

Report to the
**BROADCASTING
COMMISSION**

BROADCASTING COMMISSION OF JAMAICA

RESEARCH ON REGULATORY TREATMENT OF SMALL CABLE OPERATORS



University of Technology, Jamaica - Consultants

Research on Regulatory Treatment of Small Cable Operators

Broadcasting Commission of Jamaica

5th Floor, Victoria Mutual Building

53 Knutsford Boulevard

Kingston 5

Project Number RES/12/15

Research on Regulatory Treatment of Small Cable Operators

Report submitted by:

University of Technology, Jamaica

237 Old Hope Road

Kingston 6

Dr. Valoris Smith – Lead and Business Consultant

Sydney Lowrie – Communications Consultant

Okeeto DaSilva – Legal Consultant

Date: June 2017

Contents

EXECUTIVE SUMMARY	11
LIST OF FIGURE AND TABLES	15
INTRODUCTION	19
General Background.....	19
Background to the research	23
<i>The Small Television Operators' Experience in Jamaica</i>	23
<i>Developments in the STV Market.</i>	24
<i>The Small-sized STV Operators.</i>	24
Purpose of the Study	25
Scope and mandate.....	25
METHODOLOGY	27
Approach and Methodology.....	27
Sample size.....	29
Participants	29
Data and Data Analysis	29
ASSESSMENT OF CONCERNS AND CHALLENGES OF THE BCJ AND THE STV OPERATORS	30
Concerns of the BCJ.....	30
<i>Technical constraints faced by small-sized STV operators.</i>	31
<i>Administrative practices of small-sized STV operators.</i>	31
<i>Collaboration/cooperation among small-sized STV operators.</i>	32
<i>Small-sized operators' financial constraints.</i>	32
<i>Constraints experienced by STV operators due to the current configuration of zones</i>	33
<i>Inadequacy/adequacy of existing legislation and regulations.</i>	34
<i>Copyright compliance</i>	35

<i>Content opportunities/challenges.</i>	36
<i>Digital Switchover (DSO).</i>	36
Summary of Findings from Interviews with BCJ Managers and Officers.....	37
<i>The issue of indigenous content.</i>	37
<i>Enlightened and Universal access to media.</i>	38
<i>Regulatory certainty and equity for service providers and investors.</i>	38
<i>Concerns and challenges faced by small STV operators.</i>	47
<i>Other challenges faced by the STV operators.</i>	49
LEGAL FRAMEWORK	49
Justification for Countries Selected for Comparison of Regulatory Frameworks	49
Framework in Jamaica and other jurisdictions.....	51
Jamaica.....	51
<i>Regulatory provisions under the Broadcasting and Radio Re-Diffusion Act 1949 (BRRA).</i> 51	
<i>Regulatory provisions under the Television and Sound Broadcasting Regulations 1996 (TSBR).</i>	52
Proposed Amendments of the Broadcasting and Radio-Re-Diffusion Act.....	55
Tiered Regulatory System in Jamaica.....	55
Trinidad and Tobago	55
<i>Regulatory provisions under TA.</i>	56
Tiered Regulatory System in Trinidad and Tobago	58
India.....	58
<i>The Indian Telegraph Act 1885 (ITA).</i>	59
<i>The Indian Wireless Telegraphy Act 1933 (IWTA).</i>	60
<i>The Cable Television Networks (Regulation) Act 1995 (CTNA).</i>	61
<i>The Telecom Regulatory Authority of India Act 1997 (TRAI).</i>	62

<i>The Cable Television Networks Rule 1994 as amended (CTNR).</i>	62
Regulatory provisions governing Direct to Home (DTH), Headend in The Sky (HITS), and Internet Protocol Television (IPTV)	63
<i>Direct to home.</i>	63
<i>Headend in the sky.</i>	64
<i>Internet protocol television.</i>	64
Tiered Regulatory System in India.....	65
United Kingdom (UK)	65
Tiered Regulatory System in United Kingdom (UK)	68
United States of America (USA).....	69
<i>The Communications Act 1934, Chapter 47, US Code.</i>	69
<i>New York Consolidated Laws, Article 11- Provisions Relating to Cable Television Companies.</i>	70
<i>The New York City Charter.</i>	70
Tiered Regulatory System in United States of America (USA).....	71
Comparative Analysis of Tiered Regulatory and Alternative Systems.....	72
<i>Suitability of the Tiered Regulatory System or Alternative System.</i>	74
<i>Initial licence fees.</i>	77
<i>Annual licence fees.</i>	78
THE USE OF THREE-TIERED OR OTHER ALTERNATIVE SYSTEMS WITH CLEAR BOUNDARIES, INCENTIVES AND TRANSITION.....	79
Incentives	81
<i>Incentives for small STV operators.</i>	81
<i>Desired Actions or Behaviours.</i>	82
<i>Switchover from analogue to digital transmission.</i>	82
Other approaches implemented or considered in other jurisdictions	83

<i>Universal Service Fund.</i>	83
<i>Tax Rebate, Tax Exemption, Exemption from Custom Duties.</i>	85
<i>Tax Credit.</i>	85
<i>Universal Service Obligation Fund (USOF).</i>	86
<i>Tax Holidays or Exemption, Custom Duties Exemption, and Tax Credits.</i>	87
<i>Support to Community Broadcasters.</i>	89
<i>Funding for Small Business.</i>	90
<i>Research and Development (R&D), and Tax Relief.</i>	91
<i>Funding for Innovation.</i>	91
<i>Universal Service Fund.</i>	92
<i>The Federal Communications Commission's (FCC) Universal Service Funds (USF) Programs.</i>	92
<i>Other FCC Incentives and Considerations.</i>	93
<i>Rate-of-Return Order.</i>	93
<i>Loans to Small Businesses.</i>	94
Comparative analysis of incentives on the other jurisdictions	97
FEASIBILITY ANALYSIS OF A TIERED REGULATORY SYSTEM	98
Financial Analysis of the STV Operators	99
<i>Asset Base.</i>	100
<i>Debt-to-Assets.</i>	101
<i>Liquidity.</i>	103
<i>Profitability.</i>	104
BCJ STV Subscriber and Industry Information	110
<i>Expenditure in relation to fees payable to the BCJ - under the current fee structure.</i>	111
<i>Assessment of these STV operators' ability to survive in the current economic climate.</i> ...	116

Other economic impacts.....	119
<i>Inflation and interest rates.</i>	119
<i>Employment.</i>	119
Financial Analysis of the Broadcasting Commission of Jamaica	122
<i>Asset Base.</i>	122
<i>Debt-to-Assets.</i>	122
<i>Liquidity</i>	122
<i>Profitability.</i>	123
Analysis of Proposed Alternative Approaches.....	124
Identification of current income/fees, and the projection and/or estimate of the income/fees based on the three-tiered regulatory approaches	125
<i>Justification of the per cent proposed for licence fees.</i>	126
Scenario 1	128
Scenario 2.....	130
Scenario 3.....	132
Scenario 4.....	134
Scenario 5.....	136
Scenario 6.....	138
Scenario 7.....	140
Scenario 8.....	142
Scenario 9.....	144
Scenario 10.....	146
Scenario 11	148
Scenario 12.....	150
Scenario 13.....	152

Scenario 14.....	154
Scenario 15.....	156
Licence fees payable to the BCJ - under the proposed regulatory approaches.	158
Assessment of the sustainability of STV operations under the proposed regulatory approaches	159
Identification of current income/fees, and the projection and/or estimate the income/fees based on the alternative regulatory approaches.....	167
Scenario 1 –Alternative Regulatory System	171
Scenario 2 –Alternative Regulatory System	173
Licence fees payable to the BCJ – under the proposed alternative approaches	174
Assessment of sustainability of STV operations under the proposed alternative approaches	175
RECOMMENDATIONS	179
Summary of existing legal framework in Jamaica and other jurisdictions	179
Summary of concerns and challenges facing STV operators under the current legal framework, as well as concerns of the BCJ	182
Summary of the use of three-tiered or other alternative systems, and their provisions for clear boundaries and incentives.....	184
Summary of feasibility analysis of existing and alternative regulatory systems, taking note of the impact on the fees and operations of the BCJ and its licencees.....	187
Steps to be taken to secure a competitive, healthy cable market	195
Recommendations for a new regulatory framework	203
<i>Incentives.</i>	203
<i>Fees structure.</i>	208
<i>Boundaries and transition criteria.</i>	210
Recommendation for the use of traditional and new instruments to promote financial sustainability, legal compliance, and cultural development to influence the STV market	211

References	216
Legislation.....	224
APPENDIX A: EXCERPT FROM AUDITED FINANCIAL STATEMENTS OF STV OPERATORS	225
APPENDIX B: BROADCASTING COMMISSION OF JAMAICA – SUMMARY OF AUDITED FINANCIAL STATEMENTS FOR THE YEARS ENDED 31 MARCH	236
APPENDIX C: JAMAICA POPULATION DENSITY – 2011	237

EXECUTIVE SUMMARY

Project Summary

Research was undertaken over a 3-month period to provide findings and to make recommendations to the Broadcasting Commission of Jamaica (BCJ) on how the Subscriber Television (STV) operators within Jamaica should be regulated in relation to a tiered regulatory system. The main focus of the research was on regulatory treatment of small-sized STV (cable) operators. The research included analyzing large-sized, medium-sized and small-sized STV operators in various jurisdictions. Both quantitative and qualitative research methods were used and, based upon the findings, recommendations were made.

Background

The Subscriber Television (STV) television industry in Jamaica has seen a decline in relation to the number of STV operators, as well as the revenue earned by these STV operators. Of the 46 STV operators in Jamaica most were operating at a loss in the period under review. In light of this, research was undertaken to analyze the STV industry in Jamaica with a view to considering a broader regulatory strategy to help to mature the STV industry. The research involved Consultants from the University of Technology, (UTech, Ja.) which included a Chartered Accountant/Business Consultant, Communication Consultant, and a Legal Consultant.

Project Purpose

The purpose of the research was to consider a regulatory strategy that would help to transition and mature the Subscriber Television market in Jamaica.

Additionally the research was undertaken to:

- determine if there are any incentives that the STV operators, in particular the small-sized STV operators, could benefit from;
- explore the use of a tiered regulatory system or alternative system with clear boundaries and incentives;
- determine the feasibility of adopting a tiered regulatory or alternative system;
- investigate how the issue of small STV operators is managed in other jurisdictions;
- determine the steps necessary to ensure a healthy and competitive cable television industry; and
- determine whether the existing regulatory space is adequate to address the issues faced by small STV operators.

Research and Research Design

Data obtained for the research included mostly secondary data obtained from the BCJ including financial data, general data regarding the STV industry, research carried out regarding challenges facing STV operators. Other secondary sources of data included legislation, journals, periodicals and other documentary evidence. Primary data was obtained from interviews with Executives and Officers of the BCJ. A convenience sampling approach was adopted in selecting the STV operators for analysis of financial statements, and care was exercised to ensure that the STV operators were selected from all parishes in Jamaica. STV operators were grouped into three categories. Both quantitative and qualitative research methods were used to conduct the research. Quantitative methods used included the analysis of financial statements obtained from the BCJ.

The financial statements were used to analyse, *inter-alia*, the viability of the STV operators and to determine whether profits or losses were made within the industry. Qualitative research included comparative and content analysis that included comparing the various jurisdictions in relation to the type of tiered regulatory or alternative system adopted, and to attempt to establish whether the systems explored would be suitable for Jamaica. Data in relation to incentives was also used.

FINDINGS

The main findings are as follows:

Regulatory Framework

- Jamaica does not have a tiered regulatory system.
- All the other jurisdictions studied included either a tiered regulatory or alternative regulatory system.
- The current regulatory framework is inadequate to address the needs of the STV operators.
- Jamaica could benefit from adopting a system from each jurisdiction including *inter alia*: licence fees, a tiered regulatory framework with clear boundaries, clear geographical divisions and incentives.

Incentives

- Small-sized struggling STV operators could benefit from incentives to ensure that they remain financially viable.
- Incentives could be given to STV operators who operate in remote areas to ensure adequate coverage is maintained in remote areas.
- Incentives could take the form of funding and discounts.

Financial Statements Analysis

- Majority of small-sized STV operators were operating at a loss.
- The medium-sized STV operators were generally profitable.
- The largest STV operator experienced continuous losses from 2012 to 2016.
- The annual licence fees paid by the large-sized STV operators combined are more than the licence fees paid per annum by all of the small-sized and medium-sized STV operators combined.
- The BCJ remains a very profitable entity. It has maintained a net profit from 2012 to 2016. Profits for the period 2015 to 2016 represented a 3 per cent increase over the preceding year.

Feasibility Analysis

The research considered fifteen (15) **scenarios** that examined the use of **tiered regulatory systems** based on the size of the STV operators, coupled with the subscription income, and **two scenarios** of the **alternative systems** based on geographic location- specifically population density in Jamaica coupled with subscription income. The regulatory approach was guided by the legislative framework review that indicated United Kingdom, and the United States of America both utilize tiered regulatory systems; and that Trinidad and Tobago, as well as India utilize alternative regulatory systems, utilized the size of STV operators as boundaries for calculation of licence fees, but in the case of Trinidad and Tobago geographic location is also utilized.

Data utilized for the projections was licence fees (BCJ Subscriber and Industry Information, February, 2017) generated in 2016.

To facilitate the assessment of the impact of licence fees payable to the BCJ under **the proposed regulatory approaches**, all information available from the BCJ Subscriber and Industry information, for *all of the STV operators*, was utilized, instead of the research sample.

Sustainability of the STV operations under the proposed regulatory approaches examined was restricted to the small-sized STV operators in the research sample, since the financial implications would be similar for the others, all things being equal. The research review was positioned on scenarios on scenarios 1, 2, 3, 5, 6, 8, 9, 14 and 15; with resultant reduction in the licence fees expenditure for all scenarios, except for scenario 15. For scenario 15, there are negligible increases in licence fees.

The analysis of income/fees on the **alternative regulatory approaches** was based on the research sample, since the result can be extrapolated to the other STV operators. Where a STV has licence to operate in *more than one parish*, the base year licence fees was allocated in equal proportion to the number of parishes in which the STV operated.

A review of the projections revealed that for both scenarios, the total projected licence fees for all three years are higher than 2016 actual licence fees collected by the BCJ.

The review examined all the STV operators in the research sample. A close examination of the projections for scenarios 1 and 2 – alternative regulatory approaches indicated that the STV operators classified between 86 – 400 population per square kilometre (Statistical Institute of Jamaica, 2011) all benefited from reduction in the licence fees. On the other hand, the STV operators classified as 400 and more were all projected to have increases in the licence fees based on the inflation assumptions.

RECOMMENDATIONS

The research derived recommendations that addressed the broader regulatory strategy which when implemented should result in the transition and maturity of the Subscriber Television market in Jamaica. The main recommendations are as follows:

A Tiered Regulatory System

The establishment of a tiered regulatory system that promotes the participation of ‘players’ of various sizes in the Jamaican STV sector, and offered within a three-tiered system with clear boundaries. The suggested boundaries are as follows:

- Tier 1 - large-sized STV operators: Based on gross revenue greater than J\$150,000,000; and licensed to provide island-wide service;
- Tier 2 - medium-sized STV operators: Based on gross revenue of between J\$20,000,000 and J\$150,000,000; and licensed to provide service to 3 or more parishes, but not island-wide;
- Tier 3 - small-sized STV operators: Based gross revenue of less than J\$20,000,000; and licensed to provide service to less than three parishes.

Fees payable under the three-tiered regulatory system recommended for consideration, are as follows:

- Licence fees of none, 4 per cent and 5 percent of gross subscription income, for the small-sized, medium-sized and large-sized STV operators respectively, are projected to provide the highest total licence fees of the three categories recommended for the three-year period.
- Licence fees of 2 per cent, 4 per cent and 5 percent of gross subscription income for the small-sized, medium-sized and large-sized STV operators respectively, are projected to provide the second highest total licence fees for the three-year period.
- Licence fees of 2 per cent, 3 per cent and 5 percent of gross subscription income for the small-sized, medium-sized and large-sized STV operators respectively, are projected to provide the third highest total licence fees for the three-year period.

Any of these three scenarios are recommended for implementation. Obtaining the STV operators 'buy-in' and agreement to the new regulatory system is also recommended.

- A Monitoring Committee that comprises the Executive Director and an Independent Authority should be established to review the reduction in license fees on an annual basis.

Legislation

- Should the BCJ consider a tiered regulatory system for Jamaica, the legislation would have to be amended to accommodate this change and should include a legal redefinition of "broadcasting" to make the term platform neutral.
- The BRRA should be amended to provide sanction(s) for licencees, including STV operators, to be fined a prohibitive/deterrent fee, if false statements are made on annual returns submitted by the STV operators
- In relation to the legal requirement for a Chief Technical Officer to be employed on a full-time basis to the STV operators/companies, it recommended that the Regulations should be amended to facilitate the employment of a Chief Technical Officer on a part-time or on-call basis.

Incentives

- Universal Service Fund support for STV operators who seek to operate in remote areas which are undeserved. This incentive is aimed at giving the STV operators a greater role in national development by assisting the government in bridging the technology/knowledge divide through Universal Access.
- Universal Service Fund support for STV operators who are involved in activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content.
- Waiver of customs duties and other government taxes and fees for the importation and purchase of equipment required for activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content.
- Facilitation of cooperation and partnerships within the STV sector, including interconnectivity to share expenditure relating to headend signal equipment and joint arrangements for copyright payment, to promote financial viability and delivery of broadcast/media services to the population.

LIST OF FIGURE AND TABLES

Figure 1	Research Process	28
Table 1	Summary of Interviews with BCJ Managers and Officers.....	39-44
Table 2	Technical Monitoring: July – September 2016.....	45
Table 3	Technical Monitoring: July – September 2015.....	45-46
Table 4	Breaches Identified.....	46
Table 5	Tiered Regulatory and Alternative Systems.....	74
Table 6	Application Fees and Annual Licence Fees in Jamaica and Other Jurisdictions.....	76-77
Table 7	Incentives in Trinidad and Tobago.....	86
Table 8	Incentives in India.....	89
Table 9	Incentives in United Kingdom (UK)	91
Table 10	Incentives in United States of America (USA)	95
Table 11	Summary of incentives offered in selected jurisdictions.....	96-97
Table 12	Selected STV operators and Location of Service in Jamaica.....	100
Table 13	Debt-to-Assets Ratio.....	102-103
Table 14	STV operators: Net Profit/ (Loss) for the years ended as reflected in the Audited Financial Statements.....	105-107
Table 15	STV operators: Accumulated Profits/ (Losses) as at the years listed as reflected in the Audited Financial Statements.....	108-110

Table 16	Average Number of Subscribers per Annum.....	110-111
Table 17	Subscription Income as per BCJ Subscriber and Industry Information Records - for the years.....	112
Table 18	Actual Licence Fee Paid for Each Year.....	113
Table 19	Comparison of Revenue as per Audited Financial Statements with the Subscription Income as per the BCJ Subscriber and Industry Information Records- for the years.....	115-116
Table 20	Average Number of Employees per Annum.....	120-121
Table 21	BCJ Total Assets for the years.....	122
Table 22	BCJ Current Ratio for the years.....	123
Table 23	BCJ Revenue and Net Profit for the years.....	123
Table 24	BCJ Administrative Expenditure for the years.....	124
Table 25	Summary of Proposed Three-tiered Regulatory System based on size of the STV operators.....	126
Table 26	Projection: Based on Assumptions 1.....	128-129
Table 27	Projection: Based on Assumptions 2.....	130-131
Table 28	Projection: Based on Assumptions 3.....	132-133
Table 29	Projection: Based on Assumptions 4.....	134-135
Table 30	Projection: Based on Assumptions 5.....	136-137
Table 31	Projection: Based on Assumptions 6.....	138-139
Table 32	Projection: Based on Assumptions 7.....	140-141
Table 33	Projection: Based on Assumptions 8.....	142-143
Table 34	Projection: Based on Assumptions 9.....	144-145

Table 35	Projection: Based on Assumptions 10.....	146-147
Table 36	Projection: Based on Assumptions 11.....	148-149
Table 37	Projection: Based on Assumptions 12.....	150-151
Table 38	Projection: Based on Assumptions 13.....	152-153
Table 39	Projection: Based on Assumptions 14.....	154-155
Table 40	Projection: Based on Assumptions 15.....	156-157
Table 41	Projected Impact on BCJ fees based on Scenarios 1-10.....	158
Table 42	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 1.....	161
Table 43	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 2.....	161-162
Table 44	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 3.....	162
Table 45	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 5.....	163
Table 46	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 6.....	163-164
Table 47	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 8.....	164-165
Table 48	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 9.....	165
Table 49	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 14.....	166

Table 50	Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches - Scenario 15.....	166-167
Table 51	Population Density as per Statistical Institute of Jamaica 2011.....	168
Table 52	Classification of Selected STV operators Based on Location of Service in Jamaica.....	169-170
Table 53	Summary of Proposed Five-tiered Alternative Regulatory System	170
Table 54	Projection: Based on Assumptions 1- Alternative Regulatory System.....	171-172
Table 55	Projection: Based on Assumptions 2- Alternative Regulatory System.....	173-174
Table 56	Projected Impact on BCJ fees based on Scenarios 1-2 Alternative Regulatory System.....	174
Table 57	Projected Changes in Licence fees based on Proposed Tiered Alternative Regulatory Approaches – Scenario 1.....	175-176
Table 58	Projected Changes in Licence fees based on Proposed Tiered Alternative Regulatory - Approaches – Scenario 2.....	176-177
Table 59	Classification, scenarios and proposed licence fee structure for tiered regulatory systems.....	190-191
Table 60	Projections for tiered regulatory systems.....	191
Table 61	Classification, scenarios and proposed licence fee structure for alternative regulatory systems	194
Table 62	Projections for alternative regulatory systems.....	195
Table 63	Ranked tiered regulatory systems	208

INTRODUCTION

General Background

Of the forty six (46) Subscriber Television (STV) operators in Jamaica, forty three (43) are small- and medium-sized operators who belong to the entrepreneurial sector identified as Micro, Small and Medium Enterprises (MSMEs).

