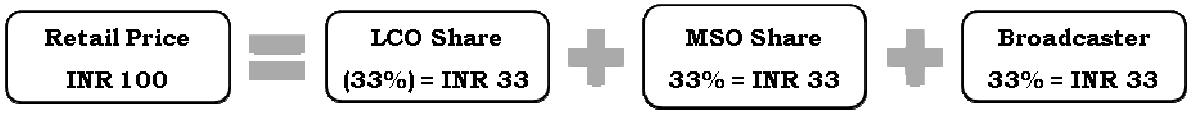


Figure 5.2 Illustration of Wholesale Tariff Determination through Revenue Share Mechanism

5.2.7 Revenue share provides a simple and transparent approach to price control at the wholesale level. Because it is aligned to the retail price, it ensures that the share of each stakeholder is linked to the demand (consumer uptake) of the product. In addition, since all stakeholders gain if the retail price increases, there is likely to be collaboration across the value chain to drive revenue increase through product improvement.

5.2.8 Experience across other industries shows that transparency on: (1) the number of subscribers for a particular product/ service and, (2) the price paid by these subscribers, are pre-requisites for determining revenue share. This is borne out by successful use of this mechanism in the mobile value added services (VAS) sector – where revenue for these services is shared, in a particular ratio between the mobile operator and the VAS content creator. The operator is required

to share logs and other relevant business information with the content creator. This establishes the base on which the revenue share can be calculated.

5.2.9 While revenue sharing is an efficient form of price control, it can be said that it is implementable where addressability exists. In non-CAS markets where negotiations are conducted on a subscriber base that varies from stakeholder to stakeholder and it is difficult to determine the retail price of a single channel, one could argue that this mechanism is not the best suited.

W2: Retail-Minus Model

5.2.10 Similar to revenue share, this model links the price of specific types of content to its retail price (demand).

5.2.11 Calculation of tariff through the retail minus model is illustrated below:

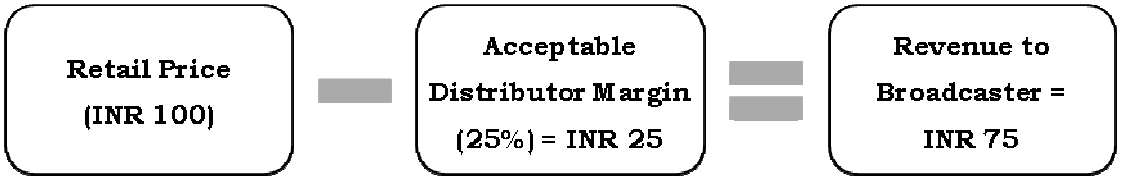


Figure 5.3: Illustration of Wholesale Tariff Determination through Retail Minus Approach

5.2.12 In addition to aligning the wholesale tariff to the retail tariff, it also allows the distributor to recover his cost of operations (allocated to that content) and a reasonable margin. The rest accrues to the content owner. Thus in cases where content is popular and consumer willingness to pay is high, the wholesale tariff is high. Vice versa, for less popular content where willingness to pay is low, the wholesale tariff would also be low.

5.2.13 Accurate estimation of the wholesale tariff through this method requires comprehensive empirical data on the price of various channels/ bouquets paid by the consumer and uptake of various channels/ bouquets in the market (i.e. number of subscribers). In non-CAS markets, there is no readily available and reliable information on these. With regard to channel/ bouquet wise pricing – the analog service is sold as a bundled feed of ~80 channels where the consumer

cannot choose content of his/ her choice. With regard to uptake, the lack of addressability means that there is no reliable way to estimate the number of subscribers receiving a specific channel at their home.

5.2.14 In the absence of these critical sets of empirical data, one could argue that this method of tariff estimation is not appropriate for non-CAS markets. International experience shows that the retail minus approach has been used to determine tariff in addressable systems.

W3: Cost-Plus Model

5.2.15 The aim of this approach is to devise a tariff that reflects the cost structure and cost base (one-time and recurring) of the seller (in this case, the content creator or broadcaster). To calculate the tariff, the "relevant" or "allocated" cost base of a channel is determined on the basis of sound financial and operational information. This base is then allocated over the current subscriber base of the channel – in order to determine the unit price.

5.2.16 Calculation of tariff through the cost plus model is illustrated below:

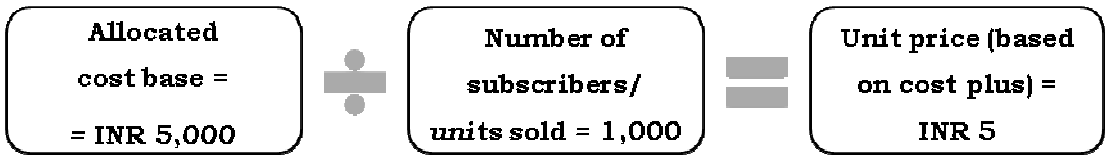


Figure 5.4: Illustration of Wholesale Tariff Determination through Cost Plus Approach

5.2.17 There are two key advantages: (1) The cost plus model allows for effective recovery of the seller's costs and a reasonable margin. This makes the business viable as costs are accounted for, and limits practices like cross-subsidizing through alternate revenue streams. (2) It constrains the ability of the seller to charge monopolistic rent (i.e. an unwarranted price premium) – as the price must be aligned to the cost base. This protects consumer interest and prevents over-charging.

5.2.18 Reliable estimation of a wholesale tariff for broadcasting through this approach requires the following sets of data:(1) Detailed information on the one-

time and recurring costs of creating and transmitting content (transmission costs up to the MSO level) – to determine the numerator, and (2) Information about the uptake of various channels at the consumer end – to determine the denominator.

5.2.19 Cost-based tariff exercise was an important argument made by parties during the TDSAT case and found mention in the judgment as a key action area for future tariff determination.

Wholesale Tariff Determination using the Cost Plus Approach

5.2.20 A "Cumulative Cash Flow" Model to determine the appropriate level of wholesale tariff was deployed. The model was developed at a genre-level, with the intent to generate channel-wise prices for various genres. A detailed methodology note and sample calculation is provided in Annexure E. The inputs for the Cumulative Cash Flow model were derived from the genre-level representative figures published in Annexure B. It is important to note that the broadcaster figures in Annexure B are an average of multiple channels in each genre. Thus, they are not likely to be an exact match of the revenues and costs of any single channel or company. It must also be mentioned that while the primary determinant of a television channel's business model is its genre, genre-wise averages cannot take into account variations arising on account of factors such as the business model, ownership structure, network strength, popularity of the channel, content sourcing model, markets of presence and connectivity. These factors can impact the revenues, costs and/ or the investment levels of a channel.

5.2.21 A sample tariff calculation using the "Cumulative Cash Flow Approach" and the Representative Figures is illustrated below. Using key data points such as the annual operating costs (A) of INR 50 Crore, one-time capital expenditure (B) of INR 10 Crore, cost of capital (E) and revenue split between advertising and subscription (L,M) – the peak subscription revenue requirement (Q) is calculated. Allocated over the number of subscribers (R), the tariff or unit price ceiling can be considered at INR 11/ month (S).

	Example: Genre XYZ						(INR Cr)	
		Year 1	Year 2	Year 3	Year 4	Year 5	Source	
A	Operating Costs	50.00	50.00	50.00	50.00	50.00	Stakeholder information	
B	Capital Expenditure	10.00	-	-	-	-	Stakeholder information	
C	Debt (20%)	2.00	-	-	-	-	Balance sheet analysis	
D	Equity (80%)	8.00	-	-	-	-	Balance sheet analysis	
E	Return on Capital - pre tax	1.84	1.84	1.84	1.84	1.84		
F	Interest on Debt (12%)	0.24	0.24	0.24	0.24	0.24	Balance sheet analysis and industry research	
G	Return on Equity (20%)	1.60	1.60	1.60	1.60	1.60	Balance sheet analysis and industry research	
H	Total Recoverable Cost (A+E)	51.84	51.84	51.84	51.84	51.84		
I	Revenue Index (as a % of recoverable costs)	42%	65%	100%	135%	182%	Assuming Year 3 break even - international benchmarks	
J	Growth in revenue		35%	35%	35%	35%		
K	Revenue Split (Current)							
L	Advertising	100%	90%	80%	70%	60%	Stakeholder information	
M	Subscription	0%	10%	20%	30%	40%	Stakeholder information	
N	Corresponding Revenue (I*H)	21.90	33.70	51.84	69.98	94.48		
O	Advertising (L*N)	21.90	30.33	41.47	48.99	56.69		
P	Subscription (M*N)	-	3.37	10.37	21.00	37.79		
Q	Annual Recoverable Costs from Subscription - INR Cr (P)	38						
R	Max Connectivity (mn)	2.81	Average Connectivity (mn)					0.88
S	Corresponding Monthly Tariff - INR ((Q/R)/12)	11	Corresponding Monthly Tariff - INR ((Q/R)/12)					35.76

Figure 5.5: Illustrative Tariff Calculation using the Cost Plus Approach

5.2.22 It is observed that there is significant variation in connectivity, even among channels of the same genre. On mathematical analysis with minimum, maximum and average connectivity figures for any genre – the unit price for a given cost base (say, INR 50 crores in the sample calculation above in Figure 5.5) was found to be highly sensitive to the connectivity figure used. Use of average connectivity gives a tariff ceiling (INR 36) that is more than 3 times the ceiling derived by using the maximum connectivity (INR 11).

5.2.23 The current connectivity is a derived number based on the target subscription revenue of a channel and the applicable tariff. An attempt to calculate the tariff using the subscription revenue requirement (derived from current costs and collections) and the observed connectivity – is likely to lead to a ceiling that approximates the current tariff.

5.2.24 Use of current connectivity figures is likely to perpetuate the mismatch between (1) the per subscriber cost of content to the MSO and, (2) the per subscriber retail price of television services. Thus it is unlikely to lead to the alignment of business models across the value chain, which is identified as a key concern in non-CAS markets.

5.2.25 Another approach could be use of Cost Base at Micro-Level (Channel-Level). With access to channel-level data, the cost-based approach can effectively mirror the revenue and cost structures of that channel. Thus a case-by-case approach to determining tariff using the cost-based approach can be evaluated. This would require networks to provide detailed financial data for the channels they own and manage. Calculation of the tariff would be on a case-to-case basis, and would be aligned to their unique business model. A sample calculation for a single channel (case-to-case basis) is provided in Annexure E.

5.2.26 Advertisement and subscription revenue are the two main revenue streams for the broadcasters. Pay channel broadcasters earn from advertisement as well as subscription revenue, whereas the Free to Air (FTA) channel broadcasters earn mainly from advertisement revenue only. Similarly expenditure of broadcasters is mainly on content and carriage. In the non-CAS system, a bouquet of 70-80 channels is provided to the consumers and they have no choice for the channel. One view could be that in this environment (non-CAS) the subscribers should only pay for the carriage of the channels. The broadcasters should recover the cost of content from the advertisement revenue.

Forbearance

5.2.27 A forbearance tariff regime allows for price determination based on mutually agreeable terms. In this regime, broadcasters and distributors would be free to decide the price of content, level of discount, payment terms etc.

5.2.28 Representations were made by broadcasters during the pre-consultation phase arguing the case for forbearance. The arguments put forth for forbearance at the wholesale level tariff are as follows. There is lack of evidence to demonstrate absence of effective competition at broadcaster level. Further, the practice of negotiated subscriber base allows for changes in subscription revenue collection despite the price being fixed. Additionally, releasing tariff may build pressure on connectivity – allowing for re-alignment of business models to the end-consumer (i.e. retail price). Finally, releasing the bouquets is likely to increase

competitiveness of pay channel pricing and encourage broadcasters to reconstruct effective packages.

5.2.29 The MSOs have reported that they struggle to meet the cost of content. The risk of allowing forbearance in the wholesale market could adversely impact the MSO business model as it may lead to a spike in prices, especially for dominant/ driver channels. This could also result in an increase in the cost of cable TV services to the end consumer.

5.2.30 During pre consultation meetings some MSOs have expressed their desire for long terms content deals and collaborations between broadcasters and MSOs. This will allow the broadcaster and MSO to jointly address issues of revenue leakage at the last mile. Long term contracts will lend stability and credibility to the MSO business, thus improving access to funding for digitization.

5.2.31 Some stakeholders have proposed the introduction of standardized contracts and most favored clauses (MFCs) for broadcasters and distributors entering into an agreement. The MFCs would define all the standard terms and conditions of the wholesale level contract. This will take into account terms of business such as price, level of discount, connectivity, any netting off against carriage fee, payment terms and other relevant factors. Broadcasters and MSOs would be required to file these contracts (as under the current RIO/ RIA statutes). The principle of non-discriminatory pricing would be evaluated on the basis of MFCs included in these standard contracts only. Thus no factors outside the contract may be used to justify price discrimination by one party to another. Regular filing and compliance with these agreements would enable TRAI to respond promptly and provide support to the industry.

5.2.32 **In view of the above the issues for consultation are:**

1. Which of the following methodology should be followed to regulate the wholesale tariff in the non-CAS areas and why?

i) **Revenue share**
ii) **Retail minus**
iii) **Cost Plus**
iv) **Any other method/approach you would like to suggest**

2. If the revenue share model is used to regulate the wholesale tariff, what should be the prescribed share of each stakeholder? Please provide supporting data.

3. If the cost plus model is used to regulate the wholesale tariff, should it be genre wise or channel wise?

4. Can forbearance be an option to regulate wholesale tariff? If yes, how to ensure that (i) broadcasters do not increase the price of popular channels arbitrarily and (ii) the consumers do not have to pay a higher price.

5. What is your view on the proposal that the broadcasters recover the content cost from the advertisement revenue and carriage cost from subscription revenue? If the broadcaster is to receive both, advertisement and subscription revenue, what according to you should be the ratio between the two? Please indicate this ratio at the genre levels.

6. What is your view on continuing with the existing system of tariff regulation based on freezing of a-la-carte and bouquet rates as on 1.12.2007; and the rate of new channels based on the similarity principle at wholesale level? You may also suggest modifications, if any, including the periodicity and basis of increase in tariff ceilings.

Please elaborate all answers with detailed reasoning

5.3 Retail Tariff

5.3.1 The following factors create an environment where regulatory oversight on what consumers pay for cable services is required.

5.3.2 There is high level of fragmentation in the analog cable market and lack of a structured growth and licensing regime for the cable sector. The absence of disclosure requirements that can allow for regular tracking of prices and identification of regulatory abuse/ anti-competitive practices is another factor. The nature of cable services tends towards a natural monopoly as it is not cost-effective for multiple service providers to wire the same area resulting in no choice available to the consumers. The essential nature of basic television services and the value placed on them by the consumer also emphasizes the need for regulatory oversight.