In order to craft a single national definition for MSMEs, the Ministry of Industry, Investment and Commerce (MIIC) partnered with the Mona School of Business and Management (MSBM) to hold a workshop in July 2011. This workshop involved participants from the public and private sectors, including the associations representing MSMEs (MSME Alliance and Small Business Association of Jamaica). From the exercise, it was agreed that MSMEs should be defined as follows:

Firm Size	Number of Employees	Annual Sales Turnover
Micro	≤ 5	\leq J\$10 million
Small	6-20	$>$ J\$10 million \leq J\$50 million
Medium	21-50	$>$ J\$50 million \leq J\$150 million (Ministry of Industry, Investment and Commerce, 2013).

In the Micro, Small and Medium Enterprise Entrepreneurship Policy (2013), the Ministry of Industry, Investment and Commerce (MIIC) acknowledged that “MSMEs are responsible for the majority of employment, help to create wealth, form the backbone for private sector growth and expansion, and contribute to social development” (p.6). The MIIC policy paper on MSMEs (2013) also states that “despite their economic significance, MSMEs face many challenges that hinder their growth and development hence it is imperative for the Government of Jamaica (GOJ) to place

entrepreneurship and MSME development at the forefront of the country's economic policy agenda" (p.6).

In light of there being clear and unequivocal government policy regarding support for MSMEs, this report on Regulatory Treatment of Small Cable Operators acknowledges and promotes the Government of Jamaica's (GOJ) Growth Agenda Policy Paper (2015) that calls for:

Deliberate policy intervention to encourage stronger economic growth ... This should include support for initiatives to drive the expansion of economic activities in new and emerging growth areas (Business Process Outsourcing, Digital Animation, etc.) as well as in Micro, Small and Medium Sized Enterprises. (p.12)

The above-mentioned GOJ policy regarding MSMEs is in accord with the Broadcasting Commission of Jamaica's (BCJ) goal:

to be an enabling partner in the creation of new models for easier access to in-demand content, and to provide Jamaicans with a competitive environment where they are free to choose the television content that meets their needs, budgets and other realities, in the new global digital space. (Green, 2015, October 15)

The BCJ role of being an "enabling partner" extends to the current challenge facing micro, small and medium STV operators in the switchover to digital transmission. Digital transmission allows for better picture and audio quality and for more programmes to be transmitted in the same channel bandwidth, in comparison to analogue which transmits a single programme on a channel, and is also susceptible to interference from electro-magnetic waves. Another major consideration in the BCJ's treatment of the micro and small STV operators is their role as Social Enterprises in the communities they serve. Social Enterprise is described as: "any business created to provide a social good or service" (Planning Institute of Jamaica, 2016, p.3).

Small STV operators in Jamaica have established links with the communities they serve that go beyond the provider/subscriber relationship. Owners and employees of the small STV operations live, worship and socialize in these communities and therefore are in a strategic position to play a useful role in media and communication activities that can have positive, meaningful and

lasting effects in these localities. STV operators are already active in promoting media literacy and facilitating the production of local media content through the community channels. These and other activities such as programmes that serve the disabled; support of non-profit, community, and voluntary organizations; providing a forum to address social and environmental issues at the community level; contributing to social cohesion and social capital, and promoting innovation and creativity, are areas of profound importance to Jamaica's Growth Agenda, which is fully aligned with the Vision 2030 Jamaica National Development Plan.

STV operators are active participants in Jamaica's Creative Industries which are a key component in the Government of Jamaica's Vision 2030 National Development Plan. In this regard, Vision 2030 has mandated the BCJ to "establish funding mechanisms to support development of local and public broadcasting content" (Planning Institute of Jamaica, n.d, p. 297) and "develop capacity and focus on contents (*sic*) standards reform and monitoring" (Planning Institute of Jamaica, n.d, p. 297)

Jamaica has a proud history of creative achievements that is recognized worldwide. The nation's accomplishments in the visual and performing arts, sports and entertainment make the country a cultural hub (Morgan, 2014). Although Jamaica's new media environment has brought with it an influx of foreign programmes, there is an active segment of the population who are not satisfied to be only consumers of media products and services, but are now producers of content (Rose, 2016). Although still in its infancy, this strategic merger of technology and talent points the way forward to a new highway of wealth creation.

It is encouraging to note that community cable channels are participating in this new upsurge of creative enterprise, continuing the vision of National Hero Norman Manley who pioneered the development of Jamaican media in 1959 with the launch of the Jamaica Broadcasting

Corporation. The Right Excellent Norman Manley's initiative was in response to nationalist sentiment that demanded the country's broadcast media provide a greater focus on Jamaican culture. Strategically positioned at the community level, the micro and small STV operators possess the propensity to tap into the riches of Jamaica's cultural industry if given the guidance, support, encouragement and incentives to participate in the production and broadcast of Jamaican content.

Music and talk shows were two commonly cited types of local television programmes that respondents indicated they wanted to watch (Caribbean Institute of Media and Communication, 2012, October). At the top of the list of the "other" programmes to watch on local television were documentaries, educational programmes, local shows or productions. Respondents also wanted to watch movies, music and educational programmes on local cable channels (Caribbean Institute of Media and Communication, 2012, October).

It was recommended that "the BCJ should explore creative and affordable ways to facilitate local content production, with an emphasis on expanding the variety of genres of audio and video content" (Caribbean Institute of Media and Communication, 2012, October, p. 78). It was also recommended that "the BCJ should be sensitive to the current economic challenges facing its stakeholders and how it affects their ability to finance certain licensing requirements and digital switchover" (Caribbean Institute of Media and Communication, 2012, October, p. 81).

Subscriber television became a form of home entertainment in many Jamaican households almost fifteen years before the industry was brought under the umbrella of the law on July 1, 1998 when licences were first issued (BCJ, 2014). Since then, the BCJ has been monitoring the operations of STV services, ensuring that standards are maintained and that permission is received for the programming used, including music. The BCJ website states that the Commission has an

important role to play in encouraging the development of local content and in providing Jamaicans with access to diverse sources of information (BCJ, 2014). The BCJ website states:

The Commission also has an important role in encouraging the development of new channels for the exposure of material produced in Jamaica and the Caribbean, as well as access for the Jamaican public to more sources of information to meet the growing demand for information and home entertainment. (BCJ, 2014)

The BCJ therefore has a significant role in shaping the future of Jamaica's cultural and creative industries in keeping with the vision expressed by Brown (1990, May) that:

The region possesses the potential to participate in the sector by producing software, if not hardware, that could earn significant revenues while simultaneously contributing to the evolution of global culture.

The Steel Pan, reputedly the only original musical instrument (hardware) to have been developed in the 20th century, emerged out of the cultural dialectic of Trinidad at the start of the Century and Reggae (software) out of a Jamaican dialectic near the end of the century. Facing the technologically mediated global environment of the 21st century, Caribbean people need to be reminded of and inspired by these two singular human achievements. (p. 21)

Background to the research

The Small Television Operators' Experience in Jamaica. The regulatory arm of the BCJ traverses 27 radio stations, 3 Free to Air (FTA) TV stations and 46 STV operators, covering 243 geographic zones. The estimate at December 2016 indicated 181,000 households with access to STV services; of which 113,000 are served by a single all-island STV operator.

Of the 46 STV operators there are 44 smaller operators that share 12 per cent of the current STV market. As of December 2016, these smaller operators accounted for approximately 10 per cent of the sector revenue and less than 8 per cent in 2013. Notwithstanding that, in 2014, there was a 5 per cent reduction in the number of reported cable subscribers, in contrast to a 10 per cent increase in 2013 and a 14 per cent increase in 2012 (BCJ, 2016). However, according to the BCJ Subscribers and Industry Information-February 2017 there were increases in the reported cable subscribers of 8 per cent and 10 per cent in 2015 and 2016 respectively.

Developments in the STV Market. Cable & Wireless Communications (CWC) has operated in the Caribbean for more than 130 years, and in the year 2015 acquired Columbus International which trades as Flow. CWC, with its strong hold across the Caribbean, offers mobile, internet and home phone services and also provides television content; Flow, which has a strong brand across the region, offers internet and cable and business-to-business services. CWC, using the LIME brand, has just over 2 million customers in the 13 Caribbean countries plus a 49 per cent stake in Telecommunications Services of Trinidad and Tobago (TSTT). Columbus, which was established in 2005, has 700,000 residential customers in the Caribbean, Central America and parts of South America, and also provides information technology services to businesses. In the most recent development, Flow/CWC Jamaica's parent company, CWC Plc., was taken over by Liberty Global Plc (Business Wire, 2016, May 16) an international telecommunication entity based in the United Kingdom.

The Jamaican cable television sector has seen the entrance of a new, large player, Digicel, through its acquisition of Telstar Cable Limited. One of the more prominent operators in the STV market, Telstar holds a licence for 59 zones and has expanded holdings to 26 per cent (BCJ, 2016) of the STV market share. In addition, Digicel's position as majority stakeholder in International Media Content (IMC), the parent company for SportsMax, afforded Digicel (Telstar) control over IMC content such as the Barclays Premier League, UEFA Champions League, West Indies cricket, the Indian Premier League and the IAAF Grand Prix (BCJ, 2016).

The Small-sized STV Operators. For the purposes of this research, STV operators have been grouped in the following categories: large-sized companies, medium-sized companies, and small-sized (for the purpose of this research those STV operators that are classified as micro are included in the small-sized operators band since there are 3 such entities in the sample) companies

with differing fee structures. In keeping with the definition for MSMEs by the Ministry of Industry, Investment and Commerce (p.17), small-sized STV operators/companies are categorized as those which generate J\$50,000,000 and less in gross revenue per annum; medium-sized STV operators/companies generate between J\$50,000,000 and J\$150,000,000 per annum, and large-sized STV operators/companies generate more than J\$150,000,000 in gross revenue per annum. In addition, the small-sized STV operators/companies and the medium-sized STV operators/companies number of employees – as ascertained from the BCJ Subscriber and Industry Information- February, 2017 conformed to the definition's criteria, however the one of the large-sized STV operator/company had declining number of employee since 2015 that fell below the criteria of the definition.

The market is now served by one large-sized operator, five medium-sized and 40 small-sized operators. The BCJ recognizes and acknowledges the need to offer support to the smaller and less efficient operators since some of these companies positively impact their local communities socially and economically in the form of lower unemployment rates, and higher standards of living in their areas of operations.

Purpose of the Study

Scope and mandate

The BCJ engaged the Consultants to consider a broader regulatory strategy that will help to transition and mature the Subscriber Television market in Jamaica. The research's purpose is enhanced by exploration of possible regulatory treatment of the small-sized STV (cable) operators. The research included but was not limited to exploring:

- a three-tier system, with clear boundaries, incentives and transition criteria;

- feasibility analysis of a tiered regulatory system, taking note of the impact on the fees and operations of the Commission and its licencees;
- special incentives or regulatory policy and treatment for STV operators in other jurisdictions;
- how the issue of struggling small and other cable operators is managed in other jurisdictions;
- steps to be taken to secure a competitive healthy cable market; and
- whether the existing regulatory space is adequate to address the issues faced by small cable operators (BCJ 2016, p.10).

METHODOLOGY

Approach and Methodology

To ensure that all of the BCJs specific deliverables were researched and addressed in light of the necessary quantitative (financial statements analyses), and qualitative (comparative and content analysis) values, the project team adopted a rigorous evaluative research and analysis methodology with the following steps:

- Review the existing STV (local) market: conduct desk research, utilize secondary research data available from the BCJ;
- Identification and assessment of concerns of and challenges faced by the BCJ and the Jamaican STV operators (with emphasis on the small-sized operators) as presented by the secondary data obtained from the BCJ;
- Evaluation of the existing regulatory frameworks and licensing regimes in Jamaica;
- Examination of the regulatory policy and treatment of STV operators in other jurisdictions, namely: Trinidad and Tobago, India, United Kingdom, and United States of America;
- Assess special incentives and regulatory policy and treatment for STV operators in the other jurisdictions;
- Research on the financial management of the small-sized and medium-sized STV operators in Jamaica;
- Review the financial impact of licence fees paid by the STV operators on BCJ operations;
- Assessment of the feasibility of the BCJ's adopting a differential treatment of licencees with clear boundaries, incentives and transition criteria where appropriate;

- Identification and recommendation of steps to be taken to secure a competitive, healthy cable market;
- Preparation and finalization of the report based on desk research and use of secondary research data available from the BCJ.

Ultimately, this report includes recommendations:

- for a new regulatory framework;
- to include any incentives, fees structure, boundaries and transition criteria; and
- for the use of traditional and new instruments to promote financial sustainability, legal compliance, and cultural development to influence the STV market.

The process is illustrated in the Figure 1 below:

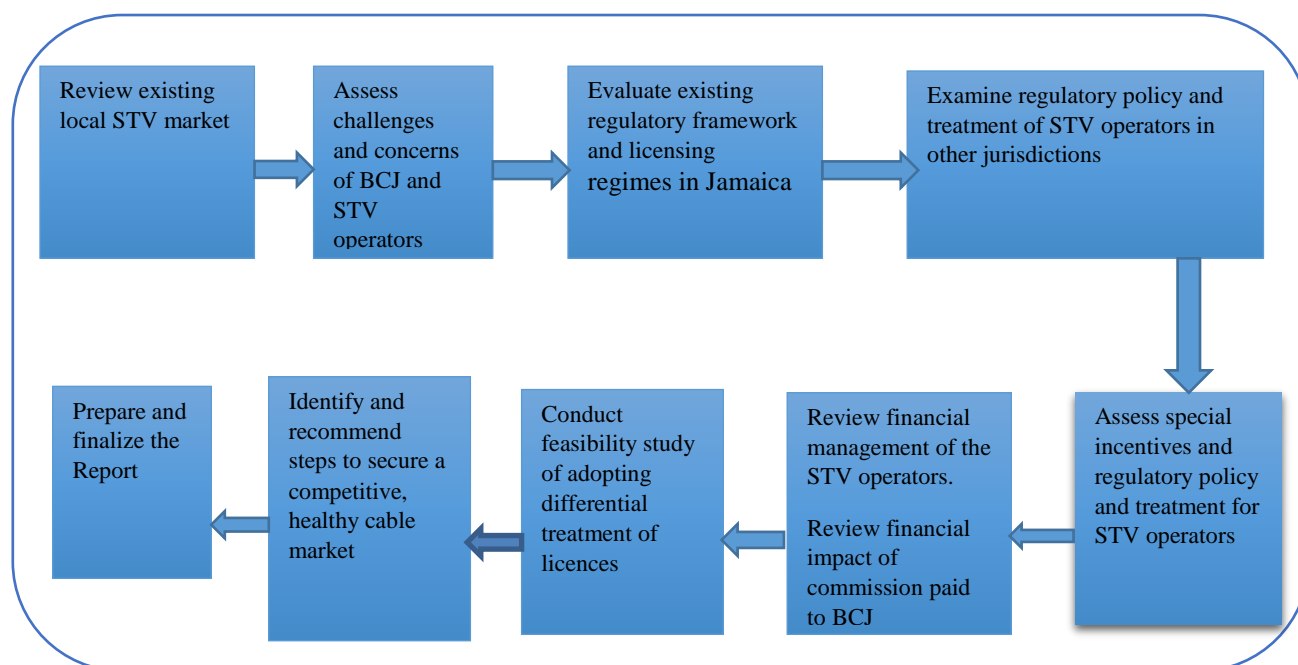


Figure 1 - Research Process

Sample size

STV operators are required to pay five per-cent on gross subscription income which is payable on a quarterly basis. For the purposes of this research STV operators were categorized into three main groups: large-sized companies, medium-sized companies and small-sized companies. Small-sized STV operators/companies are categorized as those which generate J\$50,000,000 and less in gross revenue per annum; medium-sized STV operators/companies generate between J\$50,000,000 and J\$150,000,000 per annum, and large-sized STV operators/companies generate more than J\$150,000,000 in gross revenue per annum (p.20 above). Of the total number of STV operators/companies in Jamaica 21 STV operators/companies (45.65 percent of the total population) were selected for this research (Table 12, p.100).

The sample of the STV operators was obtained from two (2) large-sized, two (2) medium-sized, and 17 small-sized STV operators/companies; and care was exercised to ensure that the sample included representation from all 14 parishes in Jamaica. The sample for the BCJ was five senior management staff and one officer.

Participants

Participants in the research were limited to the four (4) of the ten (10) Principal Officers, one (1) of the two (2) Executive - 40 and 50 per cent, respectively, in both categories - at the BCJ, as well as one (1) officer. Interviews were conducted with these participants.

Data and Data Analysis

Documentary data were obtained from the STV operators' audited financial statements, other reports prepared by third parties, and the BCJ's in-house records. The document reviews and analyses not only provided words of the participants (from BCJ questionnaire administered to

the STV operators), but data from other third parties, for example other consultants, and chartered accountants as well as the Client itself – the BCJ.

In-depth qualitative interviews were conducted through semi-structured, open-ended questions with participants from the BCJ senior management. The interviews were face-to-face with each participant for the duration of 20 to 30 minutes, with each participant interviewed once. In addition, the interviews with the BCJ's staff were transcribed, and a comparative analysis done to capture all of the concerns identified by the interviewees.

Data analysis was effected through comparative and content analyses of: (i) regulatory policy and treatment of STV operators in other jurisdictions, namely: Trinidad and Tobago, India, United Kingdom, and United States of America; (ii) differential treatment of licencees and the variety of incentives available in the selected jurisdictions; and (iii) the financial performance of STV operators. Feasibility analyses were effected through the examination of several differing tiered regulatory systems and alternative systems and the scenarios presented.

The review of the existing local STV market has been examined in the background of the study - the small television operators' experience in Jamaica; and the developments in the STV market – and will not be reiterated here. Therefore the second step - assessment of concerns and challenges of the STV operators - in the research process is now presented.

ASSESSMENT OF CONCERNS AND CHALLENGES OF THE BCJ AND THE STV OPERATORS

Concerns of the BCJ

Interviews were conducted with managers and officers of the BCJ to get their views on the state of the STV sector. During these interviews, the following concerns were expressed:

Technical constraints faced by small-sized STV operators. Technical officers of the BCJ said that many of the small-sized STV operators cannot afford to employ a Chief Technical Officer, according to the regulations (TSBR, Section 29) and that this has implications for their ability to properly maintain their equipment. The implications of this was revealed by the monitoring and customer service officer who stated that most customer complaints are about technical difficulties having to do with audio/video quality and breaks in transmission.

The technical officers suggested that the regulations should be amended to allow small-sized STV operators to make alternative arrangements for the services of a Chief Technical Officer, such as a contracted retainer fee, which would be more affordable. The BCJ technical officers also pointed out that some small-sized STV operators lack the testing equipment needed for proper maintenance. The Economist/Researcher stated that these technical limitations can be overcome if the small-sized STV operators collaborate in purchasing expensive equipment and undertaking other mutually beneficial arrangements.

The Assistant Executive Director revealed that many of the small-sized STV operators learnt the technical skills on the job and that their ingenuity and entrepreneurial spirit should be respected. The Assistant Executive Director further expressed the opinion that, as indigenous enterprises, they should have a continuing role in the sector.

Administrative practices of small-sized STV operators. The Assistant Executive Director, Finance Officer, Economist/Researcher and the Former Acting Legal Officer expressed concern that many small STV operators are unsophisticated and not learned in proper accounting and administrative practices, resulting in poor record-keeping and inadequate financial statements. The Assistant Executive Director said that the BCJ is helping to address this matter through its Capacity Building programmes.

The Technical Officers cited instances of improper record-keeping of maintenance schedules and operations by the small-sized STV operators, while the Monitoring and Customer Service Officer voiced the need for more training in the area of Customer Service.

Collaboration/cooperation among small-sized STV operators. The Assistant Executive Director, Technical Officers, Economist/Researcher and Former Acting Legal Officer shared the opinion that there was need for more collaboration/cooperation among small-sized STV operators. The Former Acting Legal Officer, Technical Officers and Economist/Researcher cited the example of CTL Limited's mutually beneficial cost sharing arrangement, regarding head-end signal, with other STV operators, as being a good lesson in how collaboration can help to make these enterprises more viable.

The Economist/Researcher also described Cornwall Communications' arrangements with smaller operators for the roll-out of service as another means of cooperation for mutual benefit. The Assistant Executive Director said that the problem of insularity can be overcome in the same way as what is happening in the radio broadcast sector where the smaller stations are merging with medium-sized players in order to survive. It was further stated that small-sized STV operators may need to share costs or merge to survive.

Small-sized operators' financial constraints. All the BCJ managers and officers interviewed expressed concern over the financial constraints being faced by the small-sized STV operators. The Former Acting Legal Officer, Finance Officer and the Technical Officers noted that the high cost of copyright fees and the cost of equipment were challenging for the small-sized operators, while the Monitoring and Customer Service Officer pointed out challenges those operators face in securing capital for expansion and upgrading to digital. The Finance Officer also referred to the JPS Co. charges for carrying STV cables on their poles and the 5 per cent fee to

BCJ. She noted that 15 of 47 medium-sized and small-sized STV operators have been delinquent for 1 to 3 years in regards to licence fees. This officer also stated that fees from 3 largest STV operators contribute approximately 60 per cent of total fees paid to BCJ.

The Assistant Executive Director cited the devaluation of the Jamaican dollar as a major problem for STV operators as the fees payable to overseas channel providers increase every time the Jamaican dollar loses value relative to the US dollar. It was also mentioned the financial challenges faced due to Jamaica's tropical climate as STV operators are unable to get insurance for hurricane damages. In addition, it was expressed that there is the need for STV operators to get organized from an industry perspective to lobby the insurance companies to provide such coverage.

The Assistant Executive Director also mentioned that the 5 per cent fee payable to the BCJ is a challenge for small-sized STV operators but that a tiered approach could help them if it lowers their fees. She stated that the BCJ can survive without fees from small operators. On the other hand, the Economist/Researcher said that although some smaller operators are having financial problems due to economies of scale, some have remained profitable while paying BCJ fees because they have improved efficiencies and are collaborating with other operators to share costs. The example of Cornwall Communications' arrangements with smaller operators to complete the "last mile" connections to subscribers was posited as support for the statement. Another example that was given regarding cost saving was CTL Limited purchasing the head-end signal from another operator instead of purchasing the expensive equipment.

Constraints experienced by STV operators due to the current configuration of zones. All managers and officers of the BCJ expressed support for the current rezoning exercise being carried out by the BCJ to address the difficulty STV operators face in recovering the costs of building out

to serve sparsely populated areas in zone. The Former Acting Legal Officer said that the re-zoning exercise should be completed by the end of 2017.

In response to a question posed by the interviewers, both the Assistant Executive Director and the Economist/Researcher commented on the fact that the Universal Service Fund is not involving STV operators in broadband rollout. Both explained that the USF and BCJ fall under different ministries with different mandates. The Assistant Executive Director noted that collaboration could be helpful but this needs to come from the ministerial level.

The Economist/Researcher stated that although the rezoning exercise can help the small-sized STV operators, there still existed the need to collaborate with each other to reduce/share costs; and that the market will decide who survives.

Inadequacy/adequacy of existing legislation and regulations. The former Acting Legal Officer, Assistant Executive Director and Technical Officers all mentioned aspects of the existing legislation and regulations that could be changed/amended to facilitate development of the STV sector.

The Assistant Executive Director explained that the current regulations do not address the matter of android boxes that are providing increasing competition to STV operators. It was stated that amendments proposed in the new media policy can help address this if “broadcasting” is given a platform-neutral definition. The former Assistant Legal Officer noted that the current legislation does not give the BCJ latitude in terms of fees required from STV operators and that this has implications for changing the current fee structure. The Technical Officers mentioned that the existing legislation/regulations need to address the inability of small STV operators to afford a full-time Chief Technical Officer and that, while such expertise is essential, there are other arrangements that can be made to facilitate these technical services.

Copyright compliance. Five of the six BCJ managers and officers interviewed commented on the issue of copyright compliance. All of these managers/officers expressed the opinion that the BCJ's copyright compliance order is necessary but both the Assistant Executive Director and the Technical Officers noted the increased costs to STV operators, and hence to subscribers, have resulted in a loss of subscription to STV services. On the other hand, the Economist/Researcher stated that soon after the compliance directive, Digicel introduced Digiplay and this resulted in an increase in STV subscribers because Digiplay "captured" some of the existing market along with additional subscribers. The Economist/Researcher also explained that many North American channels cannot be copyrighted or are un-licensable; and that this is because some of these channel providers are not interested in countries with low populations. It was further stated that some satellite links are geared toward Latin American, Spanish speaking audiences and that Jamaica lies in that "satellite footprint".

The Assistant Executive Director revealed that the BCJ undertook a comprehensive study of copyright issues and is enforcing compliance where licence arrangements are not possible. It was stated that large and medium-sized STV operators are already feeling the adverse effects of consumers opting for android boxes that give access to hundreds of channels. It was stated that reports from rural small-sized STV operators are still being reviewed but the impact on them should be similar. The Assistant Executive Director also noted the coincidence that copyright compliance came at same time as introduction of android boxes which are not regulated and allow consumers to access hundreds of channels without STV subscription fees. It was indicated that the BCJ has been proactive in assisting in negotiations for licences from channel providers to local STV operators.

The former Acting Legal Officer expressed the view that operators should find ways of affording compliance through efforts such as the Caribbean Cable Cooperative that negotiates copyright arrangements on behalf of STV operators.

Content opportunities/challenges. Both the Assistant Executive Director and the Economist/Researcher expressed the view that the market is going to determine which of the STV operators will be viable and that the provision of content that can differentiate them from their competitors will be a determining factor.

The Assistant Executive Director predicted that what happened in free-to-air television with the introduction of cable; will happen to cable with the introduction of copyright compliance and android competition. It was explained that when cable came along with easy access to foreign programmes, TVJ took the controversial decision to air local programmes such as Schools' Challenge in Prime Time which was previously reserved for popular foreign programmes. These local programmes became big money earners and the lesson to cable providers is that they will either become mainly excellent internet providers or begin offering high quality alternative content (Jamaica/Caribbean/Africa) that interest their subscribers.

Similarly, the Economist/Researcher noted that some consumers are opting for over-the-top and streaming services using android boxes via the internet and accessible without STV subscription fees. To counter this trend, she said that STV operators need to overcome the problem of content repetition. It was stated that the STV operators can do this by being pro-active in creating and broadcasting local content that appeal to their audiences as "JACS Communications" did in Portmore a few years ago with their call-in interactive programme that became very popular with customers.

Digital Switchover (DSO). The Technical Officers of the BCJ explained that most STV operators have gone digital and that the DSO challenge is now mainly faced by the free-to-air television broadcasters in terms of which digital system they will be utilizing.

The Former Acting Legal Officer, Finance Officer and Monitoring and Customer Service Officer all said that some of the small STV operators are still engaged in the process of DSO. The Monitoring and Customer Service Officer cited customer complaints of inadequate boxes for subscribers and said that STV operators explained that there are often long waits for shipments of equipment from as far away as China.

Summary of Findings from Interviews with BCJ Managers and Officers

All persons interviewed not only expressed concern for the various challenges faced by the small-sized STV operators, but also offered suggestions to help those operators achieve financial viability. Many of the solutions proffered were reflective of the fundamental principles upon which the BCJ's Jamaican Electronic Media Policy Framework is based, *inter alia*:

- Quality indigenous content for national development;
- Enlightened and Universal access to media;
- Regulatory certainty and equity for service providers and investors.

The issue of indigenous content. The issue of indigenous content was raised in discussing how STV operators can differentiate themselves from their android/over-the-top competitors by broadcasting programmes with high quality alternative content from Jamaican, Caribbean and African producers. By offering content that appeals to local audiences, and to which those audiences can relate to, STV operators will be able to create new packages as alternatives to those channels being withdrawn due to copyright compliance issues.

Enlightened and Universal access to media. This matter was referred to as one of the main reasons for the re-zoning process that is currently being carried out by the BCJ. This exercise should better enable licencees to serve sparsely populated areas. Mention was made of the fact that the Universal Service Fund is now providing broadband services and this means that areas getting these services can use the internet to access content without subscribing for STV services. It was noted that the Universal Service Fund is not involving STV operators in its broadband rollout and that, although the USF and BCJ fall under different ministries with different mandates, collaboration could be helpful. However, collaboration needs to come from the ministerial level.

Regulatory certainty and equity for service providers and investors. Regulatory certainty and equity can be related to the above comments but was also raised as a key factor in exploring a tiered system of fees, alternative arrangements for small-sized STV operators to receive services of a Chief Technical Officer, and the need for “broadcasting” to be given a platform-neutral definition. With regard to the latter, it was pointed out that the current regulations do not address matter of android boxes and the amendments proposed in the new media policy, including the definition of “broadcasting” will help to level the playing field in terms of new competitors. This will also enable the BCJ to offer protection to consumers in keeping with the Children’s Code for Programming and other regulations.

Table 1

Summary of Interviews with BCJ Managers and Officers

Challenges and Concerns	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/Researcher	Assistant Executive Director
Small-sized STV operators' technical constraints		Many cannot afford to employ a Chief Technical Officer as required by law; maybe a contracted retainer would be more appropriate; need for proper maintenance and testing equipment.	Most customer complaints are about technical difficulties having to do with audio/video quality and breaks in transmission .		Technical limitations can be overcome if the small STV operators collaborate in purchasing expensive equipment; not necessarily merge, but make mutually beneficial arrangements.	Tremendous respect for small players; many learnt the technical skills on the job and their ingenuity and entrepreneurial spirit should be respected. As indigenous enterprises, they should have a continuing role.
Small-sized STV operators' administrative practices	Lack of audited financial statements; payment arrangements with customers based on "trust".	Improper record-keeping of maintenance schedule and operations	More training needed in Customer Service	Serious management issues; poor record-keeping; door to door collection of fees; some financial statements not professionally done.	Administrative expenses can be met if businesses are properly run; some small operators continue to be profitable while paying BCJ fees.	Many small operators are unsophisticated and not learned in proper accounting and administrative practices. BCJ assisting with Capacity Building programmes.

Challenges and Concerns (continued)	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/ Researcher	Assistant Executive Director
Collaboration/ cooperation among small-sized STV operators	More need to follow the example of arrangements CTL Limited has with smaller operators in collaborating to reduce costs and improve earnings.	Need for more collaboration to share expenses for head-end signal and other types of expensive equipment and technology			There are some good examples of collaboration and cooperation among STV operators that are working for them – example of CTL Limited’s arrangements regarding purchase of head-end signal and Cornwall Communications arrangements with smaller operators. More small operators need to engage in such collaboration in order to improve their viability.	Problem of insularity, but this can be overcome in the same way as what is happening in the radio broadcast sector where the smaller stations are merging with medium size players in order to survive. Small STV operators may need to share costs or merge to survive.

Challenges and Concerns (continued)	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/ Researcher	Assistant Executive Director
Small-sized operators' financial constraints	Difficulty in covering cost of equipment and copyright payments	High cost of copyright and equipment	Challenges in securing capital for expansion and upgrading to digital	Difficulty in covering costs for content, upgrading systems; Jamaica Public Service Company Limited (JPS Co.) charges; 5% fee to BCJ (15 of 47 delinquent for 1 to 3 year)s; fees from 3 largest STV operators contribute approximately 60% of total fees to BCJ.	Smaller operators having financial problems due to economies of scale but some have remained profitable while paying BCJ fees because they improved efficiencies and are collaborating with other operators to share costs – example of Cornwall Communications' arrangements with smaller operators to complete the “last mile” connections to consumers. Another example is of CTL Limited purchasing the head-end signal from another operator instead of purchasing the expensive equipment.	Devaluation of the Jamaican dollar a major problem as costs for overseas channel providers increase every time there is devaluation. Vagaries of climate – unable to get insurance for hurricane damage. They need to get organized from an industry perspective to lobby insurance companies. 5% fee is a challenge for small operators but a tiered approach could help them if it lowers their fees. BCJ can survive without fees from small operators.

Challenges and Concerns (continued)	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/ Researcher	Assistant Executive Director
Small-sized operators' zone limitations	Difficulty in recovering costs of building out to serve sparsely populated areas in zone. This is being addressed through the re-zoning exercise that should be completed by the end of 2017; theft of equipment and cables also a problem for all STV operators.	Constraints include limitations being placed on the amount of connections that JPS Co. will allow on their poles.	Theft of equipment and cables	High JPS Co. costs for carrying lines and equipment on their poles to get to areas in zone	Extensive outlay required to serve sparsely populated areas; Universal Service Fund now providing broadband services and this means that areas getting these services can use the internet to access content without subscribing for STV services. There is some disconnect in the industry as the USF is independent while the BCJ falls under the Ministry of Education and Information and these bodies have different mandates. Rezoning exercise can help the small operators but they have to collaborate with each other to reduce/share costs. The market will decide who survives.	Widely differentiated population densities and infrastructure in zones a problem; now being addressed through rezoning process. Universal Service Fund (USF) not involving STV operators in broadband rollout. USF and BCJ under different ministries with different mandates; collaboration could be helpful but this needs to come from the ministerial level.

Challenges and Concerns (continued)	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/ Researcher	Assistant Executive Director
Inadequacy of existing legislation and regulations	Current legislation does not give the BCJ latitude in terms of fees etc.	Legislation/ regulations need to address the inability of small STV operators to afford a full-time Chief Technical Officer				Current regulations do not address matter of android boxes; new media policy amendments can help address this if “broadcasting” given a platform neutral definition.
Copyright compliance	Operators should find ways of affording compliance through efforts such as the Caribbean Cable Cooperative that negotiates copyright arrangements on behalf of STV operators	Copyright compliance has increased subscription costs and hence a loss of subscribers		High cost of copyright compliance	Many North American channels cannot be copyrighted or are un-licensable; some not interested in countries with low populations; some satellite links geared toward Latin American/ Spanish speaking audiences; not seeing a decrease in subscribers but an increase because soon after the compliance directive Digiplay came on the scene and captured some of the market along with additional subscribers.	BCJ undertook comprehensive study of copyright issues and enforcing compliance where licence arrangements are not possible. Large and medium already feeling adverse effects of consumers opting for android boxes that give access to hundreds of channels; reports from rural small operators yet to be reviewed but the impact on them should be similar. Unfortunate coincidence that copyright compliance came at same time as introduction of android boxes. BCJ assisting in negotiating for licences being granted by channel providers.

Challenges and Concerns (continued)	Former Acting Legal Officer	Technical Officers	Monitoring and Customer Service Officer	Finance Officer	Economist/ Researcher	Assistant Executive Director
Content opportunities/ challenges		Consumers are opting for android boxes that can access the same and more content without subscribing to STV services			Consumers opting for over-the-top and streaming services using android boxes via the internet and accessible without STV subscription fees; To overcome the problem of content repetition, STV operators need to be pro-active in creating and broadcasting local content that appeal to their audiences as “JACS” communications did in Portmore a few years ago.	Market is going to take care of itself; what happened in free-to-air will happen to cable. When cable came along with easy access to foreign programmes, TVJ decided to air local programmes in Prime Time – Schools Challenge etc. which became big money earners. Cable providers will either become mainly internet providers or begin offering high quality alternative content (Jamaica/Caribbean/ Africa) that interest their subscribers
Digital Switchover	Some small STV operators still using analogue system	Most STV operators have gone digital. The DSO challenge is now mainly faced by the free-to-air television broadcasters.	Some still in process of DSO; inadequate boxes for subscribers; long wait for shipments from as far away as China.	High cost of digital boxes still a challenge for some small STV operators		

In addition to the interviews conducted, the BCJ's inspection and monitoring of the STV operators for technical compliance was reviewed to identify whether or not there were breaches, and the nature of said breaches if any. The BCJ is responsible for quarterly inspection and monitoring of the STV operators companies for technical compliance with legislation and regulations. The level of non-compliance is an area of concern for the Commission. The review of the technical monitoring report revealed varying levels of non-compliance. Tables 2 (p.45) and 3 (p.46-47) indicate the STV operators/licencees that were inspected, for the quarters July to September 2016 and 2015 respectively, by the Commission and the areas of technical non-compliance identified as follows:

Table 2

Technical Monitoring: July– September 2016

STV Operators	Breaches Identified
Mars Cablevision Limited	15(a),17(4)(e), 17(4)(d)
Jamaica Cablevision Ltd.	17(4)(e),17(4)(d)
St. Thomas Cable Network Limited	15(b), 17(1)(f), 17(1)(g)(ii), 17(4)(d), 17(4)(e)
Stars Cable Company Ltd.	17(4)(d), 17(4)(e), 17(1)(h), 17(4)(b) Breach of licence [2]
Central Clarendon Cable Limited	15(b), 17(1)(b), 17(4)(b), 17(4)(d), 17(4)(e) Breach of licence [1]
Astra Technology Limited	15(a), 17(1)(b), 17(4)(e), 17(4)(d), 17(1)(h) Breach of licence [1]

Source: Broadcasting Commission of Jamaica (2014b).

Table 3

Technical Monitoring: July– September 2015

STV Operators	Breaches Identified
Cabletron Network Systems Ltd.	17(4)(e)
First Choice Cable Services Ltd.	17(1)(b),17(1)(h) Breach of Licence (1)
Modern Rebroadcasting Company Ltd.	15(a)

STV Operators (continued)	Breaches Identified
McKays Cable Television Co. Ltd.	15(a), 17(1)(h), 17(4)(d), 17(4)(e)
Network Cable Services Ltd.	17(1)(h), 17(4)(d), 17(1)(b) Breach of Licence (1)
Santastic Cable Systems Ltd.	17(4)(e)
Starcom Cablevision Ltd.	16(1), 15(a), 17(1)(h), 17(4)(d), 17(4)(e)
Summit Satellite Systems Ltd.	17(4)(d), 17(4)(e), Breach of Licence (2)
Wilson Enterprises Ltd.	17(4)(d), 17(4)(e)

Source: Broadcasting Commission of Jamaica (2014b).

The nature and type of breaches committed by the STV operators, during the periods reviewed, that are of concern to the BCJ are represented in Table 4 (p.46).