5.3.3 Internationally prevalent methodologies available for determining the retail tariff are outlined below:

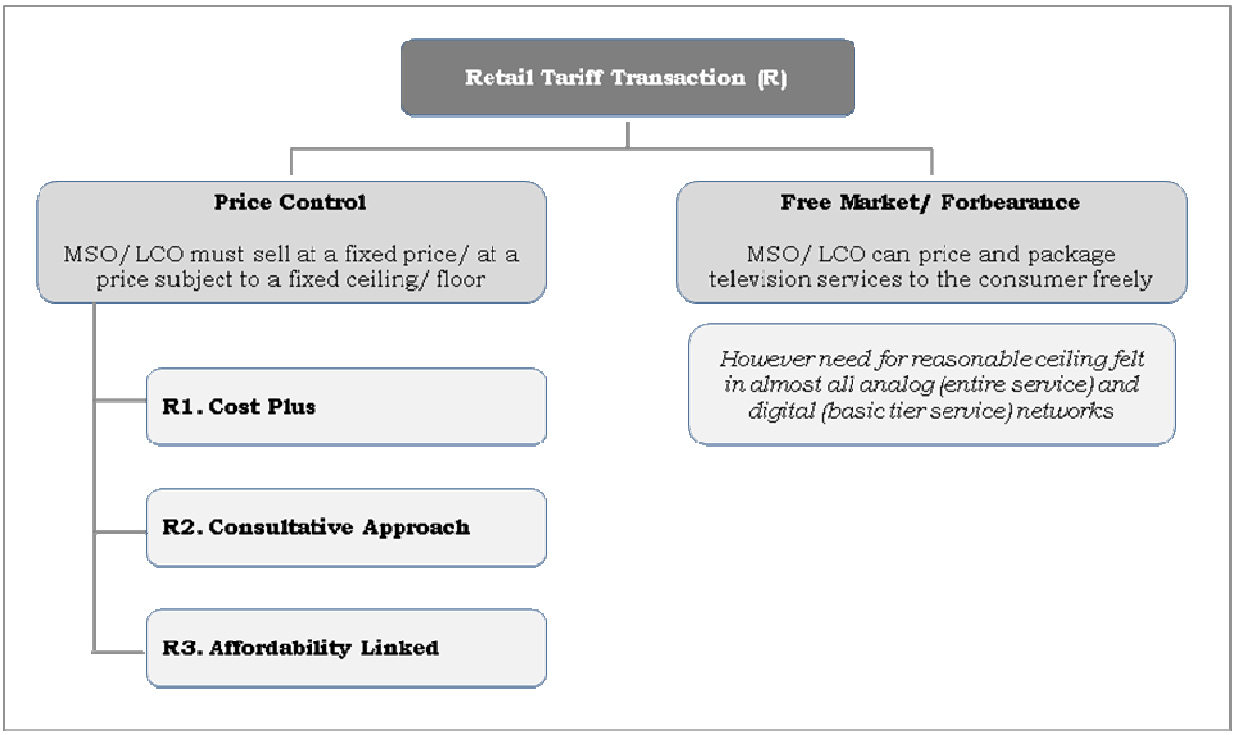


Figure 5.6: Forms of Retail Tariff (Free Market and Price Control)

R1: Cost Plus Model

5.3.4 Cost plus retail pricing is based on the "estimated cost" of providing cable services to consumers at the retail level. This includes the costs of the broadcasters, MSOs and LCOs, plus a reasonable margin for each stakeholder in the value chain. This is illustrated below:

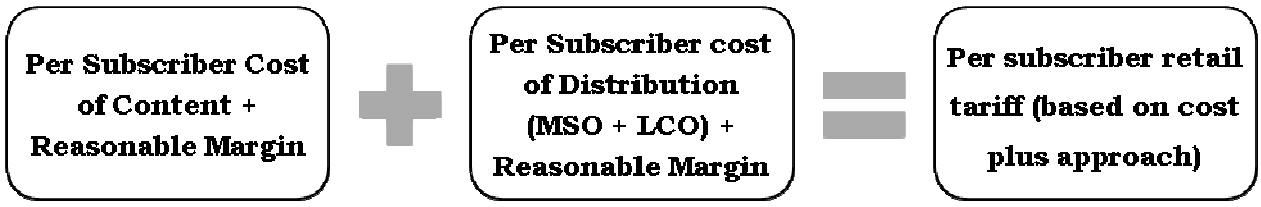


Figure 5.7: Calculation of Retail Tariff through the Cost Plus Approach

5.3.5 The main inputs for the cost plus model are per subscriber cost of content and the per subscriber cost of transmission/ distribution (i.e. MSO and LCO.

5.3.6 With regard to individual channel costs, the same difficulties are faced as discussed in the Cost Plus approach to the Wholesale Tariff (discussed in Section 5.2). Additionally for analog services, a "typical bouquet" of pay and FTA channels across different genres has to be constructed. The cost of content per subscriber is the sum total of the cost (wholesale tariff) of each pay channel in the typical bouquet. Due to fragmentation at the last mile and lack of addressability, there are no reliable data sets providing details of the channel mix of various operators. Thus, the per subscriber cost is further limited by the assumption of a standard channel mix across the entire subscriber base.

5.3.7 There is wide variation in the infrastructure set up by the MSOs/LCOs across the country. These variations are in terms of type and technology of the equipment used, type of cable used (coaxial or fibre), network topology etc. If there was a disclosure regime, it is easy to assess when operators installed their infrastructure base, how much of this investment has been written down and what is the net remaining value of these assets. It would also help in calculation of the true "per subscriber cost" of MSO and LCO operations.

R2: Consultative Approach

5.3.8 A consultative approach to retail pricing is used in countries like Korea and Taiwan, and involves periodic review of the pricing policies of all operators. During the review, operators must share details related to the service they provide – such as the number and mix of channels, the cost of content, the cost of infrastructure and any other sources of income. Based on this information, the operator is required to justify the price charged to the consumer for television services. Non compliance with the consultation review leads to a loss of license to operate.

5.3.9 This approach generally applies in a licensed environment, as operators have statutory obligations to declare their pricing to the authorities on a regular basis. One view could be that this may not be efficient and effective in the Indian cable sector because it is not working in a licensed environment.

R3: Affordability Linked Retail Pricing

5.3.10 This model connects the price level to the affordability or ability of consumers to pay for products and services. It considers the current income and/or expenditure levels for consumers, and benchmarks the suggested price ceiling to expenditure in similar product and service categories. Subject to certain reasonable assumptions on consumer spending habits, it is possible to arrive at affordability linked benchmarks for cable TV services in India.

5.3.11 There is a view that an affordability linked tariff can possibly provide a practical solution to the impasse created by the non-addressable nature of analog systems. It reaches the consumer directly and estimates the price based on demand. Unlike the cost-based approach, this allows the retail tariff to de-link itself from the issues and problems observed on the supply side.

Retail Tariff Determination using the Affordability Approach

5.3.12 The affordability linked retail tariff has been developed through two main analyses: (1) analysis of state wise urban household consumption expenditure data as per the 2006-07 NSSO survey and, (2) analysis of

international benchmarks regarding pricing of cable services. The detailed methodology, data sets and resultant tariff ranges are provided in Annexure F to this paper.

(1) State-wise Urban Household Consumption

5.3.13 The National Statistical Service Organization (NSSO) provides details on the monthly average expenditure per person on various items of consumption (such as food, fuel & light, education, consumer durables etc).

5.3.14 To estimate affordability, it has first been assumed that cable services do not exist in the market, so that the pricing can be looked at afresh without any current biases. Other consumption items that can act as 'surrogates' or can be compared to cable services have then been identified, to estimate the amount spent by the household on 'similar services'. The approximate expenditure on these items has been used to set the ceiling for cable services.

5.3.15 Surrogates have been identified based on the needs that the consumption items fulfill as per 'Maslow's hierarchy of needs'. It has been understood that cable services meet 'esteem' needs in a household. Thus the average that is spent on 'esteem' related goods and services that fulfill those needs has been identified as the affordability level for cable services and this has been used to set the price ceiling. (The detailed methodology is provided in Annexure F.)

5.3.16 A second option is also evaluated – where cable services are understood to fulfill a combination of 'esteem' and 'cognitive' needs. In this case, the affordability level is calculated using a simple average of spending on 'esteem' needs (E) and 'cognitive' needs (C) = (E+C)/ 2.

5.3.17 Based on the above analysis of NSSO data, the estimated expenditure on cable TV services is approximately INR 233 per household per month (average of esteem needs). The second option provides an estimated expenditure of INR 313 per household per month (average of esteem and cognitive needs). This threshold

is at an all India level. State-level expenditures have also been discussed in Annexure F.

5.3.18 As mentioned in chapter 3, the all-India average monthly cable bill or ARPU as per the consumer advocacy groups is INR 165. However, there is high variation in monthly subscription fee which ranges from INR 70 to INR 250 across cities.

(2) Analysis of International Benchmarks

5.3.19 To further validate the affordability methodology, the price for cable services across relevant international markets has also been analyzed. This is used to compare India to global standards of expenditure on cable services.

5.3.20 There are two main trends that are observed from the international analysis:

- **Cable Television Spending:** On an average, monthly cable services fee in developing countries is typically around 22 international dollars (on the basis of purchasing power parity)[59]. This amounts to approximately INR 325 per month
- **Ratio of Cable to Telecom Spending:** Internationally, the monthly pay cable ARPU is typically twice the monthly blended mobile ARPU i.e. a ratio of 2:1. However in India, the monthly cable ARPU is only 0.9 times the monthly mobile ARPU (estimated at INR 185[60]). This is observed to be a reverse of the global trend. However this ratio of 0.9:1 also masks variations in the ARPU across operators and regions.

Retail Tariff Options and Ease of Implementation

5.3.21 The following paragraphs assess the advantages and disadvantages – by further classifying/ tier-ing the retail tariff based on the affordability of various groups (in this case, of various states). The following three options are identified:

[59] 1 International Dollars = approximately INR 15 (on the basis of purchasing power parity)
[60] Monthly GSM ARPU for the Quarter Ended June 2009, p. 5, Report on "The Indian Telecom Services Performance Indicators", released on 1 October 2009

(1) a single national-level ceiling, (2) a tier-wise ceiling based on allocation of states into three tiers, and, (3) a state-wise ceiling.

5.3.22 **Single National Ceiling:** A national tariff is easy to enforce and communicate to the consumer, but this may not take into account state wise differences on expenditure levels and affordability. Therefore some states which have lower expenditure levels compared to the national average may be disadvantaged.

5.3.23 **Tiered Ceiling (3 Categories):** A tier wise tariff would require allocating various States into different tiers. This can be done by forming a classification that indexes the average State affordability to the average all India affordability. Those States that are significantly above the average fall under Tier 1, those equal to or nearly equal to the average fall under Tier 2, and those significantly below the average fall under Tier 3. The retail tariff falls as one moves from Tier 1 to Tier 3. This allocation would ensure that states with similar expenditure behavior are grouped together and the tier wise price tariff reflects the variation in affordability level across different States. However this would require far more detailed communication than a single all-India tariff as consumers would need to be informed as to which tier they fall into and what the applicable tariff ceiling for that tier is.

5.3.24 **State-level Ceiling:** A State wise tariff would take into account State wise affordability and expenditure levels. Thus there would be ~25 levels of retail tariff applicable across the country. While this approach most closely mirrors the affordability level of every state, it also has the following disadvantages: (1) difficulties in communicating and enforcing multiple tariffs across the country (2) significant variation in the ceiling with the highest state at ~5x (5 times) the tariff set for the lowest state.

5.3.25 In the non-CAS market, the cable operator delivers a bouquet of 70-80 channels to the consumers. This will consist of both pay and FTA channels, So, in case of retail tariff ceilings the constitution of the bouquet to the subscriber i.e. number of pay and FTA channels become significant. One view could be that ratio

of pay and FTA channels/number of pay and FTA channels should be fixed and the other view could be that it should be left to the market forces in view of presence of alternate delivery platforms like DTH.

5.3.26 In view of the above the issues for consultation are:

1. Which of the following methodologies should be followed to regulate the retail tariff in non-CAS areas and why?

i) Cost Plus
ii) Consultative approach
iii) Affordability linked
iv) Any other method/approach you would like to suggest

2. In case the affordability linked approach is to be used for retail tariff then should the tariff ceilings be prescribed (i) single at national level or (ii) different ceilings at State level or (iii) A tiered ceiling (3 tiers) as discussed in paragraph 5.3.23 or (iv) Any other

3. In case of retail tariff ceiling, should a ratio between pay and FTA channels or a minimum number of FTA/pay channels be prescribed? If so, what should be the ratio/number?

Please elaborate all answers with detailed reasoning

5.4 A La Carte Provision of Channels

5.4.1 The issue is whether broadcasters should be mandated to provide channels on a-la-carte basis to MSOs/LCOs.

5.4.2 Vide tariff amendment order dated 4th October 2007 they have been directed to offer all channels on a-la-carte basis to the MSOs/LCOs. It also lays down the rates at which each of the pay channels will be charged vis-à-vis the bouquet. According to the broadcasters, this is irrational and arbitrary. Their contention is that there is a virtual monopoly of MSO/LCO in their respective

areas. In a non-addressable system the under declaration of the number of subscribers is extremely high and there is no mechanism to determine the actual number of subscribers viewing the channels, which is why the bouquet arrangement is resorted to. Broadcasters also feel that a-la-carte provisioning enables the MSOs/LCOs to choose their channels thereby encouraging the carriage fee regime and facilitating MSOs/LCOs to seek exorbitant carriage fee.

5.4.3 The counter argument from the MSO/LCO is that merely because a-la-carte choice cannot be made available to consumers in non-CAS areas does not mean that a-la-carte transactions between broadcasters and MSOs/LCOs will not be beneficial to the consumers. It has been a practice in the industry that the bouquets are formed such that they contain only one or two popular channels and the MSOs/LCOs are forced to take the entire bouquet and they have to pay as if all the channels in the bouquet are being watched by the entire negotiated subscriber base, while only the popular channels have high viewership. In the process, the entire cost of the bouquet is borne by the subscribers who are not in a position to choose the individual channels because of the non-addressable system.

5.4.4 The possible arguments against a-la-carte could be that in an efficient market with free pricing, the concept of a la carte provision would not exist. This is because the broadcaster and operator would be able to negotiate freely on the basis of an addressable system – i.e. a measurable subscriber base. This would allow bouquets to be customized to the needs and business requirements of the two stakeholders participating in the wholesale transaction viz. the broadcaster and the operator. Also that mandatory a la carte provision is less efficient as it reduces efficiencies related to bundling – that is an important driver of growth at both the wholesale and the retail level.

5.4.5 Further the a la carte business model (at both wholesale and retail level) is only feasible for a select set of niche channels – that are driven largely by subscription revenue. In the absence of addressability and technology that allows

a la carte uptake at the subscriber end – it is not viable to push the broadcasting industry to align itself to a la carte provisioning.

5.4.6 The arguments in favor of a-la-carte could be that it reduces the cost of content for the MSO – these benefits are expected to be passed on to the consumer and in case of forbearance at the wholesale level, it acts as a check to control indiscriminate pricing by the broadcaster.

5.4.7 In view of the above the issues for consultation are:

1. **Should the broadcasters be mandated to offer their channels on a-la-carte basis to MSOs/LCOs? If yes, should the existing system continue or should there be any modification to the existing condition associated with it?**

2. **How can it be ensured that the benefit of a-la-carte provisioning is passed on the subscribers?**

3. **Are the MSOs opting for a-la-carte after it was mandated for the broadcasters to offer their channels on a-la-carte basis by the 8th tariff amendment order dated 4.10.2007. If not, why?**

Please elaborate all answers with detailed reasoning

5.5 Carriage and Placement Fee Controls

5.5.1 The next issue is that of carriage fee and placement fee being paid by the broadcasters to MSOs/LCOs.

5.5.2 The argument in favor of controls could be that the rapid increase in carriage fee leads to high costs of entry for new/ small channels. Carriage fee can be attributed to two reasons: (1) genuine lack of bandwidth in the analog transmission mode, which leads to a supply demand mismatch, and (2)

considerable pressure on the MSO business model (worsened by lack of addressability) – which leads to pressure on other sources of revenue like carriage and placement fee.

5.5.3 The arguments against controls on carriage fee could be that the amount of carriage and placement fee paid by a broadcaster to an MSO depends on multiple parameters including but not limited to (1) target audience delivered, (2) pull of channel (3) bouquet composition, and (4) competition intensity in the genre. As the parameters affecting the negotiation differ in each transaction, and with each party, standardization of a value across markets is difficult. Carriage fee may be paid by the broadcaster in many forms, such as net transactions with subscription revenue, discounts to group companies, barter transactions, equity stake etc. This makes it difficult to devise a single ceiling/ level of control. Further, monitoring multiple forms of the transaction is difficult.

5.5.4 Internationally carriage fee is viewed as a matter of commercial negotiation and is based on relative bargaining power and market strength of players. To protect stakeholders against unfair market practices (which may include unrealistic carriage fee being charged by certain operators) – countries such as Germany have retrospective fee regulation in place. However the applicability of such controls is limited to a licensed environment where operators are subject to penalties and privileges in accordance with the licensing regime. These controls are difficult in the current Indian environment, until such time that the cable industry is streamlined through licensing and allowed to grow in a structured fashion.

5.5.5 There is evidence that the transaction value for carriage and placement fee varies with changes in the macro/ industry environment. Information received from stakeholders indicates that while carriage fee has increased over the last three years, the rate of increase differs from year to year. Across a sample of 4 large carriage fee paying networks, it was observed that the average escalation in carriage and placement fee related outflows was 68% from 2006-07 to 2007-08 and 29% from 2007-08 to 2008-09. One of the reasons for

increase in the carriage fee may be that 74 and 160 new channels were permitted under downlinking guidelines by the Ministry of Information and Broadcasting in the year 2007 and 2008 respectively. The low escalation in the carriage fee in the year 2008-2009 may be attributed to pressure from the economic slowdown observed in 2008-09, which led to automatic correction in major cost items, including carriage and placement fee.

5.5.6 Carriage fee in India is largely driven by the advertising potential of various markets. This is demonstrated by the fact that carriage fee is only paid in markets covered by the viewership agency TAM – as large advertisers allocate a majority of their marketing spend according to ratings published by TAM. Thus one could argue that carriage fee should not be regulated if there are no controls on advertising revenue

5.5.7 In view of the above the issues for consultation are:

1. Should the carriage and placement fee be regulated? If yes, how should it be regulated?

2. Should the quantum of carriage and placement fee be linked to some parameters? If so, what are these parameters and how can they be linked?