Table 4

Breaches Identified

Regulation	Types of Breaches
15(a)	Not using an identifying color code or other identifying feature approved by the BCJ on cables used.
15(b)	Not having an identifying symbol or logo on vehicles owned or used by licencees in the provision of such service.
16(1)	Not providing employees who are responsible for maintenance and installation with an identification card.
17(1) (b)	Not encrypting adult programs.
17 (1) (f)	Not ensuring that an automated system is maintained to receive queries concerning the service.
17 (1) (g) (ii)	Not having at least one channel for public service and educational programs.
17(1) (h)	Not ensuring that the system which is used to operate the service is so designed, installed and operated so as to comply with technical standards.
17 (4) (b)	Not having records of channels carried and schedule of programs transmitted on those channels.
17(4) (d)	Not having records of reports on tests carried out on the service.
17(4) (e)	Not having records of signal leaks specifying the date, location, source and cause of, and date repaired.

For their part the small STV operators have reported challenges and concerns that can influence their operations and which ultimately can result in non-compliance.

Concerns and challenges faced by small STV operators. In 2015, the BCJ conducted a survey among STV operators to obtain their views on the re-zoning of the areas in which they operate (BCJ's Licencee Questionnaire, 2015). The original division and assignment of cable zones was based, for convenience, on electoral divisions (BCJ Rezoning Background, 2016) and the survey sought feedback from licencees on the layout of zones.

The responses of STV operators to the BCJ's licencee questionnaire (2015) regarding re-zoning revealed the following concerns, some of which spoke to issues in relation to re-zoning, but were not limited to re-zoning:

With respect to the issues regarding the current zone layout (each licensed zone) a number of STV operators indicated that there exists a challenge with the overlapping STV zones. One STV operator also pointed out (BCJ's Licencee Questionnaire, 2015, p. 15) that the STV zones appeared to have been created in accordance with the Parish Council (electoral) boundaries with the main roads in some instances dividing zones. Another concern was that the STV zones were too small.

With regard to areas in the current zones (licensed zones) that are not being served and why, the summary of the questionnaire revealed that the STV operators were of the opinion that it was not feasible to run cable in areas with low population density. The STV operators cited instances where the population spread is so wide that the distance between one household and another is 1,000 feet, and this made the cost of providing service exorbitant for the operator and unaffordable for the consumers.

With regard to the impact of population density on STV operators' profitability, the BCJ's Rezoning Background document (2016) includes calculations that were done to establish the minimum number of households which would constitute a profitable zone. Resulting from this

exercise, two models were proffered. The first model concluded that a zone requires no less than 10,000 households to be considered financially viable; while the second model concluded that, depending on population density, zones require from 7,000 to 15,000 households in order to be deemed viable (p. 3-4).

Other factors identified as obstacles/challenges to their provision of services included: no light poles to run cables; theft of infrastructure; and extortion. The questionnaire also invited issues/comments from STV operators on the configuration of zones and how these issues might be preventing the expansion of service (proposed zones for expansion). In this regard, STV operators stated that the zones were not clearly defined. They commented on the need to take land terrain into consideration as some types of terrain make it too difficult to construct required infrastructure and too expensive to provide quality service even with wireless service.

The questionnaire also invited the STV operators to comment on general issues/challenges that they faced in the provision/delivery of services. In this regard, STV operators noted that the cost of customs duties and other fees payable for the importation of equipment for the industry is too high. Additionally, the STV operators indicated that these fees contributed to the high cost of re-tooling (changing out of receivers/dishes etc. from analogue to digital). This was further elaborated whereby it was stated by one STV operator (BCJ's licensee questionnaire 2015, p. 38) who reported that the cost of 100 boxes is J\$4.5million (purchase and landed costs approximately), and that such high costs cannot be easily passed to customers. The STV operators went on to reiterate challenges mentioned earlier, such as extortion and criminal activities; homes located far apart; inadequate roads and infrastructure; insufficient utility poles; trucks destroying cable lines, and the country's general economic conditions, which limit their ability to provide STV services and impact the consumers' ability to afford the services offered.

The final question of the survey asked STV operators what matters/issues they wanted the Commission to consider in the re-zoning exercise. The summary of responses by STV operators to that question included the suggestion that a licensed provider should not be required to submit a technical application to provide service, on the basis that licensee has already demonstrated ability and capacity to provide cable service. They also expressed the concern that the larger operators may be using their dominant position and relationship with content providers to prevent other operators from accessing some content.

Other challenges faced by the STV operators. The BCJ's analysis (2014) concluded that the STV sector appeared to be experiencing a period of contraction, largely influenced by cord-shaving, cord-cutting, the effects of copyright enforcement, competition from internet packages and cost of content. This was supported by the average numbers of subscribers in the years 2014, 2015 and 2016 were 4,548; 4,386 and 4,431 respectively (BCJ Subscriber and Industry Information - February 2017). It is projected that in the long run, "many of these companies (particularly the small and poorly performing medium-sized companies) will close operations or merge" (BCJ, 2014, p. 13).

In addition the STV operators, more specifically the small-sized licensees face financial challenges - liquidity, financial gearing, inadequate asset base, and low profitability - which are discussed in detail in the financial statements analyses (see pp.93-98).

LEGAL FRAMEWORK

Justification for Countries Selected for Comparison of Regulatory Frameworks

Subsequent to the submission of the UTech Ja's research proposal and meeting with the BCJ management, it was agreed that the countries selected for review would be appropriate for

this research. The countries selected include a combination of high income earning countries as well as developing countries. The justification for selecting each jurisdiction will be discussed.

Trinidad and Tobago was selected as a result of the similarities it shares with Jamaica. Like Jamaica, Trinidad and Tobago is a developing country that has a colonial heritage with the United Kingdom, and is also a member of the Caribbean Community. Trinidad and Tobago also has a regulatory system which includes a combination of various categories in regard to the payment of fees as well as the size of STV operators which are relevant for this research.

India was selected as a result of consultations with the BCJ. The BCJ considered that India would be a good jurisdiction to conduct research on based on the fact that India has a growing STV sector. PricewaterhouseCoopers report published that the revenue earned by the television sector in India will double between 2014 and 2018 (PwC, 2014).

The United Kingdom (UK) was selected based on its colonial history with Jamaica which lasted for centuries. In addition to this our laws originated from the UK and it is helpful to study how the STV sector operates in a country with a similar legal heritage. UK is also one of two high-income earning countries which was studied, this has provided a diverse perspective as to how STV operators operate in different economic climates.

The United States was selected because it has one of the most developed STV sectors in the world. The United States has regulated its STV sector from as early as the 1960's (FCC, n.d.). One could also submit that various companies based in the United States own a vast amount of content that is sold and broadcast over the entire world. The United States is also relatively close to Jamaica in terms of its geographical location. It would be beneficial to understand how the STV sector operates in a large and developed economy.

Framework in Jamaica and other jurisdictions

Jamaica

In Jamaica, the existing legal framework of STV operators is contained in the following legislative instruments:

- The Broadcasting and Radio Re-Diffusion Act 1949 (BRRA) as amended, and
- The Television and Sound Broadcasting Regulations 1996 (TSBR).

Regulatory provisions under the Broadcasting and Radio Re-Diffusion Act 1949 (BRRA). The BRRA establishes the Broadcasting Commission of Jamaica (BCJ) as a corporate body¹. Under Section 16 of the BRRA, the BCJ has the duty to advise the Minister on matters relating to the terms and conditions on which licences may be granted to STV operators. Section 11A of the BRRA makes it a requirement for STV operators to have a licence.

The BCJ also has the responsibility of processing licences, registering STV operators and making recommendations to the Minister for the granting of licences². The Minister on receiving a recommendation from the BCJ in relation to the application for a licence may either grant a licence, refer the recommendation back to the BCJ for further consideration or refuse to grant a licence³.

There is a penalty for operating an STV service without a licence. Under Section 11A of the BRRA, a person who operates, establishes or maintains an STV service without a licence will be subject to a fine not exceeding J\$500,000 or a term of imprisonment not exceeding three years if found guilty before a Parish Judge. It must be noted that under Section 3 of the Interpretation Act of Jamaica, the definition of a person includes a company.

¹ Section 12, The Broadcasting and Re-Diffusion Act

² Section 11E(1), The Broadcasting and Radio Re-Diffusion Act

³ Section 11E(1), The Broadcasting and Radio Re-Diffusion Act

There is a nationality requirement to be an STV operator. Under the BRRA, only a company incorporated in Jamaica or a Member State of Caricom is eligible to operate an STV service in Jamaica⁴. The company must also be controlled by nationals of Jamaica or a Member State of Caricom⁵.

There are different categories of licences to operate an STV service. Section 11D (2) of the BRRA lists three categories, the three categories are:

- an STV service (wired) licence;
- an STV service (wireless) licence; and
- a special STV service licence.

A special STV service is defined under Section 2 of the BRRA as an island-wide subscriber television licence. This means that if a company is granted this type of licence, such a company is not restricted to operating in a specific zone but is obligated to offer service to the entire island.

The BRRA has included terms which form part of every STV licence granted to a licensee⁶. Some of these terms include a minimum licence period of six years, and the payment of licence fees upon being granted a license⁷. Section 6 of the BRRA gives a licensee the authority to erect, establish, maintain and operate a broadcasting apparatus of every description to enable the licensee to engage in broadcasting. In the case of STV operators this would include installing and erecting coaxial cable for the purpose of their operations.

Regulatory provisions under the Television and Sound Broadcasting Regulations 1996 (TSBR). The TSBR is subsidiary legislation; the power to make such legislation is found under

⁴ Section 11B, the Broadcasting and Radio Re-Diffusion Act

⁵ Ibid.

⁶ Section 11G, The Broadcasting and Radio Re-Diffusion Act

⁷ Section 11G5(a), 4A(a) The Broadcasting and Radio Re-Diffusion Act

the BRRA⁸. The TSBR provides that anyone who wishes to offer an STV service must apply to the BCJ and pay a non-refundable fee of J\$110,000⁹. It must be noted that this is not a licence fee but an initial application fee. If the application is successful, the prospective STV operator must pay licence fees¹⁰. There are two types of fees which must be paid, these are:

- The initial fee to operate an STV service based on the economic value of the zones found under Regulation 5 (2) of the TSBR, and
- Annual licence fees which are paid in quarterly instalments as stated under Regulation 5(2) (4) of the TSBR.

The initial fee to operate an STV service varies according to the number of zones that a STV operator wishes to operate in and the economic value of the zones¹¹. Zones constitute a particular area or location in Jamaica. The TSBR gives the BCJ the authority to establish zones in any area for the supply of an STV service¹².

There are currently three classes of fees in relation to the zones and economic value¹³. These fees vary, and are computed by using a formula. STV operators are charged a rate per zone depending on the number of geographical zones in which they operate. The fees are as follows:

- 60 zones, J\$199,050 per zone;
- 61- 120 zones, J\$140,500 per zone; and
- 121 zones or more J\$99,600 per zone¹⁴.

⁸ Section 23(1), The Broadcasting and Radio Re-Diffusion Act

⁹ Regulation 3, the Television and Sound Broadcasting Regulations.

¹⁰ Regulation 5 (1), the Television and Sound Broadcasting Regulations

¹¹ Regulation 5 (2), the Television and Sound Broadcasting Regulations

¹² Regulation 27, the Television and Sound Broadcasting Regulations

¹³ Regulation 5 (2), the Television and Sound Broadcasting Regulations

¹⁴ Ibid.

Correspondingly, the TSBR makes provision for the adjustment of these fees to operate an STV service giving consideration to factors such as competition and geography within a zone¹⁵. The weight given to geographical factors are determined by terrain and housing density and spread within a zone¹⁶. Regulation 5(2) of the TSBR allows for classification of zones on a case by case basis as easy, moderate and difficult based on propagation plans and other data that are available on the zones. The more difficult the zone is, the less the fee to operate in the zone.

Licencees who operate an STV service are further required to pay to the BCJ an annual licence fee of 5 per cent of the gross annual subscription fees collected from their customers¹⁷. These annual licence fees are payable in quarterly instalments¹⁸.

The BCJ is empowered to issue directives to STV operators in respect to any law or rule found under the BRRA and TSBR¹⁹. An illustration of a directive issued to STV operators was observed with the issuing of Circular No. 1/10 which was a directive ordering STV operators to desist from re-broadcasting the 2010 World Cup from the ESPN channel, as this was a breach of copyright and trademark laws. Under Regulation 34 of the TSBR, STV operators who contravene the regulations may be subject to a term of imprisonment not exceeding twelve months or a fine of J\$10,000.

The TSBR further provides certain requirements and guidelines which STV operators must follow. These include *inter alia*:

- The requirement for an identifying code or feature to be used on cables²⁰; and
- The requirement identifying symbol on vehicles owned by STV operators²¹.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Regulation 5 (4), the Television and Sound Broadcasting Regulations

¹⁸ Ibid.

¹⁹ Regulation 31, the Television and Sound Broadcasting Regulations

²⁰ Regulation 15a, Television and Sound Broadcasting Regulations

²¹ Regulation 15b, Television and Sound Broadcasting Regulations

Proposed Amendments of the Broadcasting and Radio-Re-Diffusion Act

There is currently a discussion paper in existence which has proposed amendments to the Broadcasting and Radio-Re-Diffusion Act (BCJ, n.d). Some of the proposals include *inter-alia*":

- Removal of the term radio-re-diffusion from the entire legislation.
- Requirements for Independent Programme Providers (IPP) to pay a licence fee.
- Application for renewal of licences must be submitted 12 month prior to the expiration of any licence. Renewal should be applicable to all licencees and persons holding certificates of registration.
- The authority of the BCJ to charge administrative fees.
- Increase in fines to maximum of 5 million dollars.
- Making provision for subscription services to be available via IPTV, Direct to Home Satellite DTH/Satellite and Satellite radio.

Tiered Regulatory System in Jamaica

Currently the STV industry in Jamaica does not have a tiered regulatory system. Consequently, this research was commissioned to “consider a broader regulatory strategy that will help to transition and mature the market. One form that this could take is differential treatment of licencees: a three-tier system, with clear boundaries, incentives and transition criteria” (BCJ, 2016).

Trinidad and Tobago

In Trinidad and Tobago the legal framework for STV operators can be found in the Telecommunications Act 2001(TA) as amended and the regulations made thereunder

Regulatory provisions under TA. Section 4 of the TA establishes the Telecommunications Authority of Trinidad and Tobago (TATT). Under Section 18 of the TA, the functions and powers of the TATT include making recommendations to the Minister for the granting of concessions and licences, monitoring and ensuring that regulated entities are in compliance with the conditions of their licences, classifying regulated entities according to the type and mode of services they offer to their customers, investigation of complaints by end users, establishing national telecommunications standards and technical standards, and collecting concession and licence fees.

A concession is an authorization to operate a public telecommunications network or provide a public telecommunications service or operate a broadcasting service²².

Section 2 of the TA defines a broadcasting service as the offering of the transmission of programmes whether or not encrypted, by any means of telecommunications, for reception by the general public, including sound, radio, television and other types of transmissions, such as those on a point to multipoint basis. STV operators would be captured under the provision of operating a broadcasting service.

The minister makes a decision as to whether or not to grant a concession after receiving a recommendation from the TATT. The TATT is mandated to make a recommendation for the granting of a concession for a broadcasting service within ninety (90) days of receiving all information pertinent to the application²³. After receiving a recommendation from the TATT, the minister must either approve, modify or reject the recommendation of the TATT within sixty (60) days of receiving the recommendation.

²² Section 2, the Telecommunications Act (Trinidad and Tobago)

²³ Section 21(5), the Telecommunications Act (Trinidad and Tobago)

It is an offence to operate a broadcasting service without a concession and the penalty for doing so is TT \$250,000 (J\$4,797,027.50)²⁴ and a term of imprisonment of five (5) years²⁵.

Once a concession is granted for the operation of a broadcast service, annual fees must be paid to the TATT. The fees depend on the type of concession one acquires. The Telecommunications (Fees) Regulations provide for four categories of concessions. These categories are as follows²⁶:

- major territorial
- minor territorial
- national
- niche.

Major territorial defines a concession to operate a public telecommunications network or provide public telecommunication or broadcasting services within the island of Trinidad only²⁷.

Minor territorial defines a concession to operate a public telecommunications network or provide public telecommunication or broadcasting services within the island of Tobago only²⁸. **National**

defines a concession to operate a public telecommunication network or provide public telecommunication or broadcasting services throughout Trinidad and Tobago²⁹. **Niche** defines a

concession to operate a public telecommunications network or provide public telecommunication or broadcasting services in only a part of Trinidad and Tobago defined by the Authority. The

minimum annual concession fee for a STV operator who holds a major territorial or national concession is TT\$10,000 (J\$191,881.10)³⁰ and for niche or minor territorial concession it is

²⁴ 1 Trinidad and Tobago dollars = JMD \$19.18811 (BOJ, 2017)

²⁵ Section 65, the Telecommunications Act (Trinidad and Tobago)

²⁶ Regulation 2, Telecommunications (Fees) Regulation

²⁷ Ibid.

²⁸ Ibid.

²⁹ Ibid.

³⁰ 1 Trinidad and Tobago dollars = JMD \$19.18811 (BOJ, 2017)

TT\$1,000 (J\$19,188.11)³¹. The application fee for a niche or minor territorial concession is TT \$200 (J\$3,837.62)³², and for a major territorial or national concession it is TT \$1000 (J\$19,188.11)³³.

Tiered Regulatory System in Trinidad and Tobago

From a review of the regulatory framework in Trinidad and Tobago, it was observed that STV operators are divided into four (4) categories. The system is not a strict tiered regulatory system, but rather an alternative regulatory system with some aspects of a tiered regulatory system³⁴. It is further discussed on pp. 72-78.

India

The STV sector in India consists of different players including cable operators, direct to home television service providers, and internet protocol television service providers (Bhawan & Marg, 2010). In India, the distribution of cable television to the end user involves broadcasters, aggregators, multi system operators (MSOs) and local cable operators (LCOs). Broadcasters own television content and channels which are sold to STV operators for consumers to view (Bhawan & Marg, 2010). Broadcasters also own free to air television channels, and these channels do not attract a subscription fee (Bhawan & Marg, 2010). Broadcasters earn revenue through advertising and subscription fees for non-free to air channels (Bhawan & Marg, 2010). Aggregators are agents who act on behalf of broadcasters by selling channels to STV operators. There exist in India entities that not only own content but also distribute it through STV services which they also own. Zee Entertainment Enterprises Limited, one of the largest media companies in India, not only owns

³¹ Regulation 11, Telecommunications (Fees) Regulation
1 Trinidad and Tobago dollars = JMD \$19.18811 (BOJ, 2017)

³² 1 Trinidad and Tobago dollars = JMD \$19.18811 (BOJ, 2017)

³³ First Schedule, Telecommunications (Fees) Regulation
1 Trinidad and Tobago dollars = JMD \$19.18811 (BOJ, 2017)

³⁴ See Table 5, p.74

content but also provides STV services to end users (About Zeel, 2017). Aggregators sell channels either as a single unit or as a bundle/package to STV operators. MSO service providers interact with broadcasters by selling their content to several STV operators. MSOs have a far and wide reach and have eliminated the need for broadcasters and aggregators to negotiate directly with STV operators by serving as a master distributor (Bhawan & Marg, 2010). Some MSOs also distribute content directly to the end users by providing STV services (Bhawan & Marg, 2010). LCOs are the traditional STV service operators that provide STV services to end users through cable wires (Bhawan & Marg, 2010). LCOs receive channel offerings from broadcasters, aggregators and/or MSOs, and provide access to these channels for a subscription fee. Internet Protocol Television (IPTV) services provide STV services over the internet, and Direct to Home

The legal framework for STV operators is found in the Indian Telegraph Act of 1885, The Wireless Telegraphy Act 1933, The Telecom Regulatory Authority of India Act 1997, Cable Television Networks (Regulation) Act 1995 as amended, The Cable Television Networks Rule 1994, Guidelines for obtaining a DTH (Direct To Home) broadcasting licence, Guidelines for providing Headend In The Sky (HITS) Broadcasting Service, and the Guidelines for provisioning of Internet Protocol Television (IPTV) Services.