3. Can a cap be placed on the quantum of carriage and placement fee? If so, how should the cap be fixed?

Please elaborate all answers with detailed reasoning.

5.6 Tariff Issues Relating to Commercial Subscribers

5.6.1 Prior to 7th March 2006, tariff regulation for cable TV did not make any distinction between commercial cable subscribers and ordinary cable subscribers. However, Hon'ble Telecom Disputes Settlement and Appellate Tribunal in a judgment on 17th January 2006, on a petition raised by a few

Associations of Hotels and Restaurants, clearly stated that 'members of petitioner's associations cannot be regarded as subscribers or consumers'. It also further stated that 'the Regulator should consider whether it is necessary or not to fix the tariff for commercial purposes in order to bring about greater clarity and avoid any conflicts or disputes in this regard'.

5.6.2 Following the TDSAT judgment and representations made by the Federation of Hotel and Restaurant Association of India, the Authority vide 'The Telecommunications (Broadcasting & Cable) Services (Second) Tariff (Seventh Amendment) Order 2006, (8 of 2006), issued on 7th March 2006 gave the following definitions of cable subscribers:-

'Ordinary cable subscriber' means any person who receives broadcasting service from a cable operator and uses the same for his/her domestic purposes.

'Commercial cable subscriber' means any person, other than a multi system operator or a cable operator, who receives broadcasting service at a place indicated by him to a broadcaster, multi system operator or cable operator, as the case may be, and uses such signals for the benefit of his clients, customers, members or any other class or group of persons having access to such place.

5.6.3 Based on the above definitions, it was further clarified that for all except commercial subscribers, the rates would remain frozen at rates prevalent as on 26th December 2003. For commercial subscribers, the charges payable by commercial subscribers to cable operators, Multi-signal operators or Broadcasters prevalent as on 1st March 2006 shall be the ceiling. At the same time, TRAI also decided to undertake a detailed exercise to decide on the methodology and manner through which specific commercial tariffs can be fixed.

Prevailing Regulatory Environment Applicable to Commercial Subscribers

5.6.4 Following a detailed consultation exercise 'The Telecommunications (Broadcasting & Cable) Services (Second) Tariff (Seventh Amendment) Order 2006, (8 of 2006)' was issued on 21.11.06. This order further distinguished between two groups of commercial subscribers as follows: the first group of commercial subscribers to be under forbearance regime and the other group (all other

commercial subscribers that were not included in the first group) to be treated the same as ordinary subscribers.

5.6.5 The first group of commercial subscribers (that fell in the forbearance regime) included the following:

- o Hotels with rating of 3 stars and above
- o Heritage hotels (as defined by the Department of Tourism, Government of India)
- o Any hotel, motel, inn or commercial establishment providing board & lodging and having 50 or more rooms.

5.6.6 The tariff amendment order also provided that whenever any commercial cable subscriber uses the programmes of a broadcaster for public viewing by fifty or more persons on the occasion of special events at a place registered under the Entertainment Tax Act, then also the tariff will have to be mutually decided between the parties concerned.

5.6.7 As per this order, the charges for these commercial subscribers i.e. any establishment falling under the categories mentioned above would be under forbearance and would be mutually determined by the parties.

5.6.8 Any commercial subscriber not falling in the categories mentioned above would be subject to the same charges as ordinary subscribers that have been frozen at the rates prevalent as on 26.12.03 (as per the tariff order of 1.10.2004).

5.6.9 Further, any commercial subscriber that falls in the categories of 3-star and above hotels, heritage hotels and any hotel/motel/inn which has 50 rooms or above, which also has the facility of getting direct broadcasting services, should be able to receive channels on an a-la-carte basis.

5.6.10 To prevent perverse pricing, following A-la-carte pricing conditions (that were continued in subsequent tariff orders) were also specified:-

- Maximum retail price on any individual channel shall not exceed three times the average channel price of its bouquet
- The sum of the individual maximum retail prices of the channels shall not be more than 150% of the maximum price of the bouquet

Summary of Representations and Issues Raised by Stakeholders

5.6.11 The following is a summary of the key representations that have been made by industry associations and individual stakeholders on the issue of commercial subscribers:

Definition of commercial subscribers

5.6.12 Stakeholders have argued that hotels or commercial subscribers do not need a separate definition as they are also end-users like ordinary cable subscribers. Additionally, they do not charge guests specifically for these services, and there is no difference in the value or quality of the product (signals are the same for all types of users with no differentiation).

5.6.13 However, TRAI in the explanatory memorandum to the tariff amendment order dated 21st November 2006 has indicated that since there was a need to bring in some clarity regarding the applicability of the 1.10.2004 tariff order for 'commercial subscribers' and the subsequent charges/ rates that could be charged from them, it was critical to first identify these establishments separately. Additionally, the need and extent of protection required by a commercial subscriber vs. an ordinary subscriber is not the same. Whilst it is difficult to evolve a procedure for categorization of cable subscribers, it is important to identify subscribers that need protection and those who don't, which has been covered through the broad classification given in the 21.11.06 order.

5.6.14 Also, while the quality of service provided may be the same, TRAI in the explanatory memorandum to the tariff amendment order dated 21st November 2006 has indicated that the value derived through commercial and ordinary usage was very different. While television channels or programming may not be sold as a

separate service by the commercial establishments, it does add value to the overall packaged services.

5.6.15 These arguments have been further contested by The Federation of Hotel and Restaurant Association of India (FHRAI) in their representation on 22.09.09 on the following grounds:

- It has been held by the Supreme Court in a previous judgment that while making payments, there is no distinction between a hotel and an ordinary subscriber (who might have one or more connections at home). Thus, going by the same definition, the FHRAI feels that there is no reason to charge a higher rate from hotels for such cable subscription or DTH services.
- Broadcasting services are also akin to other services such as electronic mail, voice mail etc and in all such cases consumers such as hotels or other commercial establishments are treated at par or even better than domestic consumers.

5.6.16 Thus, it is strongly felt by the association that the ceiling limit should be applicable to all consumers and there should be no exclusion of a particular class of hotels.

Negotiation power of Hotels

5.6.17 TRAI in the explanatory memorandum to the tariff amendment order dated 21st November 2006 has indicated that a key reason for excluding larger hotels (as defined by the broad categories mentioned in the definition of commercial subscribers above) from regulation is that these establishments have the capacity to protect their interests and cannot be treated at the same level as ordinary cable subscribers or even other commercial establishments (which are smaller in nature) and may require protection.

5.6.18 The FHRAI however has submitted that this supposition was arrived at without any proper methodology or analysis. It feels that this argument does not take into account that broadcasters have a monopoly and consumers have no choice but to take a signal. Additionally, as cable services are essential for hotels,

there is no scope for mutual agreement as the Hotels cannot do without these services.

Distinguishing Hotels from other Commercial Consumers

5.6.19 Currently hospitals and educational institutions (large or small) have not been clubbed along with the group consisting of hotels, primarily due to two reasons. Firstly, hospitals, education institutions etc are expected to serve socio-economic causes and are not commercial in nature. Secondly, it is difficult to similarly classify other establishments as there is no clear demarcation or hierarchy in place. Thus any parameters used to grade the following may be seen as being subjective and biased.

5.6.20 The FHRAI feels that there is no reason for distinguishing hotels from other commercial establishments if such distinctions have not been made for others. In specific, there is no clear reason that has been given for the inclusion of hotels in this group of commercial establishments, and hence could be viewed as being discriminatory .

A-la-carte provision

5.6.21 This provision is seen as being acceptable as those commercial subscribers who have their own head ends and other facilities to receive signals directly from the broadcasters can exercise a-la-carte choice. Additionally, rates are also based on mutual agreement.

Key Observations regarding Tariff for Commercial Subscribers

5.6.22 Broadcasters are required to file with TRAI the tariff applicable for identified commercial cable subscribers on half yearly basis. It has been observed from the reports submitted by broadcasters to TRAI that the rates for commercial subscribers are typically in the range of 3 to 5 times than the rates charges for the ordinary subscribers for different pay channels distributed by various broadcasters. This has been observed since 2007. However, this ratio has been more or less the same over the past 3 years, which indicates that there has been stability in these negotiations.

5.6.23 However, despite this trend, FHRAI has strongly highlighted the need to revise the current regulation for commercial subscribers and fix the tariff for Hotels etc if not at the same rate as that of consumers, then at a little higher (say 10%) than the price for others, and not leave it up to mutual negotiation and forbearance.

5.6.24 **In view of the above the issues for consultation are:**

1. Is there a need for a separate definition of commercial subscriber in the tariff order?

2. If the commercial subscriber is to be defined in the tariff order, then does the existing definition of 'commercial subscriber' need to be revised? If yes, then what should be the new definition for the commercial subscriber?

3. In case the commercial subscriber is defined separately, then does the present categorization of identified commercial subscribers, who are not treated at par with the ordinary subscriber for tariff dispensation need to be revised? If yes, how should it be revised?

4. Should the cable television tariff for these identified commercial subscribers be regulated? If yes, then what is your suggestion for fixing the tariff?

Please support all your answers with detailed reasoning.

CHAPTER 6: DIGITIZATION WITH ADDRESSABILTY

6.1 Roll Out of Digital Addressable Systems in India

6.1.1 The growth in the cable TV sector is technology driven and digitization will enable a much wider scope of cable TV services in comparison to what exists today. World over cable has been effectively used to provide broadband access. However, this calls for a hike in investment that will make the sector more competitive and effective to provide high quality service. There is also a need to create a supportive regulatory environment that can take care of issues impeding the growth of the cable TV sector.

6.1.2 The long term solution could be through the twin goals of:

- Introduction of digital distribution, with corresponding requirements to put in place addressable systems
- Structured growth of the industry through implementation of effective regulation

6.1.3 The following sections outline this proposed long term solution, including the intent, expected coverage and key components. A major objective of this consultation is to solicit stakeholders' feedback on the components of the long term solution. Stakeholders are also requested to comment on practical ways of implementing these initiatives in the Indian context.

6.2 Mandatory Digitization of Non-Terrestrial TV Transmission

6.2.1 Given the non-addressable and fragmented nature of the cable sector in non-CAS areas, digitization can be an efficient and effective way to introduce addressability. Digital cable services – transmitted through a set top box installed at the customer's premises – will allow for conditional access. Installation of subscriber management systems – linked to the set top boxes – will allow for generation of accurate subscriber-wise data.

6.2.2 The vision for the proposed digitization initiative is to look at digitizing 100% of the value chain. Through “a box in every household”, consumers would be able to receive non-terrestrial television services.

6.2.3 The approach to digitalization of cable TV internationally appears to favors the determination of a launch date and keeping the complete changeover flexible. Should we follow a similar approach keeping in mind the necessary preparatory steps to do so? The intent and proposed coverage of the digitization mandate could be as follows:

- A set top box would be installed in every home to allow for the benefits of digitization and conditional access to be realized at the last mile
- A pre-defined analog “switch-off date” to be set – after which no analog signal would be permitted at the last mile (even FTA channels would go in to digital transmission). Service providers who are not digital cease to operate after the switch-off date
- A pre-defined “interim” analog “switch-off date” to be set – for pay channels. After this date, pay channels will have to be provided only through digital, addressable systems at the last mile. This will be a date prior to the analog switch-off date.
- To promote uptake of digitization, incentives may be provided to the stakeholders. However, incentives to digitize would be made available only to players that are licensed (discussed in Section 6.3). This would tie the two preferred outcomes together.

6.2.4 The following components would be required to successfully realize the digitization mandate:

- A detailed digitization roadmap including established machinery to oversee the process
- Pre-defined analog switch off/ cut-off date – which acts as a deadline for all non-digital operations to cease
- Strong communication program to explain the benefits of digitization to all stakeholders (industry and consumers)

- Clearly articulated action points for each stakeholder group to comply with the switch-off
- Benefits/ incentives to support digitization (these could be fiscal incentives or policy changes)
- Penalties for lack of compliance with digitization timelines

6.2.5 An all-encompassing analog switch-off rather than a switch-off restricted only to pay channels (as currently in CAS areas) is envisioned so as to provide a level playing field to all broadcasters.

6.2.6 For FTA channels, digitization could solve the addressability issue. Even FTA channels have no visibility on the estimated reach delivered by various MSOs. It would also address the problem of high carriage fee by eliminating the capacity constraint. This move will also reduce opposition from pay channels. In the event that FTA channels are not compulsorily migrated to digital-only platforms, consumers may not want to move. This would pose significant pressure on both the advertising and subscription revenue of leading pay channels (due to loss of reach). This is likely to create strong opposition to the digitization push. This will also stem undesirable outcomes such as signal piracy of pay channels on analog connections – which is reported in CAS Areas

Definition of a "Basic Service" in the Digital Environment

6.2.7 The intent of basic service guidelines is to protect the consumer. Even after addressability is introduced through digitization, and key business transactions are aligned, there is a need to ensure that consumers are not denied access to some form of basic television service.

6.2.8 The Quality of Service (QoS) guidelines could include (but are not limited to) provision of a service (must carry) that comprises a certain number of FTA channels including:

- National public service broadcaster (DD) – for news, entertainment, regional and sports content

- 3-4 private FTA channels, across various genres – for example, for news, entertainment and regional content – subject to the availability of FTA channels in that genre

6.2.9 A fixed price or ceiling could be defined for this basic service. This price can be linked to: (1) affordability of the subscriber base and, (2) the reasonable cost (includes fixed, one-time and variable) of the distributor (since content is FTA and hence has zero cost). Other aspects of the QoS guideline can include:

- Prescribed share/ fixed fee for MSO to downlink FTA channels and provide to the LCO
- Additional service quality guidelines: complaint management, inter-connect filings etc.
- Monitoring and review mechanism to identify non-compliance of operators with the Basic Service/ QoS mandate

6.3 Structured Growth

6.3.1 As an underlying technology, digitalization is a growth driver as it offer a number of advantages which include better reception quality, increased channel carrying capacity, new features like electronic programme guide (EPG), multi view, interactive services and potential to provide triple play i.e. voice, video and data. Thus digitization is inevitable if the cable medium as a platform for signal distribution has to compete with other delivery platforms. While this process would primarily be driven by market forces, it needs to be examined to what extent this can and should be accelerated by regulatory and government interventions and incentives. The cable sector has historically not been subject to licensing and monitoring requirements. However, the current needs of the market and extreme fragmentation at the last mile have brought to the fore a requirement to put these measures in place. The following components are considered relevant to the proposed framework.

Licensing/ Registration for Cable Operators

6.3.2 The objective of licensing could be to ensure that growth of the industry happens in a structured fashion.

6.3.3 The regime could cover the following areas:

- Provide visibility on number of players operating in the market at the MSO and LCO level
- Provide the right of way and license to operate
- Differently structured licenses for the MSO (master distributor) and LCO (dependent). The question on whether dependent entities will be allowed to downlink certain channels directly is also to be addressed
- Licenses may be defined at a market level – this level of market unit (e.g. district or state) should be consistent with the definition of market level adopted for measuring effective competition. This will allow for easy monitoring and ensuring competition

6.3.4 The components of the licensing regime could include (but are not limited to):

- Well-defined eligibility criteria for MSO and LCO licenses
- Compliance criteria in order to receive and retain licenses
- Penalties to operate without a license

Disclosure Regime and Audit Readiness of the Industry

6.3.5 Once the licensing/ registration norms are successfully implemented, an ongoing process of monitoring the industry will be required. The intent of the proposed disclosure regime is as follows:

- Availability of full business information amongst stakeholders to support decision making
- Transparency to the consumer in terms of services received and paid for

6.4 Operational Imperatives to Achieve Long Term Goals

6.4.1 The successful roll-out of digital distribution and the proposed cable licensing regime will require the following operational issues to be addressed.

6.4.2 **Development of a robust framework**: This includes the roles and responsibilities for each stakeholder group, as well as the incentive policies and penalties to ensure compliance. The framework includes a detailed implementation roadmap and outlines desired outcomes, key tasks and switch-off dates.

6.4.3 **Assessment of Technological Readiness:** This will be critical to ensure that the various technologies deployed by the distribution supply chain are aligned to the goals of addressability, quality of service and effective competition. Alignment will require compatible subscriber management systems and capabilities to capture key business information which can be shared with the regulator and/ or business partners. Technologies will also need to be inter-operable in a manner that consumers have free choice and are not saddled with non-compatible equipment at their premise. This will require careful consideration of inter-operable set top boxes, and how inter-operability can be aligned to benefit both the consumer and the industry.

6.4.4 **Roll out of a pan India communication plan** that reaches out to the lowest common denominator, for example, at the revenue district level. The proposed regulatory regime would be communicated to various stakeholder groups, and they would be made to understand how they should comply with these policies.

6.4.5 **Enforcement machinery and manpower**, once again, at the lowest common denominator (revenue district level). This outcome may also be achieved through partnering with other government bodies. Successful implementation will require: recruiting and training employees and setting up infrastructure in each location (including office, amenities, utilities etc.).

6.4.6 **Phasing of the roll-out plan**, with staggered deadlines/ switch-off dates for various parts of the country. For the digitization roll-out specifically, each stage could have two sub-stages :

- Head end switch off – after which no analog signals can be down-linked and/ or converted at the time of down-linking

- Household switch off – after which no analog signals can be transmitted to consumer's premises

6.4.7 **In view of the above the issues for consultation are:**

1. Do you agree that complete digitization with addressability (a box in every household) is the way forward?

2. What according to you would be an appropriate date for analog switch off? Please also give the key milestones with time lines.

3. What is the order of investment required for achieving digitization with addressability, at various stakeholder levels (MSOs, LCOs and Customers)?

4. Is there a need to prescribe the technology/standards for digitization, if so, what should be the standard and why?

5. What could be the possible incentives that can be offered to various stakeholders to implement digitization with addressability in the shortest possible time or make a sustainable transition?

6. What is your view on the structure of license where MSOs are licensed and LCOs are franchises or agents of MSOs?

7. What would be the best disclosure scheme that can ensure transparency at all levels?

8. Should there be a 'basic service' (group of channels) available to all subscribers? What should constitute the 'basic service' that is available to all subscribers?

9. Do you think there is a need for a communication programme to educate LCOs and customers on digitization and addressability to ensure effective participation? If so, what do you suggest?

Please support all your answers with detailed reasoning.

CHAPTER 7: ISSUES FOR CONSULTATION

The following issues have been posed for consultation.

Note:

i. Please support all your answers with detailed reasoning

ii. It may kindly be noted that the comments may be received in TRAI on or before 25th April 2010. No extension of time will be granted

1. Are the figures in Annexure B3 representative for the different genres of broadcasters? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the genre, and not of your company.

2. Are the figures in Annexure B5 representative for aggregators? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

3. Are the figures in Annexure B7 representative for the national MSOs? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

4. Are the figures in Annexure B7 representative for the regional MSOs? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

5. Are the figures in Annexure B9 representative for the LCOs with > 500 subscribers? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

6. Are the figures in Annexure B9 representative for the LCOs with =< 500 subscribers? If not, what according to you are the correct representative figures? When providing representative figures, please provide figures for the category, and not of your company.

7. What according to you is the average analog monthly cable bill in your state or at an all India level?

8. Is the market for cable services in non-CAS characterized by the following issues:
   (i) Under-reporting of the analog cable subscriber base
   (ii) Lack of transparency in business and transaction models
   (iii) Differential pricing at the retail level
   (iv) Incidence of carriage and placement fee
   (v) Incidence of state and region based monopolies
   (vi) Frequent disputes and lack of collaboration among stakeholders

9. Are these issues adversely impacting efficiency in the market and leading to market failure?

10. Which of the following methodology should be followed to regulate the wholesale tariff in the non-CAS areas and why?
   i) Revenue share
   ii) Retail minus
   iii) Cost Plus
   iv) Any other method/approach you would like to suggest

11. If the revenue share model is used to regulate the wholesale tariff, what should be the prescribed share of each stakeholder? Please provide supporting data.

12. If the cost plus model is used to regulate the wholesale tariff, should it be genre wise or channel wise?

13. Can forbearance be an option to regulate wholesale tariff? If yes, how to ensure that (i) broadcasters do not increase the price of popular channels arbitrarily and (ii) the consumers do not have to pay a higher price.

14. What is your view on the proposal that the broadcasters recover the content cost from the advertisement revenue and carriage cost from subscription revenue? If the broadcaster is to receive both, advertisement and subscription revenue, what according to you should be the ratio between the two? Please indicate this ratio at the genre levels.

15. What is your view on continuing with the existing system of tariff regulation based on freezing of a-la-carte and bouquet rates as on 1.12.2007; and the rate of new channels based on the similarity principle at wholesale level? You may also suggest modifications, if any, including the periodicity and basis of increase in tariff ceilings.

16. Which of the following methodologies should be followed to regulate the retail tariff in non-CAS areas and why?

    i) Cost Plus
    ii) Consultative approach
    iii) Affordability linked
    iv) Any other method/approach you would like to suggest

17. In case the affordability linked approach is to be used for retail tariff then should the tariff ceilings be prescribed (i) single at national level or (ii) different ceilings at State level or (iii) A tiered ceiling (3 tiers) as discussed in paragraph 5.3.23 or (iv) Any other

18. In case of retail tariff ceiling, should a ratio between pay and FTA channels or a minimum number of FTA/pay channels be prescribed? If so, what should be the ratio/number?

19. Should the broadcasters be mandated to offer their channels on a-la-carte basis to MSOs/LCOs? If yes, should the existing system continue or should there be any modification to the existing condition associated with it?

20. How can it be ensured that the benefit of a-la-carte provisioning is passed on the subscribers?

21. Are the MSOs opting for a-la-carte after it was mandated for the broadcasters to offer their channels on a-la-carte basis by the 8th tariff amendment order dated 4.10.2007. If not, why?

22. Should the carriage and placement fee be regulated? If yes, how should it be regulated?

23. Should the quantum of carriage and placement fee be linked to some parameters? If so, what are these parameters and how can they be linked?

24. Can a cap be placed on the quantum of carriage and placement fee? If so, how should the cap be fixed?

25. Is there a need for a separate definition of commercial subscriber in the tariff order?

26. If the commercial subscriber is to be defined in the tariff order, then does the existing definition of 'commercial subscriber' need to be revised? If yes, then what should be the new definition for the commercial subscriber?

27. In case the commercial subscriber is defined separately, then does the present categorization of identified commercial subscribers, who are not treated at par with the ordinary subscriber for tariff dispensation need to be revised? If yes, how should it be revised?

28. Should the cable television tariff for these identified commercial subscribers be regulated? If yes, then what is your suggestion for fixing the tariff?

29. Do you agree that complete digitization with addressability (a box in every household) is the way forward?

30. What according to you would be an appropriate date for analog switch off? Please also give the key milestones with time lines.

31. What is the order of investment required for achieving digitization with addressability, at various stakeholder levels (MSOs, LCOs and Customers)?

32. Is there a need to prescribe the technology/standards for digitization, if so, what should be the standard and why?

33. What could be the possible incentives that can be offered to various stakeholders to implement digitization with addressability in the shortest possible time or make a sustainable transition?

34. What is your view on the structure of license where MSOs are licensed and LCOs are franchises or agents of MSOs?

35. What would be the best disclosure scheme that can ensure transparency at all levels?

36. Should there be a 'basic service' (group of channels) available to all subscribers? What should constitute the 'basic service' that is available to all subscribers?

37. Do you think there is a need for a communication programme to educate LCOs and customers on digitization and addressability to ensure effective participation? If so, what do you suggest?

38. Stakeholders are free to raise any other issue that they feel is relevant to the consultation and give their comments thereon.

ANNEXURE LIST

Annexure A: **Summary of Relevant Tariff Orders**

Annexure B: **Representative Figures/ Exhibits**

Annexure C: **Summary of Key Representations made by Stakeholder Groups**

Annexure D: **International Regulatory Intervention**

Annexure E: **Methodology used to Develop Cumulative Cash Flow Model to Test Cost-Based Pricing for Wholesale Tariff**

Annexure F: **Calculation Methodology for Estimating Affordability Linked Retail Tariff**

Annexure A: Summary of TRAI Tariff Orders

2004	2005	2006	2007
January 15 First Tariff Order • The TRAI issued the First Tariff Order which provided for a fixed ceiling on cable rates, prevalent on 26.12.2003, payable across the supply chain. October 01 Second Tariff Order • The TRAI repealed the First Tariff Order in favor of issuing the Second Tariff Order. However, it maintained the ceiling rates payable across the supply chain as prevalent on 26.12.2003. • Also, the rates of new	November 29 Third Amendment: • It provided for an additional increase in tariff charges by 4% on account of inflation, w.e.f. 01.01.2006. Hence, the total increase in tariff charges was increased by 11.28% • This Order was stayed by TDSAT on 20.12.2005 and eventually disposed off on 21.12.2005.	March 07 Fourth Amendment: • It differentiated between an ordinary cable subscriber and a commercial cable subscriber. • The amendment also provided for a fixation of rates on commercial subscribers as per the rates on 1.3.2006 and held the fixed rates, as on 26.12.2003, for ordinary subscribers.	October 04 Eighth Amendment: • The reference date of 26.12.2003 was revised to 01.12.2007. • The composition of bouquets provided by broadcasters as on 1.12.2007 was frozen • The option of a-la-carte by broadcasters was made mandatory. • In order to avoid perverse pricing, the criterion for deciding the a-la-carte rates of pay channels had also been prescribed. • The habitation-wise ceiling at consumer level had been prescribed as per the type of habitation and the number of

2004	2005	2006	2007
channels being introduced after 26.12.2003 must be similar to the rates of similar channels that existed as on 26.12.2003. • A provision for increase/decrease of the ceiling depending on introduction/deletion of pay channels was also made. This step was taken because the bouquets of channels existing on 26.12.2003 were frozen and therefore, any new channel had to be either on stand-alone basis or as part of a new bouquet. December 01 Second Amendment: • It provided for an increase in fixed cable charges by 7% on account of inflation, w.e.f.		March 24 Fifth Amendment: • It provided that the charges payable by commercial cable subscribers to cable operators / MSO / broadcaster would depend upon the terms of agreement(s) between the concerned stakeholders. July 31 Sixth Amendment: • It laid down the factors to be considered when determining the similarity in order to arrive at the rates of pay channels introduced after 26.12.2003	pay channels available. • The earlier increase in rates by 4% prescribed in the third amendment, which was stayed by TDSAT, was permitted again. August 31 Third Tariff Order (for CAS areas) • It fixed a price ceiling, for the basic tier package offered by MSOs/cable operators, at maximum amount of Rs. 77 per month (exclusive of taxes). • It fixed a price ceiling, for pay channels offered by MSOs/cable operators, at Rs. 5 per channel per month (exclusive of taxes).

	2005	2006	2007
01.01.2005		November 21 Seventh Amendment: • Other than hotels with a rating of 3 stars and above, heritage hotels, and commercial establishments with 50 or more rooms, the ceiling rates were fixed for commercial and ordinary subscribers with rate prevailing as on 26.12.2003. • Further, for the excluded commercial subscribers, the broadcaster must provide the channels on al a carte basis where the MRP of any individual channel must not be more than 3 times the average channel price of the bouquet of which it is a part. Also, the sum of individual MRP of channels =< 150% of MRP of the bouquet	

Annexure B: Representative Financial Figures

Explanatory Notes to Annexure B:

Please read the figures provided in the following pages in context of these notes

Broadcaster

Annexure B1

- Annexure B1 is a summary of simple averages by genre. The averages are based on channels that provided channel-wise break up of information to TRAI.
- Data was analyzed for a 3-year period (2006-07, 2007-08 and 2008-09). All averages are 3 year averages, except for channels that were operational only for part of this 3-year period. For these channels, only the relevant years in operation have been considered.
- The following simple averages have been considered: Total Revenue, Operating Cost, Advertising Revenue Mix and Subscription Revenue Mix.
- The EBITDA Margin for the genre is calculated using the Simple Average of Total Revenue and Operating Cost.
- Genres where not even one channel provided channel-wise information — are marked as Not Applicable N/A.

Annexure B2

- Annexure B2 is a summary of simple averages by genre. The averages are based on channels that provided channel-wise break up of information to TRAI and channels that provided company-level information to TRAI.
- The company totals were allocated to individual channels based on weights developed on the basis of channel-wise data received.
- The weights applied to each genre are also provided.
- The weights and corresponding allocation are limited by multiple factors including: (1) number of channels in the network, (2) genre mix of channels and, other factors.

- Data was analyzed for a 3-year period (2006-07, 2007-08 and 2008-09). All averages are 3 year averages, except for channels that were operational only for part of this 3-year period. For these channels, only the relevant years in operation have been considered.
- The following simple averages have been considered: Total Revenue, Operating Cost, Advertising Revenue Mix and Subscription Revenue Mix.
- The EBITDA Margin is calculated using the Simple Average of Total Revenue and Operating Cost.
- Genres where not even one channel provided channel-wise information – thus making it impossible to derive a weight are marked as Not Applicable N/A.
- Company-level data representing certain channels has not been considered in the analysis. This is because one or more of their channels was in a genre for which no weight could be derived – thus making the allocation impractical.

Annexure B3

- Annexure B3 comprises representative figures, using certain filtration criteria to remove the impact of aberrations.

<u>Aggregator</u>

Annexure B4

- Annexure B4 is a summary of simple averages.
- Data was analyzed for a 3-year period (2006-07, 2007-08 and 2008-09). All averages are 3 year averages, except for aggregators that were operational only for part of this 3-year period. For these aggregators, only the relevant years in operation have been considered.
- Total Revenue - Collections is a simple average of the total subscription revenue collections of the companies analyzed
- Total Operating Cost is a simple average of the operating cost of the companies analyzed.

- The EBITDA Margin is calculated using the Simple Average of Total Revenue and Operating Cost.

Annexure B5

- Annexure B5 comprises representative figures, using certain filtration criteria to remove the impact of aberrations.
- Genre-wise connectivity is derived from inter-connect filings.

MSO

Annexure B6

- Annexure B6 is a summary of simple averages.
- Data was analyzed for a 3-year period (2006-07, 2007-08 and 2008-09). All averages are 3 year averages, except for operators that were operational only for part of this 3-year period. For these operators, only the relevant years in operation have been considered.
- Total Revenue and the relevant line items – are a simple average of the companies analyzed.
- Total Operating Costs and the relevant line items – are a simple average of the companies analyzed.
- The EBITDA Margin is calculated using the Simple Average of Total Revenue and Operating Cost.

Annexure B7

- Annexure B7 comprises representative figures, using certain filtration criteria to remove the impact of aberrations.

LCO

Annexure B8

- Annexure B8 is a summary of simple averages.

- Certain data inconsistencies are observed in the averages which have already been outlined in Chapter 3.
- Given the data inconsistencies, data has been analyzed separately for 3-years (2006-07, 2007-08 and 2008-09).
- The EBITDA Margin is calculated using the Simple Average of Total Revenue and Operating Cost.

Annexure B9

- Annexure B9 comprises representative figures, using certain filtration criteria to remove the impact of aberrations.
- Given the absence of financial information from LCOs at the time of publishing these figures on 10.11.2009 – these figures are on a per subscriber basis. This was derived through interviews with LCOs and MSOs with direct points, and inputs received from consumer advocacy groups.