The Indian Telegraph Act 1885 (ITA). The Indian Telegraph Act (ITA) was passed in 1885 to regulate telegraphs. The term telegraph is defined in the ITA as any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire or other electro-magnetic emissions, radio waves or hertzian waves, galvanic, electric or magnetic means ³⁵. It can be posited that the definition of a telegraph as provided in the ITA is a broad one, and would include modern

³⁵ Section 3 (1), The Indian Telegraph Act 1885

technology not contemplated in 1885. The ITA also defined the term telegraph line and included in its definition, wire or wires used for the purpose of a telegraph³⁶. Under the ITA, the Government of India was given the exclusive authority to operate a telegraph and could at their discretion grant a licence to a private individual or entity³⁷

The Indian Wireless Telegraphy Act 1933 (IWTA). The IWTA applies to equipment falling under the definition of a wireless telegraphy apparatus. Section 2 of IWTA defined the term wireless apparatus as any apparatus, appliance, instrument or material used or capable of use in wireless communication. In order to be in possession of a wireless apparatus, a licence is required³⁸.

It must be noted that the ITA and the IWTA do not specifically refer to the subscriber television industry, however the Rajasthan High Court in India ruled, in the case of Shiv Cable TV v The State of Rajasthan and Ors. AIR 1993 Raj 197, that the equipment used by cable operators fell within the definition of telegraph and telegraph line as provided for under the ITA. The court also found that the definition of telegraph line included the cable network and cable and wires installed by cable operators. The court also ruled that dish antennas that receive television signals from the satellite can be classified as a wireless apparatus as defined under the IWTA³⁹. The court ruling meant that the provisions of the ITA and the IWTA as it related to licensing, applied to cable television operators. The court noted the fact that no regulations were in existence for the cable television industry in India at the time of its ruling⁴⁰. Subsequent to the Court ruling and prior to the passing of The Cable Television Networks (Regulation) Act 1995 (CTNA), the requirement for operating a subscriber television service would be found in the ITA and if any form of wireless

³⁶ Section 3 (1), The Indian Telegraph Act 1885

³⁷ Section 4 (1), The Indian Telegraph Act 1885

³⁸ Section 3, The Indian Wireless Telegraphy Act 1933

³⁹ Shiv Cable TV v The State of Rajasthan and Ors. AIR 1993 Raj 197, para. 7

⁴⁰ Shiv Cable TV v The State of Rajasthan and Ors. AIR 1993 Raj 197, para.8

equipment was involved, the IWTA would also be applicable. The government entity with responsibility for licensing is the Telegraph Authority, defined as the Director General of Posts and Telegraphs⁴¹. The Director General of Posts still has this responsibility today as that provision in the ITA and the IWTA has not been repealed. The CTNA, however, provided additional requirements for cable television operators which will be discussed.

The Cable Television Networks (Regulation) Act 1995 (CTNA). The Cable Television Networks (Regulation) Act 1995 (CTNA) was introduced to provide regulatory certainty to the cable television sector that emerged in India in the 1990's (Siddharth, 2008). The CTNA was passed on the 25th March 1995 to regulate the operations of cable television networks in India⁴². Section 3 of the CTNA makes it a requirement for a person to be registered as a cable operator in order to operate a cable television network. The term “**cable operator**” is defined in Section 2 (a iii) of the CTNA as “any person who provides cable service through a cable television network or otherwise controls or is responsible for the management and operation of a cable television network and fulfils the prescribed eligibility criteria and conditions”. The term “**cable television network**” is defined in Section 2(c) of the CTNA as “any system consisting of a set of closed transmission paths and associated signal generation, control and distribution equipment designed to provide cable service for reception by multiple subscribers”.

Under the CTNA, only a citizen of India who is eighteen (18) years or older, or an association whose members are citizens of India and are 18 years or older can apply to be registered as a cable operator⁴³. Anyone who operates a cable service without registering under the CTNA

⁴¹ Section 3 (6), The Indian Telegraph Act 1885, and Section 5, The Indian Wireless Telegraphy Act 1933

⁴² The Cable Television Networks (Regulation) Act 1995

⁴³ The Cable Television Networks (Regulation) Act 1995

may be subject to imprisonment for two years and/or a fine of one thousand (1000) rupees (J\$2000)⁴⁴ for a first time offender⁴⁵.

The Telecom Regulatory Authority of India Act 1997 (TRAI). The TRAI established the Telecoms Authority of India and the Telecoms Disputes Settlement and Appellate Tribunal⁴⁶. The Telecoms Authority of India was set up to regulate the telecoms industry. Section 11 of the TRAI outlines some of its functions which include, *inter alia*:

- to make recommendations on the terms and conditions of licences granted to service providers; and
- to make recommendations in relation to the revocation of a service provider's licence.

The functions of the Telecoms Disputes Settlement and Appellate Tribunal (TDSAT) are provided for in Section 11 of the TRAI. Under Section 11 of the TRAI, the role of the TDSAT is to hear disputes involving: a) a licensee and a licensor; b) two or more service providers and; c) a service provider and a group of consumers.

The Cable Television Networks Rule 1994 as amended (CTNR). The CTNR supplemented CTNA and provided the procedures and forms used in applying to become a cable television operator. Under the CTNR individuals interested in providing cable television services must submit an application to register as a cable television network and pay 500 rupees⁴⁷. The application fees for MSO's is 100,000 rupees (J\$200,000)⁴⁸. There is an annual renewal licence fee of five hundred (500) rupees (J\$1000) for registered cable operators⁴⁹. The application for

⁴⁴ 1 Rupee = \$2.01 Jamaican dollar (JMD), (Google Finance 2017)

⁴⁵ Section 16, The Cable Television Networks (Regulation) Act 1995

⁴⁶ Telecom Regulatory Authority of India Act 1997, p.1.

⁴⁷ Rule 3, The Cable Television and Networks Rule 1994 as amended

⁴⁸ Rule 8, The Cable Television and Networks Rule 1994 as amended (2012)

1 Rupee = \$2.01 Jamaican dollar (JMD), (Google Finance 2017).

⁴⁹ Ibid.

registration as a cable television operator is addressed to the Head Post Master of the Head Post Office. When the application is received it is examined and if the applicant is successful, a certificate of registration is issued. The CTNR was amended in 2012 and provided the following eligibility requirements for registration as a cable operator:

- the applicant must be a citizen of India who has attained the age of eighteen (18) or older;
- where the applicant is an association; its members must be citizens of India who have attained the age of eighteen (18) or older;
- where the applicant is a company, the company must be registered under the Companies Act 1956;
- the applicant must not be an undischarged insolvent;
- the applicant must not be of unsound mind; and
- convicted of a criminal offence.

The CTNR further provides a requirement for MSOs to be registered in order to provide cable television services⁵⁰.

Regulatory provisions governing Direct to Home (DTH), Headend in The Sky (HITS), and Internet Protocol Television (IPTV)

Direct to home. Providers of DTH services are regulated by the Guidelines for Providing Direct to Home Broadcasting Services (GPDTHS). Under the GPDTHS applicants must fulfil certain eligibility requirements which include, *inter alia*:

- registration as a company under the Companies Act 1956;
- total foreign equity holding must not exceed forty-nine per cent (49 per cent); and

⁵⁰ Rule 11, The Cable Television and Networks Rule 1994 as amended

- the CEO of the company must be an Indian resident.

DTH service providers must also pay a licence fee of 10 per cent of its gross annual revenue.

Headend in the sky. Providers of HITS services are regulated by Guidelines for Providing Headend-In-The –Sky Broadcasting Service in India (GPHITS). Under the GPHITS, service providers must fulfil certain requirements *inter alia*:

- be registered as a company under the Companies Act of 1956;
- have a minimum net worth of Rupees 10 crores (100,000,000) or 100 million rupees(J\$201 million)⁵¹;
- foreign direct and indirect investment must not exceed seventy-four per cent (74 per cent);
- broadcasting and DTH companies should not hold more than twenty per cent (20 per cent) of paid up equity in the company; and
- the HITS permission holder must not hold more than twenty per cent (20 per cent) equity in a broadcasting company.

Under the GPHITS all applicants must pay a non-refundable fee of Rupees 10 crores (see above).

Internet protocol television. IPTV service providers are regulated by the Guidelines for Provisioning of Internet Protocol Television Services (GPIPTVS). Under Guidelines of the GPIPTVS, cable operators registered under the CTNA can provide IPTV services without further permission. The effect of this is that all cable operators can provide television services over the internet, provided that they have the necessary capacity to provide the service. Guidelines of the GPIPTVS provide that cable operators who provide IPTV service are governed by the CTNA and the TRAI. The GPIPTVS also makes provision for telecoms companies to provide IPTV services.

⁵¹ 1 Rupee = \$2.01 Jamaican dollar (JMD, (Google Finance 2017)).

Tiered Regulatory System in India

In India, the regulatory system consists of two main types of cable television operators. India does not have a tiered regulatory system in the strict sense (Table 5, p.74) in the cable television industry. This alternative system has aspects of a tiered regulatory system with two categories, and is further discussed on pp. 72-78.

United Kingdom (UK)

In the UK, STV operators consist of large entities that offer a range of telecommunication services including mobile internet and landline phone services (Cable TV Providers, n.d.). In the UK, there are four traditional STV companies namely:

- Sky,
- Virgin Media,
- British Telecoms (BT), and
- Talk Talk TV (OfCom, 2016).

In addition to STV operators there are Over the Top (OTT) content providers. OTT content providers provide television content directly over the internet. Research has shown that there are four (4) main OTT content providers in the UK: Netflix, Amazon Instant Video, Now TV and iTunes (OfCom, 2016). As a result of being accessible over the internet these OTT content providers can be accessed from anywhere in the world.

In the UK, the legal framework for STV operators can be found in the Broadcasting Act 1990 (BA90), the Broadcasting Act 1996 (BA96), the Office of Communications Act 2002 (OFCA), the Communication Act 2003(CA) and the regulations made thereunder.

In the early years of the UK's broadcasting history, the British Broadcasting Corporation (BBC), which is a public broadcasting entity, had a monopoly over television broadcasting until 1954 (Britannica Encyclopedia, 2012, March 22). The Television Act of 1954 (TA) created the Independent Television Authority (ITA), which was created to regulate commercial broadcasting. As a result of this, private companies were able to establish broadcasting channels.

The BA90 was passed to make new provisions with respect to the regulation of independent television by establishing the Independent Television Commission (ITC)⁵². The purpose of the ITC was to regulate privately owned television broadcasters⁵³. The CA and the OFCA were subsequently passed, and introduced a new regulatory body known as the Office of Communication (Ofcom). Ofcom replaced the ITC and has mainly administrative and regulatory functions. Prior to the enactment of the CA, licensing of television services including STV services were the responsibility of the Independent Television Commission⁵⁴. Schedule 1(3) of the CA transferred the functions of the licensing of television services under BA90 and BA96 to Ofcom.

Under Section 211 of the CA, Ofcom has the responsibility of regulating television services within the UK except for the BBC and the Welsh Authority. Section 211 of the CA also further provides Ofcom with the responsibility for regulations of television broadcasting services, television licensable content services, digital television program services, television multiplex services and other services falling within the jurisdiction of the UK.

There are various categories of television broadcast licences available. These licences include:

⁵²Section 1, the Broadcasting Act 1990 (UK)

⁵³ Section 2, the Broadcasting Act 1990 (UK)

⁵⁴ Schedule 1(3), Communications Act (2003) UK

- Digital TV Programme Service/Digital TV Additional Service (DTPS/DTAS)
- Television Licensable Content Services (TLCS)
- Local DTPS (Local TV)
- Restricted Services for an Event (RTSL-E) (OfCom, 2017, January 23).

In relation to STV operators in the UK, the TLCS would be the licence that would govern those operations as was highlighted in the case of BT PLC v Ofcom et al. (Virgin Media Inc., 2014). Section 234 of the CA defines a **TLCS** as “a service being provided with a view of making it available to the public by way of broadcasting through satellite, or by means involving an electronic communication network”.

The first step in becoming a TLCS service provider is to fill out an application form and pay an application fee of 2500 pounds (UK£) (J\$417,690.75)⁵⁵ (OfCom, 2016, November, 22). Once a licence is granted, STV operators are required to pay annual licence fees (OfCom, 2016, November, 22). Licence fees vary and are charged as a percentage of annual turnover (OfCom, 2016, March 30). Ofcom provides a range that is divided into five bands based on the annual turnover, which is illustrated as follows (OfCom, 2016, March 30).

Annual Turnover in (UK£) pounds	Percent of Annual Turnover
0 to 10 million	0.02
10 to 35 million	0.04005
35 to 75 million	0.08009
75 to 300 million	0.16018
Over 300 million	0

⁵⁵ 1 Great Britain Pound = JMD \$167.0763 (BOJ, 2017).

The minimum licence fee is set at 1000 pounds (UK£) (J\$167,076.30)⁵⁶ (OfCom, 2016, March 30). This means that if an STV operator earns an annual turnover of 50,000 pounds (UK£) (J\$8,353,815)⁵⁷ they will pay 1000 pounds (UK£) which represents 0.02 of their annual turnover. In addition, if the annual turnover is below 50,000 pounds (UK£) the annual licence fee will remain at 1000 pounds (UK£). It is noteworthy to state here that the annual fees are calculated cumulatively, therefore if a STV operator has annual turnover of 400 million pounds (UK£), they have to pay the percentage of turnover for each band up until they reach 300 million pounds (UK£) (OfCom, 2016, March 30). Anyone who operates an STV without a licence will be subject to a fine⁵⁸. The maximum fine that can be imposed is 5000 pounds (UK£) (J\$835,381.50)⁵⁹ as stated in Section 37 of the Criminal Justice Act 1982 as amended.

It is a requirement for STV operators to have their operations within the jurisdiction of the UK or a member state of the European Union (OfCom, 2016, November, 22). The UK's vote to exit the European Union (the Brexit) may impact this regulation in the future.

Tiered Regulatory System in United Kingdom (UK)

The customer base of the four traditional cable companies in the UK are as follows: British Telecom - 1.4 million; Sky - 11.3 million; Talk Talk - 1.4 million, and Virgin Media - 3.7 million (OfCom, 2016). These companies pay annual licence fees based on a tiered regulatory system (Table 6, pp.76-77). These STV operators pay a percentage of their annual turnover as licence fees depending on the amount earned annually. There are five tiers which are based on the annual earnings of the STV operators, and this tiered regulatory system is further discussed in the comparative analysis (pp.72-78).

⁵⁶ 1 Great Britain Pound = JMD \$167.0763 (BOJ, 2017).

⁵⁷ 1 Great Britain Pound = JMD \$167.0763 (BOJ, 2017).

⁵⁸Section 43, Communications Act (2003) UK.

⁵⁹ 1 Great Britain Pound = JMD \$167.0763 (BOJ, 2017).

United States of America (USA)

The federal government has oversight responsibility of the Federal Commission of Communication (FCC), which provides the policy for the STV industry and individual states are responsible for licensing STV operators. The legal framework in the US is multi-faceted and involves both federal and state governments.

The laws governing STV operators can be found in the Title 47, Chapter 5 of the US Code, and state-specific laws such as the Public Service Laws of New York; Article 11 – Provision Relating to Cable Television Companies. Title 47 of the US Code is a source of US Federal Law which includes all the laws which govern the US in relation to telecommunications. Chapter 5 of Title 47 applies specifically to wire or radio communication.

STV operators are regulated in the USA by the Federal Commission of Communication (FCC); this was confirmed in the US Supreme Court decision of *United States v Southwestern Cable Company*⁶⁰. The court ruled that the Communication Act of 1934 grants to the FCC the authority to regulate all forms of electrical communication and this applied to cable TV companies⁶¹.

The Communications Act 1934, Chapter 47, US Code. Under Chapter 47, Section 541(a) (1) of the US Code, a franchise authority may award one or more franchises within its jurisdiction, but not an exclusive franchise⁶². A franchise authority is defined as a government entity empowered by federal, state or local law to grant a franchise⁶³. A franchise is defined as an initial authorization or renewal thereof, issued by a franchising authority, whether such authority is designated as a franchise, permit, licence, resolution, contract, certificate, agreement, or otherwise,

⁶⁰ 392 U.S. 157 1968

⁶¹ Ibid.

⁶² The Communications Act of 1934, 47 U.S.C. § 541 (a)(1)

⁶³ The Communications Act of 1934, 47 U.S.C. § 522 (10)

which authorizes the construction or operation of a cable system⁶⁴. The franchise authority is therefore the government entity granted the power to grant a licence or authorization to operate or provide an STV service. In order to further understand the regulatory environment of STV operators in the US it is necessary to look at regulations at the state level.

New York Consolidated Laws, Article 11- Provisions Relating to Cable Television Companies. Under New York state law a franchise is required by a STV operator from the municipality in which that operator wishes to provide a cable television service⁶⁵. A municipality is defined as any village, town, city or county not wholly contained within a city in the state⁶⁶.

In New York City, the Department of Information Technology and Telecommunications manages cable television franchises for that city (NYC, Department of Information Technology and Telecommunications (DoITT) (Cable TV, n.d.). There are currently three STV operators that have cable television licences in New York City: Cablevision, Time Warner Cable, and Verizon (NYC, DoITT. Cable TV, n.d.). Verizon provides service to all the five boroughs of New York City: Bronx, Brooklyn, Queens, Manhattan, and Staten Island (NYC, DoITT. Cable TV, n.d.). Cablevision provides cable television service to Bronx and Eastern Brooklyn, and Time Warner Cable provides cable television service in Staten Island, Manhattan, Queens and Western Brooklyn (NYC, DoITT. Cable TV, n.d.).

The New York City Charter. The procedure for awarding a franchise is found in Section 363 of the New York City Charter (NYCC). Under Section 363 (b) of the NYCC, the head of the agency with responsibility for a particular service, which is the subject matter of the franchise, will determine if there is a need. Once that need has been determined, a proposed authorizing resolution

⁶⁴ The Communications Act of 1934, 47 U.S.C. § 522 (9)

⁶⁵ N.Y. Public Service Law (Art. 11) §219

⁶⁶ N.Y. Public Service Law (Art. 11) §212(6)

for the specific franchise must be submitted to the mayor⁶⁷. After receiving the proposal, the mayor may submit it to the city council for approval⁶⁸. Within ninety (90) days of receiving a proposed resolution, the council or a committee of the council must have a public hearing to either approve, approve with modifications or disapprove the proposal⁶⁹. Once approval is granted, the agency would request proposals from the public for the granting of a franchise on the terms stated in the proposal⁷⁰. The requisite agency for New York City would be the Department of Information Technology and Telecommunications. It therefore can be suggested that the granting of a franchise is largely determined by the need of the city in that particular area of service. Once a need is identified, the process of inviting tenders/proposals is put into action, resulting in the granting of a franchise to the successful applicant.

The terms and conditions of franchises, including payment of fees by STV operators, are mainly governed by the contractual agreements entered into between the STV operators and the franchise authority. STV operators who operate throughout the five boroughs of New York City have a franchise for each area they operate in (NYC, DoITT. Cable TV Franchises, n.d.). From the franchise agreements viewed on the DoITT website, franchise fees are normally 5 per cent of annual revenue (NYC, DoITT. Cable TV Franchises, n.d.).

Tiered Regulatory System in United States of America (USA)

In the US individual States are primarily responsible for enacting laws and regulation in relation to STV operators. The City of New York in New York State has a tiered system in relation to the type of licences that are offered to STV operators. It has been observed that STV operators are granted a city wide licence, or a licence to operate in one or more of the five boroughs, namely:

⁶⁷ Section 363(b) New York City Charter

⁶⁸ Section 363(c) New York City Charter

⁶⁹ Ibid.

⁷⁰ Ibid.

Brooklyn, Staten Island, Queens, The Bronx and Manhattan (NYC, DOITT. Cable TV Franchise. n.d.). A city wide licence would enable the STV operator to operate through the entire city of New York. The review of the franchise agreement between Verizon and New York City Department of Information Technology and Telecommunications revealed that a city wide licence was granted that enabled Verizon to service the entire New York City. This type of licence can be distinguished from a licence to operate within a particular borough within New York City as observed in the agreement involving Time Warner. The franchise agreement for Time Warner to provide cable television service in Brooklyn, restricts the provision of cable television service to that area. The licence fees are however the same for all STV operators, which has been stated as five percent based on the franchise agreements.