Broadcasting Annexure B1

All figures are 3 year averages - unless explicitly mentioned

1	Genre		GEC ENGLISH		
	Revenue	*INR Cr*	n/a		
	Advertising Revenue	*INR Cr*	n/a		n/a
	Subscription Revenue	*INR Cr*	n/a		n/a
	Operating Costs	*INR Cr*	n/a		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	n/a		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

2A	Genre		GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	346		
	Advertising Revenue	*INR Cr*	318		92%
	Subscription Revenue	*INR Cr*	28		8%
	Operating Costs	*INR Cr*	367		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-6%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35		

2B	Genre		GEC HINDI CATEGORY 2		
	Revenue	*INR Cr*	27		
	Advertising Revenue	*INR Cr*	17		62%
	Subscription Revenue	*INR Cr*	10		38%
	Operating Costs	*INR Cr*	91		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-242%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35		

3A	Genre		GEC REGIONAL CATEGORY 1		
	Revenue	*INR Cr*	83		
	Advertising Revenue	*INR Cr*	73		87%
	Subscription Revenue	*INR Cr*	11		13%
	Operating Costs	*INR Cr*	78		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	6%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20		

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting ne

All figures are 3 year averages - unless explicitly mentioned

3B	Genre	GEC REGIONAL CATEGORY 2		
	Revenue	*INR Cr*	12	
	Advertising Revenue	*INR Cr*	9	79%
	Subscription Revenue	*INR Cr*	2	21%
	Operating Costs	*INR Cr*	17	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-49%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	32	
	Advertising Revenue	*INR Cr*	31	97%
	Subscription Revenue	*INR Cr*	1	3%
	Operating Costs	*INR Cr*	111	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-244%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

5	Genre	NEWS HINDI		
	Revenue	*INR Cr*	128	
	Advertising Revenue	*INR Cr*	99	78%
	Subscription Revenue	*INR Cr*	28	22%
	Operating Costs	*INR Cr*	62	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	52%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

6	Genre	NEWS BUSINESS		
	Revenue	*INR Cr*	19	
	Advertising Revenue	*INR Cr*	12	63%
	Subscription Revenue	*INR Cr*	7	37%
	Operating Costs	*INR Cr*	67	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-258%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting ne

All figures are 3 year averages - unless explicitly mentioned

7	Genre	NEWS REGIONAL		
	Revenue	*INR Cr*	17	
	Advertising Revenue	*INR Cr*	13	73%
	Subscription Revenue	*INR Cr*	5	27%
	Operating Costs	*INR Cr*	13	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	26%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

8	Genre	SPORTS		
	Revenue	*INR Cr*	184	
	Advertising Revenue	*INR Cr*	82	44%
	Subscription Revenue	*INR Cr*	102	56%
	Operating Costs	*INR Cr*	129	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	30%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

9	Genre	MOVIES - ENGLISH		
	Revenue	*INR Cr*	2	
	Advertising Revenue	*INR Cr*	2	100%
	Subscription Revenue	*INR Cr*	-	0%
	Operating Costs	*INR Cr*	8	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-334%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

10	Genre	MOVIES - HINDI		
	Revenue	*INR Cr*	18	
	Advertising Revenue	*INR Cr*	n/a	n/a
	Subscription Revenue	*INR Cr*	n/a	n/a
	Operating Costs	*INR Cr*	20	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-6%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting ne

All figures are 3 year averages - unless explicitly mentioned

11	Genre		MOVIES - REGIONAL		
	Revenue	*INR Cr*	n/a		
	Advertising Revenue	*INR Cr*	n/a	n/a	
	Subscription Revenue	*INR Cr*	n/a	n/a	
	Operating Costs	*INR Cr*	n/a		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	n/a		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

12	Genre		KIDS		
	Revenue	*INR Cr*	29		
	Advertising Revenue	*INR Cr*	19	66%	
	Subscription Revenue	*INR Cr*	10	34%	
	Operating Costs	*INR Cr*	22		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	26%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13A	Genre		NICHE CATEGORY 1		
	Revenue	*INR Cr*	35		
	Advertising Revenue	*INR Cr*	32	93%	
	Subscription Revenue	*INR Cr*	2	7%	
	Operating Costs	*INR Cr*	95		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-171%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13B	Genre		NICHE CATEGORY 2		
	Revenue	*INR Cr*	5		
	Advertising Revenue	*INR Cr*	5	91%	
	Subscription Revenue	*INR Cr*	0	9%	
	Operating Costs	*INR Cr*	14		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-157%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting ne

Weights applied for channel-wise allocation in Annexure B2

#	Genre	Weight (%)	Index Value (indexed to 1)
1	GEC English	*0%*	*n/a*
2A	GEC Hindi Category1	30%	4.37
2B	GEC Hindi Category2	8%	1.11
3A	GEC Regional Category1	7%	0.99
3B	GEC Regional Category2	2%	0.26
4	News English	10%	1.47
5	News Hindi	6%	0.89
6	News Business	7%	0.95
7	News Regional	1%	0.18
8	Sports	15%	2.19
9	Movies English	1%	0.11
10	Movies Hindi	2%	0.28
11	Movies Regional	*0%*	*n/a*
12	Kids	2%	0.31
13A	Niche Category1	9%	1.31
13B	Niche Category2	1%	0.16
	Total	**100%**	

Formula applied:

Share of a particular channel = Relevant genre weight of that channel/ Sum of genre weights for all channels in that network

Broadcasting Annexure B2

All figures are 3 year averages - unless explicitly mentioned

1	Genre	GEC ENGLISH		
	Revenue	*INR Cr*	n/a	
	Advertising Revenue	*INR Cr*	n/a	n/a
	Subscription Revenue	*INR Cr*	n/a	n/a
	Operating Costs	*INR Cr*	n/a	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	n/a	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

2A	Genre	GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	419	
	Advertising Revenue	*INR Cr*	380	91%
	Subscription Revenue	*INR Cr*	39	9%
	Operating Costs	*INR Cr*	446	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-6%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

2B	Genre	GEC HINDI CATEGORY 2		
	Revenue	*INR Cr*	31	
	Advertising Revenue	*INR Cr*	22	69%
	Subscription Revenue	*INR Cr*	10	31%
	Operating Costs	*INR Cr*	103	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-229%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

3A	Genre	GEC REGIONAL CATEGORY 1		
	Revenue	*INR Cr*	83	
	Advertising Revenue	*INR Cr*	73	87%
	Subscription Revenue	*INR Cr*	11	13%
	Operating Costs	*INR Cr*	78	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	6%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

3B	Genre	GEC REGIONAL CATEGORY 2		
	Revenue	*INR Cr*	14	
	Advertising Revenue	*INR Cr*	11	76%
	Subscription Revenue	*INR Cr*	3	24%
	Operating Costs	*INR Cr*	17	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-22%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	81	
	Advertising Revenue	*INR Cr*	72	88%
	Subscription Revenue	*INR Cr*	9	12%
	Operating Costs	*INR Cr*	109	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-35%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

5	Genre	NEWS HINDI		
	Revenue	*INR Cr*	50	
	Advertising Revenue	*INR Cr*	45	91%
	Subscription Revenue	*INR Cr*	5	9%
	Operating Costs	*INR Cr*	50	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	38%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

6	Genre	NEWS BUSINESS		
	Revenue	*INR Cr*	82	
	Advertising Revenue	*INR Cr*	62	76%
	Subscription Revenue	*INR Cr*	19	24%
	Operating Costs	*INR Cr*	84	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-3%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

7	Genre	NEWS REGIONAL		
	Revenue	*INR Cr*	16	
	Advertising Revenue	*INR Cr*	13	81%
	Subscription Revenue	*INR Cr*	3	19%
	Operating Costs	*INR Cr*	12	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	26%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

8	Genre	SPORTS		
	Revenue	*INR Cr*	163	
	Advertising Revenue	*INR Cr*	87	53%
	Subscription Revenue	*INR Cr*	76	47%
	Operating Costs	*INR Cr*	167	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-3%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

9	Genre	MOVIES - ENGLISH		
	Revenue	*INR Cr*	9	
	Advertising Revenue	*INR Cr*	6	71%
	Subscription Revenue	*INR Cr*	3	29%
	Operating Costs	*INR Cr*	11	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-21%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

10	Genre	MOVIES - HINDI		
	Revenue	*INR Cr*	34	
	Advertising Revenue	*INR Cr*	28	84%
	Subscription Revenue	*INR Cr*	5	16%
	Operating Costs	*INR Cr*	58	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-72%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

11	Genre	MOVIES - REGIONAL			
	Revenue	*INR Cr*	n/a		
	Advertising Revenue	*INR Cr*	n/a	n/a	
	Subscription Revenue	*INR Cr*	n/a	n/a	
	Operating Costs	*INR Cr*	n/a		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	n/a		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

12	Genre	KIDS			
	Revenue	*INR Cr*	32		
	Advertising Revenue	*INR Cr*	19	58%	
	Subscription Revenue	*INR Cr*	13	42%	
	Operating Costs	*INR Cr*	29		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	9%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13A	Genre	NICHE CATEGORY 1			
	Revenue	*INR Cr*	54		
	Advertising Revenue	*INR Cr*	41	76%	
	Subscription Revenue	*INR Cr*	13	24%	
	Operating Costs	*INR Cr*	87		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-61%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13B	Genre	NICHE CATEGORY 2			
	Revenue	*INR Cr*	9		
	Advertising Revenue	*INR Cr*	6	68%	
	Subscription Revenue	*INR Cr*	3	32%	
	Operating Costs	*INR Cr*	11		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-24%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

Broadcasting Annexure B3

All figures are 3 year averages - unless explicitly mentioned

1	Genre	GEC ENGLISH		
	Revenue	*INR Cr*	50	
	Advertising Revenue	*INR Cr*	30	60%
	Subscription Revenue	*INR Cr*	20	40%
	Operating Costs	*INR Cr*	45	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	10%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

2A	Genre	GEC HINDI CATEGORY 1		
	Revenue	*INR Cr*	600	
	Advertising Revenue	*INR Cr*	420	70%
	Subscription Revenue	*INR Cr*	180	30%
	Operating Costs	*INR Cr*	450	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	25%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

2B	Genre	GEC HINDI CATEGORY 2		
	Revenue	*INR Cr*	150	
	Advertising Revenue	*INR Cr*	120	80%
	Subscription Revenue	*INR Cr*	30	20%
	Operating Costs	*INR Cr*	120	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	20%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

3A	Genre	GEC REGIONAL CATEGORY 1		
	Revenue	*INR Cr*	165	
	Advertising Revenue	*INR Cr*	115	70%
	Subscription Revenue	*INR Cr*	50	30%
	Operating Costs	*INR Cr*	100	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	40%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relativel
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

3B	Genre	GEC REGIONAL CATEGORY 2		
	Revenue	*INR Cr*	45	
	Advertising Revenue	*INR Cr*	35	80%
	Subscription Revenue	*INR Cr*	10	20%
	Operating Costs	*INR Cr*	30	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	30%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

4	Genre	NEWS ENGLISH		
	Revenue	*INR Cr*	100	
	Advertising Revenue	*INR Cr*	80	80%
	Subscription Revenue	*INR Cr*	20	20%
	Operating Costs	*INR Cr*	130	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-25%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

5	Genre	NEWS HINDI		
	Revenue	*INR Cr*	170	
	Advertising Revenue	*INR Cr*	155	90%
	Subscription Revenue	*INR Cr*	15	10%
	Operating Costs	*INR Cr*	145	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	15%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

6	Genre	NEWS BUSINESS		
	Revenue	*INR Cr*	75	
	Advertising Revenue	*INR Cr*	60	80%
	Subscription Revenue	*INR Cr*	15	20%
	Operating Costs	*INR Cr*	100	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	-30%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	35	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relativel
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

7	Genre	NEWS REGIONAL		
	Revenue	*INR Cr*	20	
	Advertising Revenue	*INR Cr*	20	85%
	Subscription Revenue	*INR Cr*	5	15%
	Operating Costs	*INR Cr*	20	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	15%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	20	

8	Genre	SPORTS		
	Revenue	*INR Cr*	320	
	Advertising Revenue	*INR Cr*	160	50%
	Subscription Revenue	*INR Cr*	160	50%
	Operating Costs	*INR Cr*	275	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	15%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	50	

9	Genre	MOVIES - ENGLISH		
	Revenue	*INR Cr*	145	
	Advertising Revenue	*INR Cr*	100	70%
	Subscription Revenue	*INR Cr*	45	30%
	Operating Costs	*INR Cr*	75	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	50%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

10	Genre	MOVIES - HINDI		
	Revenue	*INR Cr*	115	
	Advertising Revenue	*INR Cr*	100	85%
	Subscription Revenue	*INR Cr*	20	15%
	Operating Costs	*INR Cr*	90	
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	25%	
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10	

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

All figures are 3 year averages - unless explicitly mentioned

11	Genre		MOVIES - REGIONAL		
	Revenue	*INR Cr*	40		
	Advertising Revenue	*INR Cr*	30	70%	
	Subscription Revenue	*INR Cr*	15	30%	
	Operating Costs	*INR Cr*	30		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	30%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

12	Genre		KIDS		
	Revenue	*INR Cr*	45		
	Advertising Revenue	*INR Cr*	30	65%	
	Subscription Revenue	*INR Cr*	15	35%	
	Operating Costs	*INR Cr*	40		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	10%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13A	Genre		NICHE CATEGORY 1		
	Revenue	*INR Cr*	120		
	Advertising Revenue	*INR Cr*	75	60%	
	Subscription Revenue	*INR Cr*	50	40%	
	Operating Costs	*INR Cr*	105		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	15%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

13B	Genre		NICHE CATEGORY 2		
	Revenue	*INR Cr*	35		
	Advertising Revenue	*INR Cr*	25	65%	
	Subscription Revenue	*INR Cr*	10	35%	
	Operating Costs	*INR Cr*	25		
	Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA)	*%*	30%		
	Capital Expenditure Year 1 - Year 5	*INR Cr*	10		

Note1: Category 1 and Category 2 refer to 2 different business models prevailing in the same genre. Category 1 refers to the relatively
Note2: Capital Expenditure from Year 1 to Year 5 excludes the impact of synergies for channels that belong to a large broadcasting n

Aggregator Annexure B4

All figures are 3 year averages - unless explicitly mentioned

Aggregator			Comments
Average Bouquet Size	*Channels*	24	
Total Revenue - Collections	*INR Cr*	557	*Revenue is the total subscription revenue collected*
Total Operating Cost	*INR Cr*	334	*Costs are total operating costs*
EBITDA Margin	%	40%	

Aggregator Annexure B5

	Type of Aggregator	Average Bouquet Size	**15+ channels**
1	Revenue	INR Cr	182
2	Costs	INR Cr	197
3	Earnings before Interest, Taxes, Depreciation and Amortizarion (EBITDA)	%	-9%
5	Genre-wise connectivity - in the range of:		
	GEC ENGLISH	*million households*	2.8
	GEC HINDI CATEGORY 1 & 2	*million households*	5.6
	GEC REGIONAL CATEGORY 1 & 2	*million households*	5.6
	NEWS ENGLISH	*million households*	2.7
	NEWS HINDI	*million households*	5.6
	NEWS BUSINESS	*million households*	3.5
	NEWS REGIONAL	*million households*	5.6
	SPORTS	*million households*	4.6
	MOVIES	*million households*	5.6
	CHILDREN	*million households*	3.5
	NICHE CATEGORY 1 & 2	*million households*	2.8

MSO Annexure B6

All figures are 3 year averages - unless explicitly mentioned

Type of MSO		National	Regional
Revenue	*INR Cr*	**241**	**56**
Subscription Revenue	*INR Cr*	140	14
Carriage and Placement Fee Revenue	*INR Cr*	70	19
Other Revenue - Balancing Figure	*INR Cr*	30	23
Costs	*INR Cr*	**274**	**108**
Programming Costs (Subscription Revenue paid to Broadcasters)	*INR Cr*	166	47
Other Costs - Balancing Figure	*INR Cr*	111	61
Earnings before Interest, Taxes, Depreciation and Amortizarion (EBITDA)	%	-14%	-64%

MSO Annexure B7

	Type of MSO	Geographical Footprint	**National**	**Regional**
	Connectivity: No. of subscribers	Million House Holds	*2 million +*	*1-2 million*
1	Revenue	INR Cr	290	90
	Subscription Revenue	%	42%	n/a[2]
	Carriage and Placement Fee Revenue	%	48%	n/a[2]
	Other Revenue	%	10%	n/a[2]
2	Costs	INR Cr	277	75
	Programming Costs (Subscription Revenue paid to Broadcasters)	%	52%	52%
	Other Costs	%	48%	48%
3	Earnings before Interest, Taxes, Depreciation and Amortizarion (EBITDA)	%	4.60%	16.30%

Note 1: these averages are based on steady state companies, aberrations arising from the impact of acquisitions or financials of early stage companies have not been considered.
Note 2: n/a indicates that the details have not been provided by stake holders

LCO Annexure B8 – LCOs with >500 subscribers

		Key data inconsistencies observed
	All figures are 3 year averages - unless explicitly mentioned	
2008-09		
Average no. of channels	66	
Average no. of pay channels	30	
Average no. of FTA channels	35	
Average no. of Local Cable Channels by MSO	3	
Average no. of Local Cable Channels by LCO	1	
Average no. of households	825	*Number of households is 4x no. of connections*
Average no of connections	289	
	(INR)	
Total Revenue 2008-09	677,439	
Subscription Revenue	547,639	*Does not equal figure of INR 555,731 in Pricing Question*
Carriage and Placement Fee	-	
Advertising Revenue - own channels	17,901	
Others	-	
Derived Total Revenue (sum of individual items)	**565,541**	
	(INR)	
Total Operating Cost 2008-09	149,350	
Programming Cost	262,849	*Does not equal figure of INR 321,723 in Pricing Question*
Technology and Transmission Cost	12,064	
Customer Servicing Cost	51,575	
Local channel content cost	143,699	
Any other costs	18,000	
Derived Total Cost (sum of individual items)	**488,188**	*Derived total cost is 3.3x the provided total operating cost*
EBITDA Margin - Total Revenue, Total Cost	78%	
EBITDA Margin - Derived Total Revenue, Derived Total Cost	14%	
	(INR)	
Retail Pricing	**2008-09**	
Average collection	555,731	*Does not equal figure provided under Revenue*
	(INR)	
Content Cost	**2008-09**	
Average payout to MSO	321,723	*Does not equal figure provided under Operating Cost*

LCO Annexure B8 – LCOs with <500 subscribers

		Key data inconsistencies observed
	All figures are 3 year averages - unless explicitly mentioned	
LCO Details		
Average no. of connections	189	
Average Pay Channels	26	
Average FTA Channels	32	
Average Local Cable Channels	15	
ARPU (INR per month)	169	
	per month	
Connectivity and Link Charges		
No. of connections	480	*Does not match with figure of 189 connections given above*
Monthly Fee to MSO/ Broadcaster	15,151	*i.e. INR 181,818 p.a. - does not equal figure of INR 74,575 in operating cost question*
	(INR p.a.)	
Revenue	**189,887**	*This figure is derived from individual line items*
Subscription Revenue	182,523	
Carriage and Placement Fee	3,095	
Advertising Revenue - own channels	4,269	
	(INR p.a.)	
Operating Cost	**161,608**	*This figure is derived from individual line items*
Content/ Programming	74,575	*Does not equal figure of INR 181,818 p.a. provied in Connectivity*
Collection	34,812	
Repairs & Maintenance	31,410	
Any other costs	20,811	
EBITDA Margin - Derived Total Revenue, Derived Total Cost	15%	

LCO Annexure B9

1	ARPU	*INR per subscriber per month*	165.00
2	Operating Costs	*INR per subscriber per month*	110.00
	Cost of Content (paid to MSO)	*INR per subscriber per month*	40.00
	Collection Costs	*INR per subscriber per month*	30.00
	Infrastructure Maintenance Costs	*INR per subscriber per month*	40.00
3	EBITDA Margin	*%*	33%

Note: these figures are based on steady state companies, aberrations arising from the impact of expansion or financials of early stage companies have not been considered.