Comparative Analysis of Tiered Regulatory and Alternative Systems

From Table 5 (p.74) the existence of a tiered regulatory system or an alternative system can be observed in the various countries researched. All the countries except for Jamaica have a tiered regulatory system or an alternative system. A tiered regulatory system exists in the United Kingdom (UK) and the United States of States of America (USA). Trinidad and Tobago and India have an alternative system with clear boundaries; both regulatory structures, however, have some elements of a tiered regulatory system. Trinidad and Tobago has an alternative regulatory system because the various classifications that exist in relation to the type of licence awarded to STV operators are characterized by mainly geographical factors and the size of the STV operator. Similarly, in India, the regulatory structure is determined by the size of the STV operator as MSOs have a wider coverage than LCOs. The criteria used to determine an MSO is related to its function and technological capacity of the STV operator. Within each tiered regulatory system or alternative system there exists similarities and differences. In India the alternative system is determined

mainly by the size of the STV operator, and this is also the case with Trinidad and Tobago. The difference with India and Trinidad and Tobago is the fact that in the case of the latter, STV operators fall in one of four categories as it relates to geographical location. In India, STV operators fall in one of two categories, MSOs or LCOs. Geographical location is, however, not a major determinant for operating as an LCO or MSO. Within the categories of STV operators in India, the MSOs are both distributors of television content and STV operators, whereas LCOs operate solely as STV operators. The tiered regulatory system in the USA is different from all the other jurisdictions researched. In the USA the regulations and statutes give the franchising authority or the regulator the power to determine the terms and conditions of cable television licences including licence fees. In the case of the UK, the boundaries within its tiered regulatory system are based on revenue earned. In contrast, to New York City, the contractual agreements revealed that a flat rate is charged as licence fees (Table 6, pp.76-77). In Jamaica, a similar approach of charging a percentage of gross annual subscription fees exists. However, Jamaica, differs from the UK and the USA in that the per cent rate charged as licence fees is fixed by the Regulations, while the rate is not fixed for those other jurisdictions. It must however be noted that the rate charged is not fixed into law and can be adjusted. In the UK the size of STV operators is not a direct factor in determining the boundaries within its tiered regulatory system, however STV operators who earn more revenue are likely to be larger in size and have a greater reach and a larger customer base.

Table 5

Tiered Regulatory and Alternative Systems

TIERED REGULATORY SYSTEM (TRS) or ALTERNATIVE SYSTEM (AS)	Jamaica	Trinidad and Tobago	India	United Kingdom	United States of America
Defined TRS or AS in existence	No	Yes	Yes	Yes	Yes
Boundaries within the TRS or AS	N/A	Geographic Location, Size of STV operator	Size of STV operator	Revenue Earned	Geographic Location
Classification of STV operators according to the current TRS or AS	N/A	Major Territorial, National, Minor Territorial, and Niche	Multi-system Operators (MSO) Local Cable Operators (LCO)	Revenue Earned	City-wide franchise Limited franchise
Number of categories in existence within the TRS or AS	N/A	4	2	5	2
Profile of STV operators within the current TRS or AS	N/A	Varied: ranges from large telecoms companies to small local cable television companies	Varied: ranges from large telecoms companies to small local cable television companies	Large Telecoms companies	Large Telecoms companies

Suitability of the Tiered Regulatory System or Alternative System. The implications of these findings for Jamaica are that there exist options in relation to the type of regulatory structure which can be adopted by Jamaica as each tiered regulatory system or AS has elements which can be beneficial to Jamaica. In determining what type of system is suitable for Jamaica, one has to look at each country studied and the implications for adopting such a system.

The alternative system in Trinidad and Tobago takes into account the fact that their jurisdiction consists of two islands. The Minor territorial category is exclusively for STV operators wish to service the island of Tobago only. Similarly, the Major Territorial category is for STV

operators who wish to service the island of Trinidad only. This system would not work for Jamaica in its current form, as Jamaica is a single island state and does not have other territories that would require STV operators setting up their businesses. The system could be applied if the concept of major territorial and minor territorial were redefined to reflect the geographical reality of Jamaica being a single island. If Jamaica were to adopt the approach used by Trinidad and Tobago, the geographical boundaries for each category would have to be reclassified, Jamaica could adopt a system of classification based on size of the STV operator. However, the size of the STV operator need not be tied to geographical factors as obtains in Trinidad and Tobago. In Trinidad and Tobago major players within the STV industry such as Columbus Communications/Flow and Digicel have national licences.

In the case of India, the two main categories for classifying STV operators may be inadequate for Jamaica, as they do not take directly into consideration medium-sized STV operators. The fee structure (Table 6, pp.76-77) could however be adopted, as larger STV operators pay more licence fees. In India, STV operators pay a nominal licence fee; this option could be explored for small-sized STV operators, however charging a nominal licence for small-sized STV operators, as obtains in India for LCO's, could be viewed as underpricing the value of the STV industry.

As it relates to the UK, Jamaica could possibly benefit from adopting its TRS. The revenue earned by STV operators in Jamaica vary, and by adopting the approach taken by the UK, STV operators who earn more will pay a higher percentage fee, while the converse will apply to STV operators who earn lower revenues. The percentages used for each tier would however be different for Jamaica, bearing in mind that the revenue earned by STV operators in a developed economy such as the UK is significantly higher than those in a developing country like Jamaica.

With regard to the USA, adopting a tiered approach as is used specifically in New York City, could be beneficial to Jamaica. The classification is based on the number of areas which the STV operators intend to serve. The approach used by New York City is somewhat similar to Trinidad and Tobago, however the geographical location is not related to the size of the STV operator. It would, however, be appropriate to have a varied licence fee according to the size of the STV operator. That approach has not been observed in New York City (Table 5, p.74).

Table 6

Application Fees and Annual Licence Fees in Jamaica and Other Jurisdictions

COUNTRIES	Initial Application Fee	Annual Licence fees
Jamaica	J\$110,000 An additional fee is paid based on the number of zones and economic value of those zones. 60 zones-J\$199,050 per zone; 61- 120 zones- J\$140,500 per zone; and 121 zones or more - J\$99,600 per zone	5% of Gross Subscription income payable
Trinidad and Tobago	Minimum fee for Niche and Minor Territorial is Trinidad and Tobago\$200 ⁷¹ Minimum fee for National and Major Territorial Trinidad And Tobago\$1,000	Minimum fee for Niche and Minor Territorial in Trinidad and Tobago is \$1000. A formula is used to calculate the licence fees when the concession to operate an STV service is for more than one year. Minimum fee for National and Major Territorial Trinidad and Tobago is \$10,000. A formula is used to calculate the licence fees when the concession to operate an STV service is for more than one year.
India	LCO: Rs. 500 ⁷² MSO:Rs.100,000	All Cable TV operators pay Rs.500

⁷¹ Trinidad and Tobago dollars = J\$19.18811 (BOJ, 2017)

⁷² Indian Rupee = J\$2 (Google Finance, 2017)

COUNTRIES	Initial Application Fee	Annual Licence fees
United Kingdom	£2500 ⁷³	Percent of revenue based on annual earnings 0 to 10 million 0.02 % 10 to 35 million 0.04005% 35 to 75 million 0.08009% 75 to 300 million 0.16018% Over 300 million 0
United States of America	None	Varies. Licence fees are determined by the franchising agreements.

Initial licence fees. In relation to the initial licence fees, India has the lowest fee with Jamaican equivalent of J\$1000 for LCO's, the fees for MSO's are equal to a Jamaican equivalent of \$200,000⁷⁴. In comparing these fees to the Jamaican fee, one must note that India is a very large country with thousands of STV operators, and it may not be feasible to charge such a nominal fee in Jamaica, based on the relatively small number of STV operators that exist in the country. On the other hand, fees paid by MSOs could be considered for any *new* large-sized STV operators in Jamaica while the current fees charged in Jamaica could remain applicable to any *new* small-sized STV operators. In Trinidad and Tobago, for Niche and Minor Territorial, the initial fee is the Jamaican equivalent of J\$3,837.62 and for National and Major Territorial the Jamaican equivalent is J\$19,188.11⁷⁵. The initial fee for large-sized STV operators in Trinidad and Tobago is the lowest when compared to the other countries researched. Trinidad and Tobago is similar to India in that two types of fees are charged. The initial fees charged by Trinidad and Tobago may be unsuitable in the Jamaican context as the fees can be considered to be very low. In the UK the initial application fee is a Jamaican equivalent of \$417,690.75⁷⁶. This fee is very high when compared to what obtains in Jamaica, and may be unsuitable in the context of the Jamaican economic climate. It must also be noted that the STV industry in the UK comprises mainly large-sized STV operators,

⁷³ Great Britain Pound = J\$167.0763 (BOJ, 2017)

⁷⁴ 1 Rupee = J\$2.01 Jamaican dollar (Google Finance 2017).

⁷⁵ 1 TT dollars = J\$19.18811 (BOJ, 2017)

⁷⁶ 1 Great Britain Pound = J\$167.0763 (BOJ, 2017).

hence such fees would be more affordable to these STV operators. The UK is, however, similar to Jamaica in that Ofcom charges the same initial application fee for all STV operators regardless of classification. This is in contrast to Trinidad and Tobago as well as India. Currently, New York City in the USA does not charge an initial application fee. From comparing the various jurisdictions, one would have to determine whether it would be suitable for Jamaica to retain its current initial fee structure. It must also be noted that additional fees are paid based on the number of zones an STV operator applies to operate in and the economic value of those zones. This is an additional expense. The initial application fee could be retained when considering all the factors involved.

Annual licence fees. As it relates to annual licence fees, the lowest fees are found in India, with a Jamaican equivalent of J\$1,000⁷⁷. The fees charged by India would be unsuitable in the Jamaican context as the fees are very low and would not be able to sustain the operations of the BCJ. India as well as Trinidad and Tobago are the only countries that have a fixed annual licence fee. Jamaica, UK and New City (USA) are similar in the sense the annual licence fees constitute a percentage of revenue earned. On the other hand, UK is different from both the USA and Jamaica in the sense that the rate applied is not a flat rate which is applicable to all STV operators. In determining the suitability of the charging a fixed rate one would have to take into consideration the revenue earned by the STV operators. The approach taken by the UK could be suitable to Jamaica, if the varying rates are based on a classification that takes into consideration the size of the STV operator. On the other hand, the actual percentage rates applicable to the various tiers used in the UK would not be suitable for Jamaica as the value of the currency used in the UK is of a greater value than in Jamaica, and the STV operators in that jurisdiction are mainly large-sized

⁷⁷ 1 Rupee = \$2.01 Jamaican dollar (JMD), (Google Finance 2017).

STV operators. In light of this, if the approach used by the UK in determining annual licence fees were to be adopted, the percentages would have to be increased.

In Trinidad and Tobago, the annual licence fees are arrived at by using a formula if the concession granted to operate an STV service is for more than one year. If the concession is for less than a year a flat rate is charged (Table 6, pp.76-77). This approach could be suitable for Jamaica if the formula were to take into consideration the size of the STV operator. Another important factor that should be taken into consideration when charging licence fees is the ability of the BCJ to use these fees to defray operational costs.

THE USE OF THREE-TIERED OR OTHER ALTERNATIVE SYSTEMS WITH CLEAR BOUNDARIES, INCENTIVES AND TRANSITION

A tiered approach has been adopted in other industries, particularly in the financial industry to prevent a one size fits all approach to regulation (McKillop, 2012, March). This means that various entities are placed into groups according to predetermined criteria. Adopting a tiered approach could assist in providing a structure for the STV operators based on their capacity and needs. The implications for this approach are that STV operators would be able to operate in an environment with more certainty and within their financial means. Also, in considering a tiered approach to the STV operators' regulatory framework, the range of services offered by these operators could be taken into account. In India, a unified licence is available for such operators (Bhawan, 2013, August, 19).

Of the five countries researched, namely: Jamaica, Trinidad and Tobago, India, United Kingdom and the United States of America, it has been observed that, except for Jamaica, these jurisdictions have some form of tiered system in place. As has been explored previously the licence fees that are to be paid are determined by a number factors which include characteristics

such as, the number of subscribers served by each STV operator, and the number of area(s) or geographical zones that an STV operator services.

In the determination of a suitable tiered system the need for such a system would have to be explored. The determination of whether or not such a system is needed, is dependent on a benefit/cost analysis being conducted, and the impacts on the STV operators, and stakeholders. STV operators consist of mostly private registered companies with the exception of Flow, whose parent company is Cable and Wireless Jamaica Limited, which is a registered public company. The aim and objectives of all these companies are to generate shareholders' wealth and to make profits, since the companies' viability and continued existence are determined by this.

In a study of the Jamaican STV sector (BCJ, 2014a), it was revealed that a majority of small STV operators were operating at a loss. This research on the regulatory treatment of small-sized STV operators supported the 2014 report as represented by Tables 14 and 15 (pp.105-107 and 108-110). In light of this, the implementation of a tiered structure to enable these STV operators to become financially viable should be considered. An analysis of the financial statements of the STV operators revealed that the annual licence fees that are paid to the BCJ is a heavy financial burden on some of these STV operators who are incurring losses (Tables 14 and 15, pp. 105-107 and 108-110).

A major area of consideration for any tiered system of licence fees for STV operators, is the criteria to be used in categorizing companies as belonging to a particular tier in the system. Each tier needs to have clear boundaries that separate it from other tiers in the system, so that there is no confusion as to what fees and regulations apply to the STV operators belonging to a particular tier. Also, clearly identified boundaries can also be used to determine if and when STV operators have transitioned from one tier to another.

In Jamaica there is no tiered system of annual licence fees while in the other four jurisdictions reviewed, a formula is used to calculate annual licence fees whether they be geography-based, earnings-based or based on the size of the STV operator.

It should also be noted that in Trinidad and Tobago a combination of geography and size of the STV operator is used to calculate annual licence fees.

Given the strong correlation between the size and earnings of STV operators in Jamaica, this study will define and consider clear boundaries based on earnings for one set of scenarios, while clear boundaries based on geography will be used for the alternate scenarios. In both cases, the boundaries described will be useful in determining when an STV operator has transitioned from one tier to another.

Incentives

Given the myriad challenges facing small-sized STV operators in Jamaica, this study looks beyond tiered fee structures that can alleviate that financial burden, to explore incentives that can impact their earnings, provide support for them to complete the switchover from analogue to digital transmission and improve their ability to provide STV services to all communities in their zone.

This research reviewed incentives offered in Trinidad and Tobago, India, the UK and the USA to determine if any were appropriate for adaptation in the Jamaican context.

Incentives for small STV operators. Consideration of incentives for small STV operators is predicated on the BCJ's recognition and acknowledgement of the need to support the smaller and less efficient operators since some of these companies positively impact their local communities socially and economically in the form of lower unemployment rates, and higher standards of living in their areas of operations.

An incentive is “an inducement or supplemental reward that serves as a motivational device for a desired action or behaviour” (Online Business Dictionary, 2017). It follows from this definition, that the “desired actions or behaviours” need to be determined before exploring and recommending “inducements or supplemental rewards” for Jamaica’s small STV operators.

Desired Actions or Behaviours. High on the list of actions or behaviours that the BCJ desires from STV operators, is the switchover from analogue to digital transmission (BCJ, 2014b). Also included among the desired actions and behaviours are:

- Improve management to curb the insolvency being observed in the sector;
- Adhere to all laws and regulations governing STV operations;
- Collaborate with the creative industries, in local communities and nationally, in promoting and facilitating the production and broadcast of local productions; and
- Ensure that persons with disabilities have access to their services.

Switchover from analogue to digital transmission. Financing of the digital switchover (DSO) process is addressed in Section 4.4 of the Jamaica Roadmap Report for the Transition from Analogue to Digital Television Broadcasting (2015). Financing of the DSO was identified as one of the key challenges faced by the STV operators (p.33; 40). A public-private partnership which will require negotiations between the Government and STV operators on matters relating to costs, financial contributions and licence terms was recommended by the Roadmap Report (BCJ, 2013, p.68).

With regard to government contributions, the Roadmap Report did not specifically mention funding from the Universal Service Fund (USF). The USF mission is stated as: “To positively impact Jamaica’s socio-economic development by enabling a knowledge-based society through

universal access to the Internet, digital inclusion” (Universal Service Administrative Company, 2017a).

In the other jurisdictions examined during this research, the equivalent bodies to Jamaica’s Universal Service Fund play an integral role in funding and facilitating the DSO process. In jurisdictions where the regulatory body exercises authority over all telecommunications services, including wired and non-wired telephony, this body sometimes has responsibility for the operations of that jurisdiction’s equivalent to the Universal Service Fund.

Other approaches implemented or considered in other jurisdictions

Universal Service Fund. The responsibilities of the Telecommunications Authority of Trinidad & Tobago (TATT) include determining universal service obligations throughout Trinidad and Tobago to ensure that all citizens have access to telecommunications services (Telecommunications Authority of Trinidad and Tobago, 2014). TATT envisaged universal service as the solution for ‘the digital divide’ that describes the gap that exists between those who had access to ICTs and those who did not. When such a gap exists, it creates a division between different sections of the population - the information rich versus the information poor. The Authority therefore, proposed to exclude mobile telephony services from those basic telecommunications services requiring regulatory intervention, in order to make it affordable and universally accessible throughout Trinidad and Tobago. As a result, the Authority did not consider the provision of assistance from any universal funding mechanism to providers of public mobile services for the provision of mobile telephony services.

The TATT recognised the contributing role the broadcasting sector played towards the development of an ICT enabled society. As a consequence, the Authority recommended to the Government legislative revisions to the Telecommunications Act to include broadcasting services

as part of the definition of Universal Service. The Authority further proposed to provide subsidies for the provision of basic telecommunications services only to those population groups, for whom, it has been proven, the cost of those services was economically challenging. Such population groups may include:

- Low income earners and/or persons facing social obstacles that prevent them from having access to telecommunications, including women and elderly persons;
- Unemployed persons, for whom Internet access may provide new skills, networking capabilities, or knowledge leading to employment;
- Young people, who usually have low or no income, who are often early adopters of new technologies and can easily learn to make the most of them for the wider benefit of their families and eventually society; and
- Persons who are differently-abled [physically or otherwise] (Telecommunications Authority of Trinidad and Tobago, 2012).

The Authority proposed to assess the extent to which it was not economically feasible to provide basic telecommunications services to particular population groups by conducting independent studies, and by consulting with concessionaires and the relevant agencies before instituting mechanisms and providing universal funding to facilitate affordable service to these groups.

In deciding which (if any) population group would require regulatory intervention in order to access affordable basic telecommunications services, and the extent to which such intervention is required, the TATT considered the following factors: current penetration of the basic telecommunications service within the particular population group; the extent to which the remedy

for facilitating access to the population group required subsidy, and, if so, the level of subsidy required; and the extent to which the subsidy required was financially sustainable.

Tax Rebate, Tax Exemption, Exemption from Custom Duties. Other incentives available to STV Operators are outlined in the Micro and Small Enterprise (MSE) Policy for Trinidad and Tobago 2013-2016 (September, 2013) and include:

- Tax rebate up to a maximum of TT\$1 million for audio, visual and video production for the purpose of local education or entertainment or reflecting local culture for radio or television.(Corporate Tax Act);
- Tax exemption for a maximum of 7 years on the profits from an approved tourism project, which includes the production of international feature films that promote Trinidad and Tobago.(Tourism Development Act);

Full exemption from Customs Duties on imports of machinery and raw materials benefiting the tourism sector. (Customs & Excise Act provides).

Tax Credit. With regard to small-sized STV operators, those with Small Business Certification benefit from a tax credit equivalent to 25 per cent of their chargeable profits for a period of 5 years, during which time the small business must be in compliance with specified requirements (Micro and Small Enterprise Policy for Trinidad and Tobago, 2013). Additionally, these MSEs will benefit from:

- Annual filing of corporate and income tax returns when sales do not exceed \$500,000 on a quarterly basis (i.e. as a micro business);
- Annual filing of Value Added Tax returns when sales do not exceed \$250,000 on a quarterly basis (i.e. as a mini-micro business), and quarterly filing when sales do not exceed \$500,000 on a quarterly basis (i.e. as a micro business).

Table 7

Incentives in Trinidad and Tobago

COUNTRY	Incentive 1 USF Support	Incentive 2 Tax Rebates	Incentive 3 Tax Exemption	Incentive 4 Customs Duties Exemption	Incentive 5 Tax credits
Trinidad and Tobago	Support from the Universal Service Fund	Tax rebates for Micro and Small Enterprises.	Tax exemption for 7 years for approved projects	Full exemption from Customs Duties on imports of machinery and raw materials (for specific projects including production of approved local media content)	Small-sized STV operators, with Small Business Certification benefit from a tax credit equivalent to 25% of their chargeable profits for a period of 5 years.

Universal Service Obligation Fund (USOF). India's Universal Service Obligation Fund (similar in some ways to Jamaica's Universal Service Fund) and the Telecom Regulatory Authority of India (TRAI) both report to the Department of Telecommunications in the Government of India's Ministry of Communication and Information Technology. It must be noted, however that the TRAI is represented on the USOFs Inter-Ministerial Advisory Committee.

India's USOF includes among its activities: provision of broadband connectivity to rural and remote areas in a phased manner; creation of general infrastructure in rural and remote areas for development of telecommunication facilities, including the provision of optical cable; and introduction of new technological developments in the telecom sector in rural and remote areas; pilot projects to establish new technological developments in the telecom sector, which can be deployed in the rural and remote areas, with the approval of the central government (Universal Service Obligation Fund, 2014).

Although funding/subsidies for MSO and LCO STV operators involved in extending

broadband services in rural areas are not specified as being a part of the USOF's implementation programme, this type of support would be consistent with India's National Telecom Policy, which includes in its strategies the incorporation of enabling provisions in the current regulatory framework so that "existing infrastructure including cable TV networks are optimally utilised for extending high quality broadband services in rural areas also" (National Telecom Policy, 2012, p.8). In this regard, India's Broadband Policy, 2004 speaks directly to the involvement of cable TV providers. It notes that cable TV connection as last mile infrastructure reaches more people than even the telephone copper infrastructure and can be leveraged in providing cable operators a new business model while giving a stimulus to Broadband penetration. The policy clearly states that "cable TV providers can be used as franchisee network of the service provider for provisioning Broadband services".

Furthermore, the policy empowers the USOF to take suitable facilitatory measures "to encourage existing service providers to rapidly migrate to the new regime (digital) in a uniformly liberalised environment with a level playing field" (National Telecom Policy, 2012, p19).

Tax Holidays or Exemption, Custom Duties Exemption, and Tax Credits. The TRAI recommended tax holidays and the removal/reduction or exemption of custom duties in India's STV sector, and stated that these measures were required to ensure adequate availability of funds and provide financial relief for stakeholders who invested in the digital switchover process (Telecom Regulatory Authority of India, 2010, August 5, p.74).

Additionally, cable operators whose business is five years or less, and with an annual turnover not exceeding INR 25 crore in any preceding financial year, qualify for tax exemptions

(StartUp India, (n.d). The tax exemptions are granted on: income tax for three years, capital gains, and “investments above fair market value” (Startup India, n.d.).

Apart from incentives, there are some interventions that regulatory bodies in the jurisdictions reviewed undertake to support STV operators in achieving and sustaining viability and improving their service to customers. In the case of India, for example the TRIA encourages interconnectivity and co-operation between MSOs and LCOs.

India’s Local Cable Operators (composed mainly of small STV operators) requested regulatory support to facilitate the growth and consolidation of their networks with the assistance/support of Multi System Operators (larger STV operators) and broadband operators. This requested regulatory support included connectivity that led to lower costs, and facilitated service provision to rural and remote areas (Telecom Regulatory Authority of India, 2010, August 5). Such connectivity allowed for cost-sharing in copyright payments and sharing of technology. It should be noted here, however, that the Cable Operators Federation of India expressed the following concerns regarding the relationship between LCOs and MSOs:

- Keep the LCOs as the last mile owner. The model interconnection agreement must keep the status of the LCOs intact as owners of the last mile networks and not leave a chance for the MSOs to exploit them in any way and take over their networks by coercion or other means.
- Ensure a minimum revenue share to make the LCOs business viable.
- The MSOs should not force their responsibility on the LCOs. In this regard the arrangements for procurement and supply of Set-Top-Box are the sole responsibility of the MSO (Cable Operators Federation of India, 2016, June 9). Despite the above concerns, the Cable Operators Federation of India called for encouragement of

integrated networks and called for regulations that bind MSOs and LCOs in a permanent or semi-permanent relationships so that together, they move towards building a well-integrated network providing broadband services.

Table 8

Incentives in India

COUNTRY	Incentive 1 USF Support	Incentive 2 Tax Exemption	Incentive 3 Customs Duties Exemption	Incentive 4 Tax credits
India	Support from the Universal Service Obligation Fund referred to in India's National Telecom Policy for the specific purpose of extending broadband	Tax holiday for STV operators to enable DSO	Full exemption from Customs Duties on imports of machinery and raw materials by STV operators to facilitate DSO	Under StartUp India, cable operators whose business is five years or less, and with an annual turnover not exceeding INR 25 crore in any preceding financial year, qualify for tax exemptions.

Support to Community Broadcasters. The UK's policy of Media Plurality is defined by the Office of Communications (Ofcom) as: "ensuring that there is diversity in the viewpoints that are available and consumed across and within media enterprises and preventing any one media owner, or voice, having too much influence over public opinion and the political agenda". (Organization for Economic Cooperation and Development, 2013).

This policy aims at maintaining plurality in the media by ensuring a sufficiently broad range of ownership and covers issues such as (i) the need for there to be a sufficient plurality of persons with control of media enterprises in relation to every different audience in the United Kingdom or a particular area of the United Kingdom, (ii) the need for the availability throughout the UK of a wide range of broadcasting which is both of high quality and calculated to appeal to a wide variety of tastes and interests, and (iii) the need for persons carrying on media enterprises

and for those with control of such enterprises to have a genuine commitment to the attainment of high standards of broadcasting, related, for example, to impartiality of news, taste and decency.

One example of how small operators benefit from the policy of Media Plurality is the UK Small Scale DAB (Digital Audio Broadcast) Trials (Office of Communications, 2015, June 12). The report noted that small scale broadcasters wanting to broadcast on DAB have previously been restricted due to costs and lack of capacity on local multiplexes. It went on to state that governments and regulators are now taking steps to make it easier for small scale broadcasters to migrate to DAB with new trials and initiatives.

The steps included Ofcom's award of ten trial licences for radio multiplexes that allowed community and local community stations to broadcast on DAB at a smaller cost (Office of Communications, 2015, June 12). The trials brought radio listeners a range of small and local stations on DAB digital radio for the first time. This initiative was funded by the Government to provide an affordable route for smaller stations to broadcast on DAB digital radio.

UK government programmes that facilitate business development, innovation and community enterprises, and for which STV operators are eligible for participation, include the Regional Growth Fund; the R&D Tax Relief Scheme, and Innovate UK (Gov.UK, 2017).

Funding for Small Business. Money is available through Regional Growth Fund programs (RGF) to national or local organizations that have been awarded RGF cash to offer grants and/or loans to eligible businesses. These organizations that receive RGF funds for on-lending must ensure that the recipients:

- be based in England
- want to strengthen or grow their business
- create or protect jobs

- be investing private capital

be unable to find funding elsewhere for the application be state aid compliant

Research and Development (R&D), and Tax Relief. Corporation Tax (CT) relief can be obtained through research and development expenditure that seeks to achieve an advance in overall knowledge or capability in a field of science or technology through the resolution of scientific or technological uncertainty - and not simply an advance in its own state of knowledge or capability.

The project must relate to the company's trade - either an existing one, or one that it intends to start up based on the results of the R&D.

Funding for Innovation. This government fund aims to identify and speed up the development of new capabilities and technologies that can lead to new products, processes and services in new industries. They may also improve productivity and growth in existing areas. STV operators would be eligible for such funding.

Table 9

Incentives in United Kingdom (UK)

COUNTRY	Incentive 1 Support to Community Broadcasters	Incentive 2 Funding for Small Businesses	Incentive 3 Tax Relief	Incentive 4 Funding for Innovation
UK (Media Plurality)	Ofcom's award of trial licences for radio multiplexes that allowed community and local community stations to broadcast on Digital Audio Broadcast (DAB) at a smaller cost.	Regional Growth Fund (RGF) money is available national and local organizations that want to strengthen and grow their business and create or protect jobs.	The Research and Development (R & D) Tax Relief Scheme is a Corporation Tax (CT) tax relief that may reduce a company's tax bill if the company undertakes an R&D project.	Innovate UK aims to identify and speed up the development of new capabilities and technologies.

Universal Service Fund. The Universal Service Administrative Company (USAC) is dedicated to achieving universal service. The principle suggests that everyone in the United States of America deserves accessible, affordable, and pervasive high-speed connectivity.

The USAC reports that despite pervasive connectivity in most urban areas in the United States, millions of people across the country have no access to broadband services needed to work, learn, heal, and communicate (Universal Service Administrative Company, 2017). The funds that the USAC administers exist to fill these gaps in access (Universal Service Administrative Company, 2017). As an independent not-for-profit designated by the Federal Communications Commission (FCC), USAC administers the Universal Service Fund, almost \$10 billion available annually, to the companies and institutions including STV providers that make universal service possible.

The Federal Communications Commission's (FCC) Universal Service Funds (USF) Programs. The FCC Strategic Plan 2015-18, states that one of its Strategic Objectives is to ensure that universal service programs keep up with changing technologies and are well managed, efficient and fiscally responsible. The FCC's Universal Service Fund (USF) programs, established in 1997, predated the development of broadband and historically have been used primarily to subsidize traditional telephone service provided over non-broadband networks. Currently, however, the FCC is implementing comprehensive USF reforms in order to ensure the USF programs are operating efficiently, and that they help accelerate broadband build-out to American consumers and schools, libraries and health care providers who currently have no access to robust broadband infrastructure.

Another of the FCC's Performance Goals states that the Commission will work in partnership with state, local, and tribal governments, and consumer and industry groups, to

promote broadband availability to all Americans, including consumers in rural and high cost areas, older Americans, and people with disabilities.

The FCC Strategic Plan states that “broadband for all Americans has gone from being a luxury to a necessity for full participation in our economy and society”. The FCC states that in today’s information economy, economic growth is built on the availability of high-speed Internet services provided by broadband telecommunications networks.

Other FCC Incentives and Considerations. On February 23, 2017, the Federal Communications Commission announced its decision to relieve thousands of smaller broadband providers from onerous reporting obligations stemming from the 2015 Title II Order, freeing them to devote more resources to operating, improving and building out their networks (Federal Communications Commission, 2017).

The Order adopted by the Commission found that providers with 250,000 or fewer broadband connections would be disproportionately impacted if required to comply immediately with the 2015 enhanced reporting requirements. The FCC announcement noted that these providers frequently serve rural areas that lack broadband, or provide competitive alternatives for consumers in other markets.

Rate-of-Return Order. In its efforts to increase the reach of broadband so that all Americans have access to high-speed internet connections no matter where they live, the FCC released the Rate-of-Return Reform Order at the end of March 2016 to help bring broadband to the parts of rural America that still lack access (Universal Service Administrative Company, 2017b). Carriers (including STV providers, FCC Public Notice, November 2, 2016) that receive funding must meet defined build-out obligations in the communities they serve that most need investment.

The Rate-of-Return Order allows carriers (including STV providers) to elect the new Alternative Connect America Model (A-CAM), which provides a set amount of monthly support over 10 years, or remain with a reformed version of legacy support mechanisms with Connect America Fund Broadband Loop Support and High Cost Loop Support. Those steps include allocating an additional \$50 million annually to the A-CAM budget, and making revised offers to 191 carriers that previously elected A-CAM.

The methodology used to calculate the revised offers reduces support by varying percentages based on how many locations in a carrier's eligible service territory still lack access to broadband speeds of 10 megabits per second downstream and 1 megabit per second upstream. Carriers that accept the revised offer of support must agree to meet the terms of the original A-CAM offer.

Loans to Small Businesses. The USA government's Small Business Administration does not provide funds to start or grow a business; instead, it provides a guarantee to banks and lenders for the money they lend to small businesses owners. This guarantee protects the lenders interests by promising to pay a portion of the loan back if the business owner defaults on the loan. So when a business applies for an SBA loan, it is actually applying for a commercial loan through a bank or authorized SBA lender, structured according to SBA requirements with an SBA guarantee (U.S. Small Business Administration, 2017).

Table 10

Incentives in United States of America (USA)

COUNTRY	Incentive 1 Universal Service Fund	Incentive 2 Rate-of-Return Order	Incentive 3 Loans to small businesses
USA	Support from the Universal Service Administrative Company (USAC) under the Alternative Connect America Cost Model (A-CAM)	The Rate-of-Return Order provides a set amount of monthly support over 10 years to carriers (including STV operators) so that Americans, no matter where they live, can have access to broadband service.	With Small Business Administration (SBA) loan programs, the SBA does not provide the funds to start or grow; instead, it provides a guarantee to banks and lenders for a portion of the principal loan to small businesses owners.

Table 11

Summary of Incentives offered in selected Jurisdictions

COUNTRY	Trinidad and Tobago	India	United Kingdom	United States of America
Incentive 1 USF Support and/or other Funding	Support from the Universal Service Fund	Support from the Universal Service Obligation Fund for providing broadband services	<p>Regional Growth Fund (RGF) fund is available national and local organizations that want to strengthen and grow their business and create or protect jobs.</p> <p>Innovate UK identifies and speeds up the development of new capabilities and technologies.</p>	<p>Support from the Universal Service Administrative Company (USAC) for providing broadband services</p> <p>The Rate-of-Return Order provides a set amount of monthly support over 10 years to carriers (including STV operators) so that Americans, no matter where they live, can have access to broadband service.</p>

COUNTRY (continued)	Trinidad and Tobago	India	United Kingdom	United States of America
Incentive 2 Tax Rebates	Tax rebates for Micro and Small Enterprises	None	The R&D Tax Relief Scheme is a Corporation Tax (CT) tax relief that may reduce a company's tax bill if the company undertakes an R&D project that seeks to achieve an advance in overall knowledge or capability in a field of science or technology through the resolution of scientific or technological uncertainty .	None
Incentive 3 Tax Exemption	Tax exemption for 7 years for approved projects	Tax holiday for STV operators to enable DSO	None	None
Incentive 4 Tax credits	Companies with Small Business Certification benefit from a tax credit equivalent to 25% of their chargeable profits for a period of 5 years.	Under StartUp India, businesses of five years or less, and with an annual turnover not exceeding INR 25 crore in any preceding financial year, qualify for tax exemptions	None	None
Incentive 5 Customs Duties Exemption	Full exemption from Customs Duties on imports of machinery and raw materials (for specific projects including production of approved local media content)	Full exemption from Customs Duties on imports of machinery and raw materials by STV operators to facilitate DSO	None	None
Incentive 6 Other	None	None	Ofcom's award of trial licences for radio multiplexes that allowed community and local community stations to broadcast on DAB at a smaller cost.	SBA loan programs: provides a guarantee to banks and lenders for the money they lend to small businesses owners.

Comparative analysis of incentives on the other jurisdictions

In the jurisdictions examined, it is noted that in all cases incentives are offered to STV operators and policies/regulations have been implemented to improve their ability to upgrade their equipment and engage in the DSO process while offering enhanced services to more customers. In addition, in each of the four jurisdictions under review, the government provides some level of funding/subsidy to carriers, including STV operators, for delivery of broadband services to remote and rural communities, schools, libraries, health care providers, the unemployed, the elderly and disabled. In most cases, the Universal Service Fund is a major source of funding.

With regard to tax incentives, the four countries examined offer varying forms of business inducements of this nature that are not limited to the STV sector. In both Trinidad and Tobago and the United Kingdom, tax rebates are offered to specific types of businesses: to micro and small enterprises in the case of Trinidad and Tobago, and in the United Kingdom there is the the Research and Development Tax Relief Scheme.

Two of the four countries offer another form of tax incentive known as the tax holiday. This is a tax exemption that is offered in Trinidad and Tobago for 7 years to projects approved by the government, while in India STV operators benefit from a tax holiday for a specified period during which they are expected to complete the DSO.

In both Trinidad and Tobago and India, tax credits are made available to small businesses. In Trinidad and Tobago, Companies with Small Business Certification benefit from a tax credit equivalent to 25 per cent of their chargeable profits for a period of 5 years; while in India under the “StartUp India” programme, businesses of five years or less, and with an annual turnover not exceeding INR 25 crore in any preceding financial year, qualify for tax exemptions.

Both Trinidad and Tobago and India offer another incentive which can be beneficial to STV operators, and that is customs duties exemptions. Full exemption from Customs Duties on imports of machinery and raw materials (for specific projects including production of approved local media content) is offered to businesses in Trinidad and Tobago. In India, STV operators enjoy full exemption from Customs Duties on imports of machinery and raw materials to facilitate DSO.

Although the USA does not offer as many tax incentives as other countries, it does offer a loan program through the Small Business Administration (SBA). The SBA provides a guarantee to banks and lenders for the money they lend to small businesses owners. This guarantee protects the lenders interests by promising to pay a portion of the loan back if the business owner defaults on the loan. The USA has also provided relief to smaller broadband providers from onerous reporting obligations, thereby “providing them with the regulatory certainty to invest in their business” (US Government Publishing Office, 2017).

It must also be noted that the above incentives and policies are tied to the desired outcomes that the regulatory authorities seek to achieve, in areas not limited to the DSO process, such as improved management to curb the insolvency being observed in the sector; adherence to all laws and regulations governing STV operations; collaboration with the creative industries, in local communities and nationally, in promoting and facilitating the production and broadcast of local productions; and ensuring that persons with disabilities have access to their services.

FEASIBILITY ANALYSIS OF A TIERED REGULATORY SYSTEM

The work plan required the review of the financials statements of selected STV operators; the assessment of these STV operators’ ability to survive in the current economic climate; the expenditure in relation to fees payable to the BCJ under the current and proposed alternative

approaches, and the assessment of the sustainability of STV operations under the proposed regulatory approaches. The work plan also indicated the need for the review of financial statements of the BCJ; the identification of current income/fees, and the projection and/or estimate of the income/fees based on the alternative regulatory approaches. This section addressed those requirements.

Financial Analysis of the STV Operators

Table 12 (p.100) displays the STV operators selected for the research, the gross revenue as reflected in the latest available financial statements, the number of employees for the year 2016, and the location of service in Jamaica. The sample size, participant, data and data analysis have been discussed in the methodology section, and as such have not been restated here.

The review of the financial statements involved the examination of the assets base, the debt-to-assets ratio, the liquidity ratio, and the profitability of the selected STV operators. The assets base examined the level of growth or lack thereof in investment; the debt-to-assets examined the gearing or financial leverage; while current ratio provided perspective into the liquidity, of the STV operators/companies. Profitability examined - the operations of the STV entities - for the years, and extended to the accumulated profits or losses of these selected operators/companies. Return on equity is calculated by net profit divided by total equity. The return on equity was considered in the review, but was not included since the financial statements of the majority of the STV operators/companies reflected losses for the years reviewed, significant accumulated losses, and a low level of total equity. Therefore, the research focused on the profits and losses and did not extend to the return on equity since the returns were negative for the majority of STV operators/companies.