Annexure C: Summary of Key Representations made by Stakeholder Groups

Stakeholder	S No.	Primary Concern	Business Issue under which concern is addressed
Broadcaster	1	Lack of addressability and widespread under-declaration of the subscriber base; up to 90% in certain markets	▪ Lack of visibility on the analog cable subscriber base
	2	Bouquet Freeze	▪ Inefficient business and transaction models
	3	Lack of bandwidth in the context of the increasing number of channels has led to explosion of the carriage fee market	▪ Incidence of carriage and placement fee
	4	Lack of Governmental support for MSOs to digitize	▪ Incidence of carriage and placement fee
	5	Wholesale Price Freeze - has resulted in lump sum and negotiated subscriber base deals	▪ Inefficient business and transaction models
	6	Need for de-regulation of the cable TV industry	▪ Lack of collaboration among stakeholders
	7	Need for regulation to place a ceiling on carriage/placement fees paid to MSOs'	▪ Incidence of carriage and placement fee
	8	"Must provide" in absence of "Must carry" leading to higher carriage fee	▪ Incidence of carriage and placement fee
	9	Revenue share agreements are difficult to formulate in a non-addressable environment	▪ Lack of visibility on the analog cable subscriber base ▪ Inefficient business and transaction models
	10	Lack of availability of adequate bandwidth and frequencies which results in stiff competition among broadcasters and hence drives up the carriage fee paid to MSOs	▪ Incidence of carriage and placement fee
	11	Notice period for Switch-off - Should have parity across the supply chain i.e. same period applicable for both broadcasters and MSOs - Should be brought down from 21 days to 7 days to make it relevant for certain genres like sports	▪ Lack of collaboration among stakeholders
	12	Skewed bargaining power in favor of MSOs	▪ Inefficient business and transaction models
	13	Content skewed to advertiser friendly markets	▪ Incidence of carriage and placement fee
	14	Niche channels are not able to afford high distribution costs	▪ Incidence of carriage and placement fee
	15	Revenue potential of subscription driven channels is limited	▪ Incidence of carriage and placement fee

Stakeholder	S No.	Primary Concern	Business Issue under which concern is addressed
MSO	16	Widespread under declaration by LCOs and lack of visibility at the last mile	▪ Lack of visibility on the analog cable subscriber base
	17	Bouquet Freeze	▪ Inefficient business and transaction models
	18	Pay channels charging an entry fee to new carriers	▪ Inefficient business and transaction models
	19	Payment for channel starts from date of commencement of contract rather than operations	▪ Inefficient business and transaction models
	20	Lack of financial support from broadcasters (ultimate beneficiaries) to digitize	▪ Slow uptake of digitization
	21	Wholesale Price Freeze – has resulted in negotiated subscriber base and lump sum based deals	▪ Inefficient business and transaction models
	22	No revenue sharing, lump sum deals leading to collection mismatch	▪ Inefficient business and transaction models
	23	Uneven revenue sharing – Advertising revenue being retained by broadcaster alone	▪ Inefficient business and transaction models
	24	Intense competition leading to market share driven approach rather than ARPU-led	▪ Inefficient business and transaction models
	25	Multiple taxes paid such as Service Tax, Entertainment Tax etc. as compared to DTH operators.	▪ Lack of collaboration among stakeholders
	26	Skewed bargaining power in favor of broadcasters	▪ Inefficient business and transaction models

Stakeholder	S No.	Primary Concern	Business Issue under which concern is addressed
LCOs	27	Deflated ARPUs; non payment of dues and heavy discounting, differential pricing at the consumer level	▪ Differential pricing at the retail level
	28	Lack of support and funds to digitize	▪ Slow uptake of digitization
	29	Inability to compete with DTH due to lack of CAS roll out	▪ Slow uptake of digitization
	30	Hike in pay channel rates without any basis	▪ Inefficient business and transaction models
	31	Revenue share not defined in non-CAS areas, leading to variations within the supply chain and collection mismatch	▪ Inefficient business and transaction models
	32	Dummy operators who can afford to undercut as they are being sustained through carriage fee driven model	▪ Differential pricing at the retail level
	33	Govt. does not differentiate between legal and illegal operators leading to insecurity of revenue streams	▪ Differential pricing at the retail level
	34	Multiple taxes paid such as Service Tax, Entertainment Tax etc. as compared to DTH operators.	▪ Lack of collaboration among stakeholders
	35	No support from Govt. in development of infrastructure for LCOs	▪ Slow uptake of digitization
	36	Skewed bargaining power in favor of broadcasters because they can switch off the Channel any time they want	▪ Inefficient business and transaction models
	37	Some LCOs not being able to provide Value Added Services due to restrictions from MSO	▪ Region and state-based monopolies
	38	Unfavorable business terms from the MSO, however the LCO has no choice as the market may be monopolized by a single MSO	▪ Region and state-based monopolies
Consumers	39	No link between channels received and money paid	▪ Differential pricing at the retail level
	40	The consumer lacks the ability to make a choice on which channels to selectively pay for owing to the analog nature of transmission	▪ Slow uptake of digitization
	41	Some LCOs monopolize the area in which they operate	▪ Region and state-based monopolies
	42	Cable operators are not in the habit of issuing payment receipts	▪ Differential pricing at the retail level
	43	Price irregularities even for the same operator/ area	▪ Differential pricing at the retail level

Annexure D: International Regulatory Intervention

1. United States

1A. Retail Rate Regulation

Definition

Retail tariff regulation in the Unites States is based on two parameters:

1) Effective competition: Retail tariff regulation only exists to protect consumers when there is ineffective competition in the retail market. Effective competition has been defined as:
   - Two of more pay TV operators offer services to at least 50% of households in a designated area and the number of households purchasing pay TV services from an alternative provider exceeds 15% of the households in the designated areas.
   - Fewer than 30% of the households in the cable operator's area subscribe to its service.
2) Basic service tier: Retail tariff regulation exists only for the 'basic' cable service also referred to as the basic service tier ("BST") by the FCC[61]. This has been defined as the level of cable television service that must be provided to all cable television subscribers. The content of basic cable service varies among cable systems but, pursuant to the US Communications Act, must include all local television signals and public, educational, and governmental access channels and, at the discretion of the cable operator, may include other video services.

If an area is found to have ineffective competition, then the FCC uses a benchmark approach to set the tariff. Under this approach, existing rates for cable service are compared to a benchmark that reflects the rates charged by cable systems with similar characteristics that are subject to effective competition. Initial rates are capped but can be adjusted on a going-forward basis by a price cap mechanism that permits periodic adjustments for inflation, changes in the number of regulated

[61] Federal Communication Commission

channels, and changes in external costs, including programming costs and state and local taxes on cable service etc.

Enforcement

Enforcement depends on two key issues:

1) Addressability: Addressability allows for effective competition to be measured on the basis of number of households. This is already in place in the US as almost all houses have boxes that enable tracking. The FCC also requires large cable operators (20,000+ subscribers) to fill out a form (Form 325) which tracks reach. Apart from the requirement to declare their subscriber base, there is also a market driven incentive for operators to declare this number. This is because a larger number gives them better negotiating power and enables them to attract investors. Thus declaration is a non negotiable element for conducting the cable business. Also in the US a private company Cable Audit Associates (CAA)[62] also audits the subscriber numbers of various operators on behalf of broadcasters and program networks. The CAA audit is not a mandatory business standard, but it creates a high degree of transparency at the local distributor level.
2) Local level enforcement: The US had about 114.5 million TV households[63] in 2008-2009, which makes it unfeasible for a central body like the FCC to oversee everything. Keeping this in mind, the FCC works closely with Local Franchising Authorities (LFAs) to regulate the cable television industry at the state or local level.

   The LFA's role is to:

   - Monitor competition amongst operators within a pre defined area and facilitate regulatory intervention in the absence of effective competition
   - Define the basic tier of services for their area
   - Manage questions or complaints from the consumers about the tariff being charged for basic services, quality of signal or the customer service being provided by cable companies.

[62] CAA is a private company that can be hired by broadcasters to audit subscriber bases of distributors (http://www.cableaudit.com/default.aspx?page=history)
[63] Nielsen research (http://blog.nielsen.com/nielsenwire/tag/total-us-tv-households/)

Thus, the enforcement mechanism can be summarized as follows:

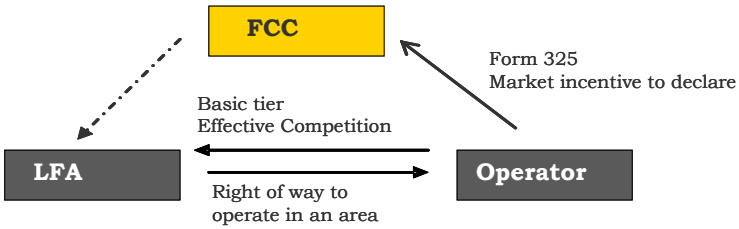


Figure: Division of roles for enforcement of US television sector regulation

Operators that fail to comply with the mandates set by the LFA can incur strict penalties including not being allowed to work in that area.

Monitoring

Continued monitoring of retail rate regulation (and conditions of effective competition) in the US is mostly done as follows:

1. Ongoing monitoring through LFAs who constantly oversee cable operators in an area.
2. Through empowered consumers who are encouraged to report any discrepancy or irregularity to the LFA. The FCC has issued detailed notices that inform the consumer about the role played by LFA and how they can seek recourse for problems related to cable services.
3. Increased competition through new platforms such as DTH and IPTV is ensuring that condition of effective competition is granted more easily, removing the need for retail rate regulation completely.

1B. Packaging – Retail Level

Recently in the US, various politicians in the Senate have discussed the possibility of breaking up program tiers at the retail level and adopting a completely a-la-carte model. The National Cable and Telecommunications Associations (NCTA) issued a brief against any Government mandated a-la-carte provision in January 2009 which included the following key arguments:

- A-la-carte reduces the size of potential viewership for each program and hence reduces the network's ability to get advertising dollars. This in turn leads to an increase in cable license fee and an eventual increase in retail prices.
- While subscribers don't watch all channels every day, the channels that they don't watch subsidize the ones that they do watch i.e. the channels that they do watch would be much more expensive a-la-carte than they would be as part of a tier which includes other channels as well.
- A-la-carte requires technological investments such as a set top box which would have to be borne by the customers.
- The current tier-ing model allows new channels to gain visibility as they get anchored alongside existing popular channels. This also helps them gain advertising support and become sustainable. However, in an a-la-carte world, these new channels would never gain the traction or the reach to become sustainable and this would in turn discourage creation of new content.

This matter is still under debate in the US and no official mandate has been released yet.

1C. Digitization

Definition

The US underwent a digital switchover of full power broadcast TV stations in June 2009. This meant that consumers who had analog TV sets could no longer view the broadcast signals unless there were connected to cable and satellite, or had in place a special digital-to-analog converter.

Enforcement

In June, all analog signals were switched off, so broadcasters had to comply with this deadline. The FCC constantly monitored this process through a 'DTV status report' that broadcasters had to file which kept a check on how the broadcasters progressed with their preparation for the switch over. It also included details on how they planned to complete the remaining steps that were incomplete.

To ensure that the switch off was as smooth as possible, the Government offered $40 subsidy/household to enable consumers to purchase a set top box (which was priced between $50- $70 in the open market).

The FCC also undertook a massive communication drive that informed all stakeholders about the switchover and gave further details on they could be affected by it and how they could prepare for smooth transition.

Monitoring

The switch over did not mandate digitization at the local distribution level and in fact through a compromise adopted by the FCC in September 2007, cable companies were allowed to duplicate the main digital signal of "must carry" commercial broadcast TV stations into analog format so that the channels could be viewed on older analog TV sets connected to cable till 2012.

2. Canada

2A. Retail Rate Regulation

Definition

In Canada, the CRTC[64] regulates the maximum rate for basic cable service charged by cable systems serving more than 6,000 subscribers. This regulation is defined on the basis of the following parameters:

1) Tariff is regulated only when there is ineffective competition in the market. Effective competition in this context has been defined as:
   - The basic service of one or more competitors is available to 30% or more of the households in its service area
   - Operator has lost at least 5% of its subscribers since the competing service was introduced.
2) Retail rate regulation is only enforced for the basic cable service, which is defined as the standard package of services provided to all subscribers within a cable company's service area.

Enforcement

The CRTC regulates the monthly fee that large cable companies may charge their subscribers for basic cable service by establishing a tariff ceiling/ maximum .

[64] The Canadian Radio-Television and Telecommunications Commission is the broadcasting and distribution industry regulator for Canada

Monitoring

All monitoring and enforcement is done centrally by the CRTC.

An important point to note here is that the CRTC does not regulate the rates that satellite service providers charge their subscribers – because of its view that "with competition in the delivery of broadcasting services from cable companies, satellite service providers and other distribution technologies, it is in every service provider's best interests to keep fees at a level that customers can afford."

Thus with increased competition amongst platforms, the market is able to meet the requirement for effective competition more quickly, which removes the need for regulation altogether.

2B. Digitization

CRTC has supported market driven digitization through many indirect provisions such as permitting digitized operators to increase their fee for basic tier programming. The concessions are in recognition of the capital intensive nature of providing digital services.

3. Germany

3A. Retail Rate Regulation

Definition

In Germany, services are regulated at the local level by state media authorities (LMAs) who have defined the following tier-ing system for channels:

- Must carry: which includes public TV stations, private stations with regional programming, local channels. These are seen as the 'duty' or 'basic' offering
- Can carry: these include suggestions on type of channels that should be carried to offer diversity and plurality of opinions to the subscriber
- Non must carry: which are competitive channels and not regulated further

On the other hand, retail tariff regulation is defined by the guidelines in the Telecommunications Act (TKG), which states that prices will be regulated if there is the presence of a dominant player (which leads to unfair competition). An important point to note here is that the TKG distinguishes between tariff that requires prior approval

('ex ante regulation') and those that require a retrospective review ('ex post regulation'). Retail tariff regulation comes under 'ex post' regulation.

To establish the need for regulation, a review is conducted to check whether the tariff is in line with the costs for efficient service provision. Such costs are calculated based on the long-term additional cost (incremental cost) of providing the service and a reasonable surcharge for overhead costs, including a reasonable return on invested capital. Expenses that are not in line with the costs of efficiently providing services may not be taken into account. The regulator has the ability to oppose fees on the following grounds:

- If tariff include unsubstantiated surcharges
- If tariff can be successfully imposed only because the person seeking to impose them has a dominant market position
- If the tariff include discounts that adversely affect potential competition by other providers on the cable market or if they discriminate against individual subscribers of the same or similar cable services.

Thus, regulations for tariff charged and services provided are not explicitly linked. While services are regulated at the local level, prices are only regulated in specific cases when the need for a review is invoked.

Enforcement

In Germany legislative power is shared between the federation and 16 states. Tariff review and monitoring comes under the purview of the national regulator-BnetZ[65] while the state level media authorities (LMAs) are responsible for the content and services provided at the local level.

The LMA's have the authority to regulate the content being offered by various cable operators. Their key responsibilities include:

- Regulation of content (on aspects such as guaranteeing protection of minors) and tier-ing of channels
- Ensuring plurality of opinion through the variety of channels being offered across the 'must carry' and 'can carry' tiers
- Supporting digitization initiatives

[65] Bundesnetsagentur (BNetZ) is Germany's national telecommunications regulator which also oversees the broadcasting and cable industry

Monitoring

Retail tariff regulation is undertaken retrospectively and is investigated after there has been an instance of unfair pricing. While the LMAs may bring this to the notice of the national regulator, they themselves do not have the authority to regulate the tariff directly.

The services provided and tier-ing of channels is constantly monitored by the LMAs directly.

3B. Wholesale Level Regulation

Definition

In Germany, any transaction between stakeholders, including the feed-in fees (similar to placement and carriage fee) paid by the broadcasters is subject to ex-post (or retrospective) fee regulation. As discussed earlier, this comes under the purview of the TKG (Telecommunications act). The TKG mandates regulation of pricing if the market is deemed unfair or if one party is dominant and has significant market power.

This further implies that a particular stakeholder in the value chain cannot impact the ability of another to earn a reasonable margin on business (i.e. distributors cannot impact the ability of broadcasters to earn a reasonable margin by levying an unusually high surcharge for carriage and placement fee).

Enforcement

While there has been no direct instance of regulating placement and carriage fee, our understanding is that regulation can be invoked by the stakeholders in the context of encouraging fair or effective competition if the fees are arbitrarily high.

Monitoring

There is no active monitoring of this and a review is usually done after a complaint or a report has been made to the central regulatory authority.

4. Taiwan

4A. Retail Rate Regulation

Definition

The NCC[66] has put a national price cap of NT$600 (US$17) per month for cable television services. Cable operators are free to choose their rates within this prescribed limit, but have to submit their rates to the NCC for review. For this review, operators have to also provide an 'economic statement' which also gives details on the number of subscribers/ households that are serviced by the operator.

Enforcement

While the rate regulation is mandated, there is a penalty in place if there is any under declaration on part of the cable operator (which is looked at during the fee review exercise). This could include loss of license to operate, fines or a roll back on the price that the operator is allowed to charge.

Monitoring

In reality, the average island-wide rate is much lower than the cap and is at about NT$540 per month. Thus close monitoring is not essential. However the NCC also releases the rates (that have been approved) to the local authorities, ensuring that there is transparency and information dissemination at the local level as well.

Digitization

The NCC plans to bring about changes to the Cable Television Act this year (2009). The NCC is also considering suggestions through which they enable the cable operators provide at least 1 set top box free and an additional set top box at reduced cost to all households and encourage operators to eventually stop charging rental fees when the set top box cost is recovered. As part of newly launched digital TV services, cable operators are charging US $4-$5 for basic digital pay TV services and a modest set top box fee.

[66] National Communications Commission is Taiwan's broadcasting and distribution regulator

5. European Commission

While there is no direct intervention or regulation that has been proposed by the European Commission, there are certain provisions that can be in interpreted in light of protecting stakeholders in case of market failure.

5A. Wholesale Level Regulation

Definition

The European Union Commission has issued broad guidelines that define when a market may be considered uncompetitive. A three-criteria-test (TCT) has been developed to identify those markets, which includes the following provisions:

1. The market shows high and non-transitory barriers to entry
2. Market structures do not tend towards effective competition in a relevant time horizon
3. Application of competition law alone does not adequately address market failure.

Enforcement

If the application of the TCT shows that regulatory intervention might be warranted, the regulatory authority further checks if one or more operators have significant market power (SMP). If that is proven then, regulation is justified and regulatory obligations are imposed on the SMP-operator(s).

Monitoring

Currently the European Commission does not recognize the media broadcasting and distribution industry as one that needs regulatory intervention. However regulation can be invoked if there is an instance of carriage and placement fee creating significant barriers to entry or leading to market failure.

6. United Kingdom

6A. Digitization

Definition

The UK government initially aimed to complete analog switch off across the country by 2010. The key reason for switchover is to allow almost every home to receive a digital signal through their normal aerial - digital terrestrial television, also known as Freeview. While terrestrial television is quite popular in the UK, the pay TV market is divided between Sky (satellite operator) and Virgin Media (cable operator). There are very few analog cable households currently and therefore last mile cable digitization is not a cause for concern.

Enforcement

Digital UK is the body in charge of the digital switchover of television in the United Kingdom. The company was set up as a not-for-profit body at the request of the government and Ofcom, but it is independent from both. It was established as a "platform neutral" body, meaning that it does not promote any of these services above another. The key roles for Digital UK include communication about the switch-over to the public, building support within the industry to promote the switch-over and coordinating engineering work across the UK broadcast network. It has launched a massive promotion campaign to educate consumers about how they need to prepare for the switch-over as well the increased benefits that digitization offers (in terms on better quality of service, more variety etc). The website and related initiative aim to get consumers to actively support this initiative.

Monitoring

The digitization process is going on in a phased manner and is being overseen by Digital UK.

7. Korea

7A. Digitization

The Korean Regulator KCC[67] has increased the FDI cap for cable distribution sector from 33% to 49% and also encouraged consolidation. It provided relief on cable TV rate regulations for digital basic and digital premium tier which has allowed cable operators to bundle high speed internet and telephony with cable services.

Additionally in 2005, the erstwhile the Ministry of Information and Communication in Korea restricted telecom companies from providing broadcast services till 2007. This deliberate delay was put in place to give the cable industry enough time to deploy digital set-top boxes, achieve some level of digital subscriber penetration and roll out new services such as telephony and broadband services. This time advantage was a clear incentive for the cable industry to jumpstart their digitization activities before they faced competition from the large and well established telecom players.

[67] The Korea Communications Commission is Koreas broadcasting and distribution industry regulator

Annexure E: Calculation Methodology for Wholesale Cost Plus Tariff

I. Cost-Based Models in General

Objective: cost-based models try to determine what will be the efficient price of a product or service. It mirrors the decision-making process of a firm and estimates what level of pricing the firm will tend to in competitive markets.

Use: The model is used in two types of situations:

1) ***For new industries, products or services*** – where the capital investment is high, and there is limited visibility on what the selling price will be. In this case, firms will have no incentive to invest unless they are guaranteed recovery of their one-time and recurring costs – through a pre-determined price
2) ***For monopolistic industries*** – where there are only a few producing firms. In the absence of competition, firms will be able to charge supernormal profits. Cost-based pricing thus helps to pass on only the real costs + normal profits to the buyers

Principle: Cost-based pricing takes into account take into account the relevant operating costs of a firm plus any relevant capital expenditure – in order to determine at what price and corresponding revenue, the firm will recover its costs and earn a reasonable margin.

II. Use of a Cost Based Model to Determine Wholesale Tariff for Television Channels

Step-by-Step Calculation

Step1: We have adopted a genre-based approach to determine an optimal wholesale tariff for 13 different genres of channels

Methodology

- A representative business model comprising a profit and loss statement and cash flow statement has been built for a representative channel in each genre

- The time period for the business model is 5 years, with Year 1 being the first year of operations for the representative channel
- Key cash outflows include the operating costs of the channel, capital expenditure as well as the cost of financing capital expenditure and any operating losses in the initial years. Against this, key inflows comprise advertising and subscription revenue
- The model is constructed in a way that the cumulative inflows over five years set off the cumulative outflows over five years. Thus at the end of five years, the channel is assumed to enter a "steady" or "mature" state.

Rationale: Use of a Benchmark P&L and Cash Flow

1. Removes variations due to the high variance in the lifecycle of various channels
    - Given the variation in both costs and revenues[68], as a channel moves along its lifecycle, it is difficult to standardize the earning within a genre (as there may be channels at different stages of the lifecycle present within the genre)
    - The objective of this exercise is only to set a tariff ceiling – which allows players to charge below the ceiling depending upon their business model. Thus what the ceiling needs to ensure is that a relatively mature player with steady state revenues and costs can earn a reasonable profit if it charges at the ceiling rate
    - These steady state subscription revenues are taken to be the required subscription revenue in the representative channel's fifth year of operations

Key Metrics Required to build the Representative Channel Financial Statements:

1. Operating Costs over five years
2. Capital Expenditure over five years

[68] The expenditure on content and distribution depends on the number of years the channel has been in operation. The proportionate share of the cost base to be recovered form subscription revenue (as advertising revenue is the second major revenue source) is also dependent on the age of the channel.

3. Debt-Equity Ratio and Cost of Capital
4. Mix between advertising and subscription revenue
5. Average uptake of the genre (in terms of no. of subscribers)

Metric #1: Operating Costs over five years

Input: Average operating costs of the sample channels in each genre (figures published in Annexure B)

Source: Information received from stakeholders.

Metric #2: Capital Expenditure over five years

Input: Average investment levels characterizing the five year lifecycle for a channel in each genre were considered. These are also provided in Annexure B

Source:

1. Information received from stakeholders in the sample
2. Data received from recently set up channels

Metric #3: Debt Equity Ratio and Cost of Capital

Input: The average debt equity ratio for all genres has been taken at 20:80. The cost of debt has been taken at 12% p.a. The cost of equity has been considered as 20% p.a.

Source: Information provided by stakeholders in their annual reports

Metric #4: Mix between Advertising and Subscription Revenue

Input: Revenue mix observed for channels in each genre. (Figures published in Annexure B

Source: Information received from stakeholders.

Metric #5: Uptake of channels in a genre (in terms of no. of subscribers)

Assumption: Maximum connectivity among sample has been considered.

Source: Information from inter-connect filings has been used to determine the uptake. Almost no player at any stage of the value chain has provided information on the estimated reach of various channels and bouquets.

Sample Calculation – Genre-Based Approach

A sample tariff calculation using the "Cumulative Cash Flow Approach" and the Representative Figures for a Genre XYZ is illustrated below. Using key data points such as the annual operating costs of this genre of INR 50 Crore (A), one-time capital expenditure of INR 10 Crore (B), cost of capital (E) and revenue split between advertising and subscription (L,M) – the peak subscription revenue requirement (Q) is calculated. Allocated over the number of subscribers (R)[69], the tariff or unit price ceiling can be considered at INR 11/ month (S).

	Example: Genre XYZ						(INR Cr)
		Year 1	Year 2	Year 3	Year 4	Year 5	Source
A	Operating Costs	50.00	50.00	50.00	50.00	50.00	Stakeholder information
B	Capital Expenditure	10.00	-	-	-	-	Stakeholder information
C	Debt (20%)	2.00	-	-	-	-	Balance sheet analysis
D	Equity (80%)	8.00	-	-	-	-	Balance sheet analysis
E	Return on Capital - pre tax	1.84	1.84	1.84	1.84	1.84	
F	Interest on Debt (12%)	0.24	0.24	0.24	0.24	0.24	Balance sheet analysis and industry research
G	Return on Equity (20%)	1.60	1.60	1.60	1.60	1.60	Balance sheet analysis and industry research
H	Total Recoverable Cost (A+E)	51.84	51.84	51.84	51.84	51.84	
I	Revenue Index (as a % of recoverable costs)	42%	65%	100%	135%	182%	Assuming Year 3 break even - international benchmarks
J	Growth in revenue		35%	35%	35%	35%	
K	Revenue Split (Current)						
L	Advertising	100%	90%	80%	70%	60%	Stakeholder information
M	Subscription	0%	10%	20%	30%	40%	Stakeholder information
N	Corresponding Revenue (I*H)	21.90	33.70	51.84	69.98	94.48	
O	Advertising (L*N)	21.90	30.33	41.47	48.99	56.69	
P	Subscription (M*N)	-	3.37	10.37	21.00	37.79	
Q	Annual Recoverable Costs from Subscription - INR Cr (P)	38					
R	Max Connectivity (mn)	2.81	Average Connectivity (mn)				0.88
S	Corresponding Monthly Tariff - INR ((Q/R)/12)	11	Corresponding Monthly Tariff - INR ((Q/R)/12)				35.76

Figure: Sample Calculation using Cost Plus Method at the Genre-Level

[69] R is the max connectivity for the genre – based on interconnect filings

Sample Calculation – Case-to-Case Basis

A sample tariff calculation using the "Cumulative Cash Flow Approach" and the Representative Figures for a Channel ABC is illustrated below. The model is built for a single assessment year. Using key data points such as the annual operating costs in that year INR 20 Crore (A), any capital expenditure (B), resultant cost of capital (E) and revenue split between advertising and subscription (J,K) – the subscription revenue requirement (O) is calculated. Allocated over the channel's estimated reach (R)[70], the tariff or unit price ceiling can be considered at INR 8/ month (Q).

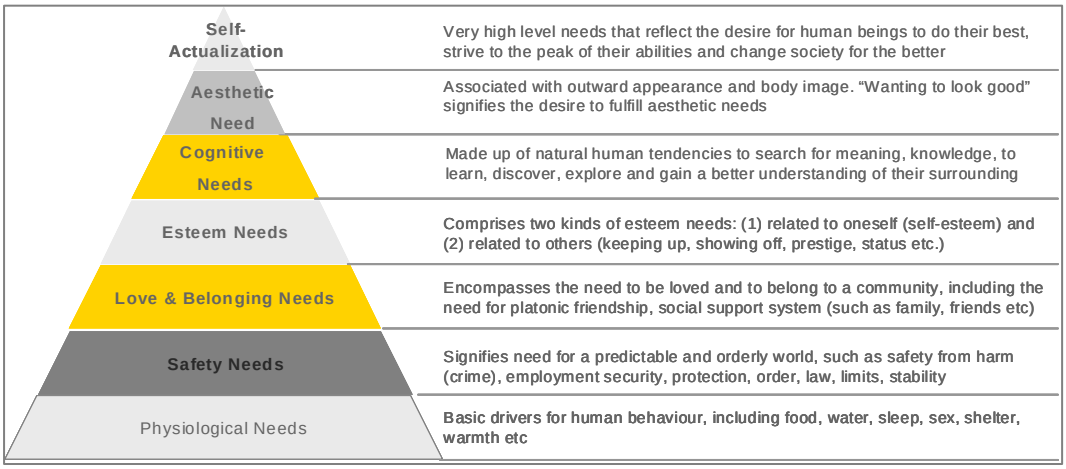
	Example: Channel ABC	*(INR Cr)*	
		Assessment Year	Source
A	Operating Costs	20.00	Stakeholder information
B	Capital Expenditure	2.00	Stakeholder information
C	Debt (20%)	0.40	Balance sheet analysis
D	Equity (80%)	1.60	Balance sheet analysis
E	Return on Capital - pre tax	3.68	
F	Interest on Debt (12%)	0.48	Balance sheet analysis
G	Return on Equity (20%)	3.20	Balance sheet analysis
H	Total Recoverable Cost (A+E)	23.68	
I	Revenue Split (Current)		
J	Advertising	40%	Stakeholder information
K	Subscription	60%	Stakeholder information
L	Corresponding Revenue (H)	23.68	
M	Advertising (J*H)	9.47	
N	Subscription (K*H)	14.21	
O	Annual Recoverable Costs from Subscription - INR Cr (N)	14.21	
P	Reach/ Connectivity (mn)	1.50	
Q	Corresponding Monthly Tariff - INR ((O/P)/12)	8	

Figure: Sample Calculation using Cost Plus Method for a Single Channel – Case-to-Case

[70] R is the reach or connectivity provided by the channel for that assessment year.

Annexure F: Calculation Methodology for Retail Affordability Linked Tariff

1. For this exercise, data from the 'Household Consumption Expenditure in India 2006-07, NSS 63rd Round' has been considered. This data tabulates the average per capita spend per month for items of consumption at a state wise and all-India level.
2. Since the exercise is limited to estimating a price cap for cable services, only data for urban areas has been considered (as the expenditure in those areas is higher than in rural areas)
3. Retail affordability methodology links retail prices with a consumer's approximate ability to pay for goods & services. In this case, affordability has been linked to consumption expenditure on other goods & services that are similar or comparable to cable services, so as to arrive at the relative affordability levels for such a product.
4. Since is difficult to compare goods & services on absolute terms, assimilability or comparability has been defined as per the 'need' served by a good or service in a household.
5. For this, the following definition of 'Maslow's hierarchy of needs[71]' has been used:



6. The items of consumption listed in Table 4R of the NSS report 2006-07 have been further classified as follows:

[71] A.H. Maslow, A Theory of Human Motivation, Psychological Review 50(4) (1943):370-96.

Item of Consumption	Need	Rationale
Food Group	Physiological	Basic need for survival
Others (includes pan, tobacco, intoxicants)	Esteem	Linked to keeping up with others and status
Fuel & Light	Physiological	Basic need for survival
Clothing	Aesthetic	Associated with outward appearance & desire to improve body image
Footwear	Aesthetic	Associated with outward appearance & desire to improve body image
Education	Cognitive	Connected to human tendency to learn, explore; supports search for knowledge
Medical	Safety	Protection from elements, bring about stability
Consumer Goods	Esteem	Linked to self-esteem and status
Rent	Physiological	Basic need for shelter
Taxes & Cesses	Safety	Linked to law, order & stability
Durable Goods	Esteem	Brings status, prestige in society

Note:

- Definitions of goods & services have been assumed to be the same as that published in NSS Report 2006-07

- 'Tobacco, intoxicants and *paan*' have been combined into category of 'Others' to aid computation and analysis
- 'Consumer Services' have not been considered in this analysis as an item of consumption because it has not been defined in detail. The NSS report has defined it only as 'all other services' without giving a more detailed break up. Thus to remain conservative, this category has not been included.
- Love and belongingness has not been considered as 'need' as this need depends on social and familial relationships and can not be purchased through goods and services

7. Cable services have been understood to meet 'esteem' needs in a household. Esteem needs are met because of the status and prestige attached to owning a television with cable services. An additional approach using 'esteem' and 'cognitive' needs has also been evaluated. Cognitive needs are met because of the access to information, education and entertainment that is provided by cable programming. Thus cable services can be compared to other goods & services such as 'consumer goods' & 'durable goods' that meet esteem needs and education that meets cognitive needs.
8. The average spend of each state on esteem and cognitive needs have been calculated to arrive at a 'surrogate spend' for cable services in each state.

9. Calculation for average spend has been done as follows:
   - Option 1: Esteem Needs only. The average spend across the three categories of expenditure is taken as the per capita threshold. For example, the average figure for Andhra Pradesh is INR 54.76 per capita per month (Column 1).

	Column 1 Per capita spend (Esteem)	Column 2 HH Size	Column 3 Per HH Spend
Andhra Pradesh	54.76	3.8	208
Assam	53.20	4	213
Bihar	25.69	5.2	134
Chhattisgarh	48.25	4.6	222
Delhi	65.07	4.3	280
Gujarat	72.81	4.6	335
Haryana	53.42	4.8	256
Himachal Pradesh	65.55	4.3	282
Jammu & Kasmir	46.36	4.3	199
Jharkhand	40.56	4.6	187
Karnataka	44.96	4.1	184
Kerala	109.86	3.8	417
Madhya Pradesh	40.47	4.9	198
Maharashtra	75.05	4.3	323
Orissa	46.10	4.1	189
Punjab	71.76	4.2	301
Rajasthan	41.04	4.8	197
Tamil Nadu	47.17	3.6	170
Uttar Pradesh	35.75	5	179
Uttaranchal	45.42	4.3	195
West Bengal	51.97	3.8	197
N-Eastern States	57.13	4.3	246
Group of UTs	74.82	4.3	322
All-India	**54.21**	**4.3**	**233**

- Option 2: Esteem Needs and Cognitive Needs. The average spend across esteem needs (3 categories) and cognitive needs (1 category) is taken as the per capita threshold. For example, the average figure for esteem for Andhra Pradesh is INR 54.76 per capita per month and the average figure for cognitive is INR 109.04 per capita per month. The resulting threshold is INR 81.90 per capita per month (simple average of INR 54.76 and INR 109.04).

S.No	State	Column 1 Per capita spend (Average of Esteem and Cognitive)	Column 2 HH Size	Column 3 Per HH Spend
1	Andhra Pradesh	81.90	3.8	311
2	Assam	64.11	4	256
3	Bihar	38.42	5.2	200
4	Chhattisgarh	64.43	4.6	296
5	Delhi	104.42	4.3	449
6	Gujarat	73.46	4.6	338
7	Haryana	100.01	4.8	480
8	Himachal Pradesh	94.28	4.3	405
9	Jammu & Kasmir	74.51	4.3	320
10	Jharkhand	62.02	4.6	285
11	Karnataka	54.56	4.1	224
12	Kerala	96.87	3.8	368
13	Madhya Pradesh	54.84	4.9	269
14	Maharashtra	98.31	4.3	423
15	Orissa	55.88	4.1	229
16	Punjab	103.61	4.2	435
17	Rajasthan	62.49	4.8	300
18	Tamil Nadu	61.29	3.6	221
19	Uttar Pradesh	53.81	5	269
20	Uttaranchal	72.12	4.3	310
21	West Bengal	70.29	3.8	267
22	N-Eastern States	70.67	4.3	304
23	Group of UTs	156.38	4.3	672
	All-India	**72.91**	**4.3**	**313**

10. The per capita surrogate spend of states can then be multiplied with the average household size of the state to arrive at the household level spend on similar goods & services.
    - Thus, the **National Cap** would use the data at the All India level and would be in the range of INR 233 (Option 1) to INR 333 (Option 2).
    - **The State Wise Cap** would use the state level data and range from INR 137 (Bihar) to INR 417 (Kerala) per household (as per Option 1) or INR 200 (Bihar) to INR 672 (UTs) (as per Option 2).

Note:

- The average household size is as per the urban household size mentioned in Table P2 of the NSS Report 2006-07. Where ever the state level household size was not available, the average All-India household size of 4.3 was used.

11. An alternate methodology through which the price cap can be enforced is by clubbing states into 'Tiers' to arrive at a tier wise price cap.
12. Tier-ing of states is done by indexing the per capita state level expenditure on surrogate spends to the All India average. A standard deviation of 0.1 is then used to allocate the tiers- wherein all states that have an index between 0.9-1.1 fall in Tier 2, all states above 1.1 fall in Tier 1 and all states below 0.9 fall in Tier 3.

S.No	State	Average Exp Per Person for 30 days	Index (State Expenditure/ National Exp)	Tier
1	Andhra Pradesh	1360.69	1.04	2
2	Assam	1368.9	1.04	2
3	Bihar	864.94	0.66	3
4	Chhattisgarh	1048.25	0.80	3
5	Delhi	1803.85	1.37	1
6	Gujarat	1421.96	1.08	2
7	Haryana	1336.09	1.02	2
8	Himachal Pradesh	1732.9	1.32	1
9	Jammu & Kasmir	1284.54	0.98	2
10	Jharkhand	1119.26	0.85	3
11	Karnataka	1180.16	0.90	2
12	Kerala	1681.47	1.28	1
13	Madhya Pradesh	1001.71	0.76	3
14	Maharashtra	1673.47	1.28	1
15	Orissa	1072.15	0.82	3
16	Punjab	1609.15	1.23	1
17	Rajasthan	1184.71	0.90	2
18	Tamil Nadu	1227.17	0.93	2
19	Uttar Pradesh	996.37	0.76	3
20	Uttaranchal	1154.78	0.88	3
21	West Bengal	1371.25	1.04	2
22	N-Eastern States	1323.23	1.01	2
23	Group of UTs	1974.89	1.50	1
	All-India	**1312.5**	**1.00**	

- For example: Maharashtra has a monthly per capita expenditure of INR 1673, which is higher than the All India expenditure of INR 1312. Thus its index (which is state wise spend/ All India spend) is 1.28. Since this is higher than 1.1, Maharashtra falls in Tier 1.

13. This tier-ing methodology groups all states based on their average expenditure- thus all states that have a spend a higher than the national average are Tier 1, all states close to national average and tier 2 and all states below the national average are tier 3. This further ensures that state wise variation in expenditure and affordability levels are accounted for.
14. Thus the tiers are formed as follows:
    - **Tier 1**: Delhi, Himachal Pradesh, Kerala, Maharashtra, Punjab, Group of Union Territories
    - **Tier 2**: Andhra Pradesh, Assam, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Rajasthan, Tamil Nadu, N-E states, West Bengal
    - **Tier 3**: Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Uttaranchal, Uttar Pradesh
15. The Tier wise cap can be can be finalized through the following three options:

- **Minimum spend within the tier**: The lowest household spend within a tier can be used to set the price cap for the tier to ensure that no single state gets penalized if they are below the average
- **Maximum spend within the tier**: The highest household spend within a tier can be used to set the price cap for the tier to ensure that the highest level of affordability within the tiers is considered.
- **Weighted Average of the tier**: The weighted average of the household level spends of the states within the tier can be used to form the tier level cap. Weighted average is calculated using the weight of the population of that state to the total population in that tier- this is done to ensure that sizes of each states are also considered while deciding the cap and that smaller states that may have higher expenditures do not unfairly skew the analysis.
- Thus, the three options are as follows (all figures are monthly INR):

HH Level Spend (Per capita * HH Size)	Tier 1	Tier 2	Tier 3
Minimum/Tier	396	230	177
Maximum/ Tier	657	421	332
Weighted Average	438	312	249

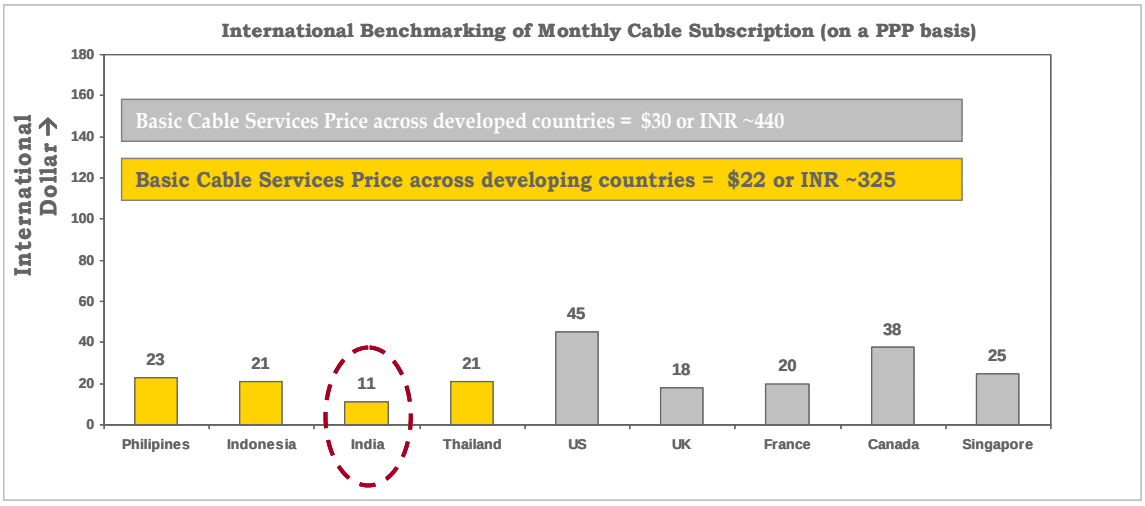
Methodology for international benchmarking of cable services fee:

I- International benchmarking of monthly cable subscription on a purchasing power parity basis:

1. A selection of developing Asian countries (Philippines, Indonesia and Thailand) and developed countries (US, UK, France, Canada and Singapore) were considered for this analysis.
2. The access price or entry level/ cheapest monthly subscription fee of a leading cable operator for a particular country was considered. This is based on data available on the operator's website. These services included a mix of about 30-100 channels. Premium/ Sports channels were not included in this monthly feed.
3. For India, the average monthly ARPU of INR 165 was considered (since there is no comparable entry level service).
4. The monthly fee in local currency unit was converted to 'International Dollars' to arrive at the monthly fee on a purchasing power parity basis. This was done using the PPP conversion factors available on www.worldbank.org

Country	Basic Cable Tier Price	Company	Basic Cable Tier Price-PPP
	Monthly (in LCU)		*Monthly (in PPP)*
Philipines	500	Global Destiny	23
Indonesia	99000	First Media	21
Thailand	340	True Vision	21
India	165	All India ARPU	11
France	20	Numericable	20
US	45	Comcast	45
UK	18	Sky	18
Canada	38	Roger Communication	38
Singapore	25	Star Hub	25

This data can be represented as follows:



Based on above analysis, the following inferences can be made:

- India's monthly ARPU (International $11) is lower than the average across developing countries (around International $ 22). This highlights the vast difference in India's current retail pricing to international benchmarks.
- If India was to increase its retail price to the average of International $ 22, then it would come to about INR 325, which is close to the all-India average of INR 313 that was established through Option 2 of the retail affordability methodology as well.

II- International benchmarking of monthly cable ARPU to monthly mobile ARPU

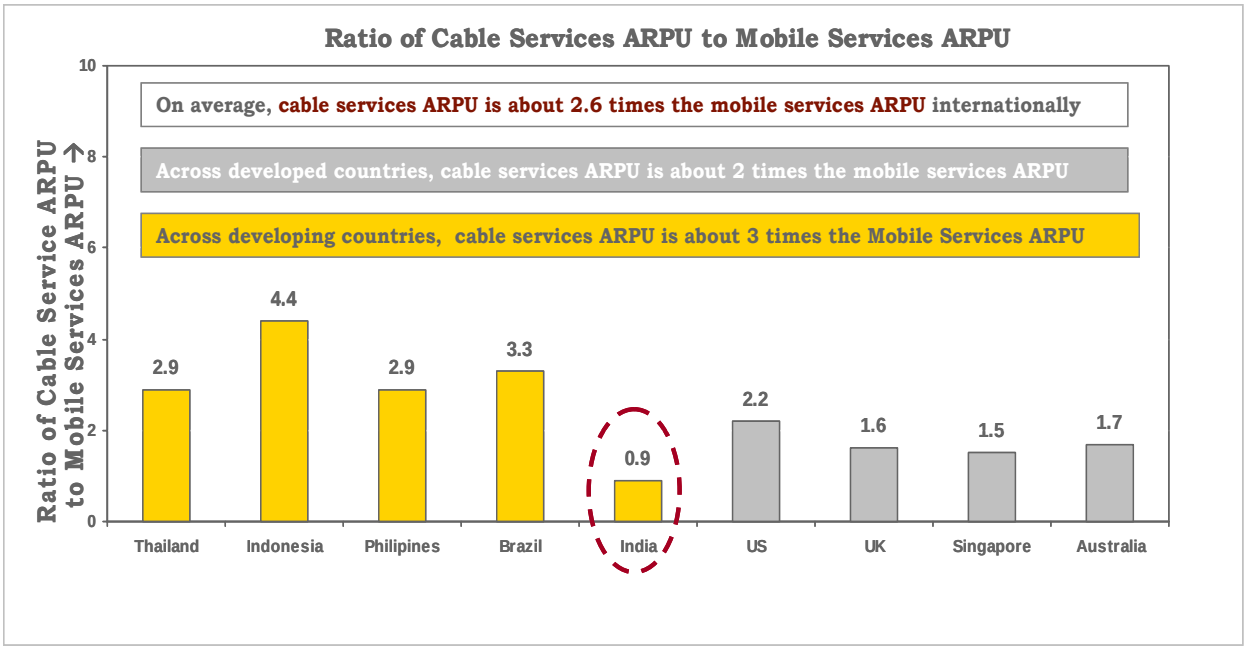
1. A selection of developing Asian countries (Philippines, Indonesia Thailand, Brazil) and developed countries (US, UK, Australia and Singapore) were considered for this analysis.
2. The monthly cable ARPU and monthly blended mobile ARPU was considered for this analysis.
3. The monthly blended mobile ARPU rates were sourced from 'Global Wireless Review 2009'. The monthly blended mobile ARPU for India was taken as INR 195 based on 'Indian Telecom Services Performance Indicator Report' published in October 2009 by TRAI.

4. The monthly cable ARPU rates were sourced from data published in the report "Asia-Pacific Pay TV and Broadband Markets 2009" by Media Partners Asia and published company annual reports.

(All figures are in local currency units)

	Blended Mobile ARPU (LCU)	Cable Services ARPU (LCU)	Cable to Mobile Ratio
USA	49	110	2.2
Australia	45	76	1.7
Singapore	53	81	1.5
UK	25	41	1.6
Brazil	40	132	3.3
India	185	165	0.9
Thailand	246	714	2.9
Indonesia	47583	211370	4.4
Philipines	210	619	2.9

- This data highlights that unlike the global trend, India's current cable ARPU is lower than the blended mobile ARPU. In all other countries analyzed, the cable ARPU was at least 2 times the blended mobile ARPU.



Based on above analysis, the following inferences can be made:

- India is currently against the global trend wherein the cable service ARPU is higher than the mobile ARPU.
- Even if India's cable ARPU was two times its mobile ARPU (which is lower than the average of cable services being 2.6 times the mobile ARPU); the cable ARPU would be about INR 350+. This again broadly validates the national retail price of INR 313 that was estimated through the retail affordability methodology.

Note:

- Countries for which reliable secondary data was not available (regarding cable ARPUs or monthly cable fees) were not considered for this analysis.