Table 12

Selected STV operators and Location of Service in Jamaica

STV Operators/Companies	Gross revenue as per latest financial statements ¹	Number of employee at December 2016 ²	Location of service in Jamaica
Large-sized	\$		
Columbus Communications/Flow	13,310,141,000	708	Island wide
Digicel Jamaica Ltd /Telstar Cable Ltd	47,394,851,000	12	Kingston & St. Andrew
Medium-sized			
Cabletron Network Systems Limited	60,077,202	23	Westmoreland
Cornwall Communications Limited	65,799,500	-	Clarendon, St. Catherine, Trelawny, St. James, St. Catherine, Westmoreland
Logic One Limited	133,791,817	27	Kingston & St. Andrew
Micro and Small-sized			
Astra Technology Limited	4,120,506	4	Portland
Cable One Jamaica Limited	14,738,375	6	St. Mary
Communicable Limited	9,888,778	5	Westmoreland
Central Communication Services Limited	9,782,725	6	St. Ann
CTL Limited	28,380,644	14	Kingston & St. Andrew
First Choice Cable Services Limited	2,770,000	-	St. Thomas
General Satellite Network Company Limited	37,514,264	11	Clarendon
Hometime (formerly Guthrie Communications Limited)	5,678,720	-	Island wide
Hometime (formerly Marimaxx Limited)	6,471,426	-	Kingston & St. Andrew, St. Elizabeth
Hometime (formerly Unique Vision Limited)	3,832,589	-	St. James
Jamaica Cablevision Limited	35,009,176	11	St. Catherine
Mars Cable Vision Limited	31,130,229	9	Manchester, Clarendon
Modern Rebroadcasting Company Limited	6,555,372	12	Trelawny, St. James
Odyssey Cable Vision Limited	6,385,145	6	St. Ann
QES 46 Limited	19,093,892	-	Hanover, Westmoreland
Total Cable Limited	7,323,893	5	St. Elizabeth

¹ Gross revenue as per the latest available audited financial statements – See Appendix 1.

² Number of employees at the end of the last quarter of 2016, or the last quarter number of employees reported (BCJ, STV Industry and Subscriber Information, February 2017).

Asset Base. The review of the audited financial statements revealed steady growth in the asset base of the large-sized STV companies, while for the medium-sized STV companies Cabletron Network Systems Limited asset base decreased steadily over the three-year period of 2012 to 2014, Logic One Limited showed steady growth, and Cornwall Communications' asset

base decreased in 2012 as compared to 2011; subsequently increased in 2013 as compared to 2012, and ended at a similar approximate asset base as that of 2011. For the sample of small-sized companies, the review revealed fluctuations in the asset base. Four companies of this sample reflected increase in their asset base; six companies reflected decrease in their asset base; four companies reflected increase followed by subsequent decrease in their asset base; one company reflected the inverse - a decrease followed by an increase in asset base, and one company reflected minimal change in the asset base, over the period reviewed.

Debt-to-Assets. Total debt to total assets is a ratio which expresses the total amount of debt to total assets, and facilitates the comparisons of leverage across different companies. The higher the ratio, the higher the degree of leverage, and financial risk (Investopedia- debt to asset, n.d.). The debt to asset ratio includes both long-term and short-term debt as well as total assets but does not provide information on, or accounts for, assets quality since all assets are grouped together; as such the reporting will be restricted to any improvements or deterioration in the ratio only. Table 13 (pp.102-103) reflects the debt-to-assets ratio calculated from the audited financial statements of the sample STV operators' companies. For the large-sized operators - Columbus Communications Limited reflected consistent debt-to-assets ratio over the period; and Digicel Jamaica Limited showed low change in 2013 over 2012 (during Telstar Cable operations), but reflected an increase in the level of leverage in 2015 to 2016. For the medium-sized STV operators - the debt-to-assets ratios were consistent over the period. For the small-sized STV operators in this sample, the majority of companies maintained a constant leverage ratio, except for Cable One Jamaica Limited, Central Communications Service Limited, General Satellite Network Limited, and Odyssey Cable Vision Limited that reflected significant deterioration (higher leverage) in the

debt-to-assets ratio for the period. Conversely, Jamaica Cablevision Limited reflected improvement in its debt-to-assets ratio over the period.

Table 13

Debt-to-Assets Ratio

STV OPERATORS	2016	2015	2014	2013	2012	2011	2008	2007	2006
Large-sized									
Columbus Communications/Flow	-	2.42	2.40	2.34	2.37	-	-	-	-
Digicel Jamaica Ltd./Telstar Cable Limited	0.85	0.84	-	0.62	0.52	-	-	-	-
Medium-sized									
Cabletron Network Systems Limited	-	-	1.24	1.21	1.03	-	-	-	-
Cornwall Communications Limited	-	-	-	0.44	0.45	0.45	-	-	-
Logic One Limited	-	-	0.44	0.47	0.52	-	-	-	-
Small-sized									
Astra Technology Limited	-	-	-	2.85	2.59	3.07	-	-	-
Cable One Jamaica Limited	-	5.27	2.34	2.06	2.09	-	-	-	-
Communicable Limited (years 2005-2003)	-	-	-	-	-	-	0.84	2.32	0.90
Central Communications Service Limited	-	-	11.49	6.33	4.19	-	-	-	-
CTL Limited	-	-	3.99	3.96	3.89	-	-	-	-
First Choice Cable Services Limited	-	-	-	0.39	0.35	0.25	-	-	-
General Satellite Network Company Limited	-	-	2.75	1.79	1.16	-	-	-	-
Hometime (formerly Guthrie Communications Limited)	-	-	-	0.25	0.70	0.41	-	-	-
Hometime (formerly Marimaxx Limited)	-	-	-	-	-	-	0.97	0.79	0.35
Hometime (formerly Unique Vision Limited)	-	-	-	-	-	-	1.64	1.34	1.93
Jamaica Cablevision Limited	-	-	-	3.78	14.93	12.15	-	-	-
Mars Cable Vision Limited	-	-	0.89	0.95	0.93	-	-	-	-
Modern Rebroadcasting Company Limited	-	-	1.89	1.62	1.43	-	-	-	-
Odyssey Cable Vision Limited	-	-	3.88	3.06	2.65	-	-	-	-
Q46 Limited	-	-	1.59	1.29	1.24	-	-	-	-

STV OPERATORS	2016	2015	2014	2013	2012	2011	2008	2007	2006
Small-sized (continued)									
Total Cable Limited	-	-	-	1.60	1.64	1.45	-	-	-

Note: Sample did not include financial statements for the years 2010-2009

Debt (current liabilities, Director's loans) divided by Total Assets (current and fixed assets)

Liquidity. The current ratio provides insight into a company's liquidity. Liquidity ratios measure a company's ability to pay off its short-term debt obligations. A greater coverage of liquid assets to short-term liabilities indicate that a company can pay its debts which are due in the near future and continue to fund the company's operations. In contrast, a company with a low coverage rate may signal that the company could have difficulty meeting its obligations and carrying out its operations (Investopedia, n.d.). Commonly acceptable current ratio is 2:1 (current assets: current liabilities); but it is noteworthy to indicate that acceptable current ratios vary from industry to industry. Low values for the current ratio (values less than 1:1) indicate that a firm may have difficulty meeting current obligations.

For the large-sized companies in the STV industry, liquidity has been unacceptable over the period; with Digicel Jamaica Limited current ratio calculated as 1.37:1 (2016); 1.44:1 (2015); .03:1 (2013); and .02:1 (2012). Columbus Communications Limited also reflected unacceptable current ratios of 0.08:1 (2015), 0.09:1 (2014), and 0.76:1 (2013). In regard to the sample's medium-sized companies in the industry - on the one hand liquidity is acceptable for Logic One Limited as calculated - 3.78:1 (2014); 2.79:1 (2013), and 3.00:1 (2012); while on the other hand liquidity is unacceptable for both Cabletron Network Systems Limited as calculated – 0.26:1 (2014), 0.26:1 (2013), and 0.24:1 (2012); and Cornwall Communications Limited as calculated – 0.82:1 (2013); 1.31:1 (2012), and 1.45:1 (2011).

In regard to the small-sized companies in the STV industry the sample reflected that the majority of these operators experienced liquidity issues. The selected sample reflected that 27

percent of the companies had acceptable current ratio of above two, while 73 percent had unacceptable current ratio of 1 : 1 and below during the period.

The issue of insolvency affected all groups in the sample to some degree. Consideration should also be given to the fixed assets base of the companies. The review indicated that the two large-sized companies reflected increased fixed assets investments. For the medium-sized companies the review indicated an increase in Cornwall Communications Limited fixed assets base, and reduction in that of Cabletron Network Systems Limited as well as that of Logic One Limited fixed assets (excluding depreciation). The majority of the small-sized companies reflected reduction in their fixed assets investments; in fact only two companies (Jamaica CableVision Limited; Odyssey Cable Vision Limited) in this group reflected increased investments in fixed assets. The inadequate liquidity and the low investment in fixed assets by the small-sized and medium-sized STV operators do not augur well for the collection of licence fees from these companies.

Profitability. The last three years audited financial statements that were available for small-sized and medium-sized STV operators, and the last four years audited financial statements available for the large-sized STV operators were the main source of data used in the analysis. Note that Hometime Entertainment Limited was included in the medium-sized company analysis of profitability, as it recorded a high level of profit (Table 6, pp.76-77), as well as the fact that this company was formed through the merger of Guthrie Communications Limited, Marimaxx Limited and Unique Vision Limited. The review of the profitability of the companies within the sample revealed that 13 of the 16 small-sized companies operated losses which ranged from an upper limit of over \$20 million (General Satellite Network Company Limited in 2012) to a lower limit of \$42,812 (CTL Limited in 2013) (Table 6, pp.76-77). Three of the 16 small-sized companies

realized profits for the three-year period that was reviewed, albeit the profits ranged from \$42,000 to \$430,000 rounded (Table 14, pp.105-107). Three of the medium-sized companies' financial statements all revealed profits that ranged from \$1.6 million to \$6 million approximately (Table 14, pp.105-107) for the three-year period, while one of this group revealed significant losses over the three-year period. In regard to the two large-sized companies – Columbus Communications/Flow Jamaica Limited reflected losses for the four- year period while Digicel Jamaica Limited/Telstar Jamaica Limited reflected losses in the earlier years under Telstar management, with a change to profit in 2015 following the merger with Digicel Jamaica Limited. It is noteworthy to indicate here, that Digicel Jamaica Limited has seen a downturn in the 2016 profit (Table 14, pp.105-107).

Table 14

STV operators: Net Profit/(Loss) for the years ended as reflected in the Audited Financial Statements.

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Large-sized				
Columbus Communications/Flow	-	(645,925,000)	(1,043,496,000)	(2,454,315,000)
Digicel Jamaica Ltd./Telstar Cable Limited	820,794,000	2,662,187,000	-	(52,990,494)
Medium-sized				
Cabletron Network Systems Limited	-	-	(5,836,223)	(13,312,911)
Cornwall Communications Limited	-	-	-	6,875,429
Hometime Entertainment Limited	-	5,674,765	4,155,067	4,273,946
Logic One Limited	-	-	1,286,147	3,549,654
Small-sized				
Astra Technology Limited	-	-	-	(1,669,730)
Cable One Jamaica Limited	-	(3,500,426)	(2,951,580)	(1,116,188)
Communicable Limited	-	-	-	-
Central Communications Service Limited	-	-	254,391	403,312
CTL Limited	-	-	205,650	(42,812)

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Small-sized (continued)				
First Choice Cable Services Limited	-	-	-	(1,265,772)
General Satellite Network Company Limited	-	-	(13,737,483)	(7,655,716)
Hometime (formerly Guthrie Communications Limited)	-	-	-	212,322
Hometime (formerly Marimaxx Limited)	-	-	-	-
Hometime (formerly Unique Vision Limited)	-	-	-	-
Jamaica Cablevision Limited	-	-	-	(1,999,967)
Mars Cable Vision Limited	-	-	(4,695,128)	(6,511,831)
Modern Rebroadcasting Company Limited	-	-	(366,592)	(768,482)
Odyssey Cable Vision Limited	-	-	(7,485,180)	(5,424,831)
Q46 Limited	-	-	(2,394,702)	(387,291)
Total Cable Limited	-	-	-	(430,569)

Source: Audited financial statements of the respective STV operators

Note: Sample did not include financial statements for the years 2010-2009

Table 14 (continued)

STV operators: Net Profit/ (Loss) for the years ended as reflected in the Audited Financial Statements.

STV OPERATORS	2012 \$	2011 \$	2008 \$	2007 \$	2006 \$
Large-sized					
Columbus Communications/Flow	(1,205,677,000)	-	-	-	-
Digicel Jamaica Ltd./Telstar Cable Limited	(10,661,092)	-	-	-	-
Medium-sized					
Cabletron Network Systems Limited	(10,893,058)	-	-	-	-
Cornwall Communications Limited	1,814,977	1,561,570	-	-	-
Hometime Entertainment Limited	-	-	-	-	-
Logic One Limited	2,919,893	-	-	-	-

STV OPERATORS	2012 \$	2011 \$	2008 \$	2007 \$	2006 \$
Small-sized					
Astra Technology Limited	(2,365,844)	(930,575)	-	-	-
Cable One Jamaica Limited	(948,905)	-	-	-	-
Communicable Limited			257,387	48,574	287,767
Central Communications Services Limited	(2,221,928)	-	-	-	-
CTL Limited	(349,039)	-	-	-	-
First Choice Cable Services Limited	(1,201,396)	(684,624)	-	-	-
General Satellite Network Company Limited	(20,372,516)	-	-	-	-
Hometime (formerly Guthrie Communications Limited)	236,626	275,650	-	-	-
Hometime (formerly Marimaxx Limited)	-	-	(424,483)	(695,909)	429,216
Hometime (formerly Unique Vision Limited)	-	-	(1,397,263)	(1,782,156)	(4,435,003)
Jamaica Cablevision Limited	(1,930,717)	(1,930,717)	-	-	-
Mars Cable Vision Limited	(1,031,753)	-	-	-	-
Modern Rebroadcasting Company Limited	409,548	-	-	-	-
Odyssey Cable Vision Limited	(1,963,420)	-	-	-	-
Q46 Limited	(648,726)	-	-	-	-
Total Cable Limited	(518,090)	(210,115)	-	-	-

Source: Audited financial statements of the respective STV operators

Note: Sample did not include financial statements for the years 2010-2009

The low profitability was supported by the review of the accumulated profits/losses of the selected STV operators (Table 15, pp.109-110). Thirteen of the 16 small-sized STV operators/licencees, except for the remaining three (3) STV operators/licencees namely: Hometime (formerly Guthrie Communications Limited); Hometime (formerly Marimaxx Limited); and Communicable Limited reflected significant accumulated losses over the three year period. Also, except for Cabletron Network Systems Limited that reflected accumulated losses over the three-year period, three of the medium-sized STV operators/licencees, as well as Digicel Jamaica/Telstar Cable Limited reflected accumulated profits over the three or four-year period. On the other hand

Columbus Communications the largest STV service provider, based on the average number of subscriber per annum (Table 16, pp.110-111), reflected significant accumulated losses over the four-year period.

Table 15

STV operators: Accumulated Profits/ (Losses) as at the years listed as reflected in the Audited Financial Statements

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Large-sized				
Columbus Communications/Flow	-	(7,034,106,000)	(6,388,181,000)	(5,344,685,000)
Digicel Jamaica Ltd./Telstar Cable Limited	10,415,291,000	9,594,497,000	-	79,755,487
Medium-sized				
Cabletron Network Systems Limited	-	-	(42,293,128)	(36,456,905)
Cornwall Communications Limited	-	-	-	26,654,848
Hometime Entertainment Limited	-	14,103,777	8,429,113	4,273,946
Logic One Limited	-	-	15,451,838	14,165,691
Small-sized				
Astra Technology Limited	-	-	-	(1,436,269)
Cable One Jamaica Limited	-	(7,878,036)	(4,377,610)	2,637,072
Communicable Limited	-	-	-	-
Central Communications Services Limited	-	-	(14,201,004)	(14,455,394)
CTL Limited	-	-	(11,591,736)	(11,797,386)
First Choice Cable Services Limited	-	-	-	(3,804,482)
General Satellite Network Company Limited	-	-	(35,481,499)	(21,744,017)
Hometime (formerly Guthrie Communications Limited)	-	-	-	8,775,328
Hometime (formerly Marimaxx Limited)	-	-	-	-
Hometime (formerly Unique Vision Limited)	-	-	-	-
Jamaica Cablevision Limited	-	-	-	(53,834,655)
Mars Cable Vision Limited	-	-	(12,392,776)	(7,697,648)
Modern Rebroadcasting Company Limited	-	-	(1,923,720)	(1,557,128)

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Small-sized (continued)				
Odyssey Cable Vision Limited	-	-	(22,921,089)	(15,435,909)
Q46 Limited	-	-	(5,163,320)	(2,766,618)
Total Cable Limited	-	-	-	(3,517,278)

Source: Audited financial statements of the respective STV operators

Note: Sample did not include financial statements for the years 2010-2009

Table 15 (continued)

STV operators: Accumulated Profits/ (Losses) as at the years listed as reflected in the Audited Financial Statements

STV OPERATORS	2012 \$	2011 \$	2008 \$	2007 \$	2006 \$
Large-sized					
Columbus Communications/Flow	(2,890,370,000)	-	-	-	-
Digicel Jamaica Ltd./Telstar Cable Limited	26,764,973	-	-	-	-
Medium-sized					
Cabletron Network Systems Limited	(23,143,994)	-	-	-	-
Cornwall Communications Limited	19,779,419	17,964,442	-	-	-
Hometime Entertainment Limited	-	-	-	-	-
Logic One Limited	10,616,037	-	-	-	-
Small-sized					
Astra Technology Limited	(930,575)	(4,120,998)	-	-	-
Cable One Jamaica Limited	(1,349,378)	-	-	-	-
Communicable Limited	-	-	750,512	493,125	444,550
Central Communications Services Limited	(14,952,898)	-	-	-	-
CTL Limited	(11,754,574)	-	-	-	-
First Choice Cable Services Limited	(2,538,710)	(1,337,314)	-	-	-
General Satellite Network Company Limited	(14,088,301)	-	-	-	-
Hometime (formerly Guthrie Communications Limited)	9,597,575	11,976,245	-	-	-
Hometime (formerly Marimaxx Limited)	-	-	303,299	727,782	1,423,691
Hometime (formerly Unique Vision)	-	-	(6,367,070)	(4,969,807)	(2,527,485)
Jamaica Cablevision Limited	(51,834,688)	(49,903,971)	-	-	-

STV OPERATORS	2012 \$	2011 \$	2008 \$	2007 \$	2006 \$
Small-sized (continued)					
Mars Cable Vision Limited	1,215,597	-	-	-	-
Modern Rebroadcasting Company Limited	(788,646)	-	-	-	-
Odyssey Cable Vision Limited	(10,011,078)	-	-	-	-
Q46 Limited	(2,281,327)	-	-	-	-
Total Cable Limited	(3,086,709)	(2,568,619)	-	-	-

Source: Audited financial statements of the respective STV operators

Note: Sample did not include financial statements for the years 2010-2009

BCJ STV Subscriber and Industry Information

The BCJ STV subscriber and industry information was reviewed and analyzed to consider the feasibility of the stakeholders' operations. The data confirmed Columbus Communications/Flow Limited, and Digicel Jamaica Ltd. /Telstar Cable Limited as the major players in the industry with largest number of subscribers per annum over the four-year period from 2013 to 2016 (Table 16, pp.110-111). Also, the medium-sized STV operators were confirmed in the data supplied by the Commission. However, the contraction in subscribers' base experienced by Logic One Limited should be noted (Table 16, pp.110-111). The small-sized STV operators' average number of subscribers per annum also reflected contraction or negligible growth over the four-year period examined, as supported by the table below.

Table 16

*Average Number of Subscribers per Annum**

STV OPERATORS	2016	2015	2014	2013
Large-sized				
Columbus Communications/Flow	108,667	114,823	110,299	107,061
Digicel Jamaica Ltd./Telstar Cable Limited	1,588	4,509	⁴ 4,877	⁴ 4,956
Medium-sized				
Cabletron Network Systems Limited	-	-	-	³ 2000
Cornwall Communications Limited	4,653	4,087	3,515	2,840
Logic One Limited	3,034	4,784	5,455	5,761
Small-sized				
Astra Technology Limited	¹ 73	71	86	68

STV OPERATORS	2016	2015	2014	2013
Small-sized (continued)				
Cable One Jamaica Limited	590	985	900	¹ 1097
Communicable Limited	607	638	560	693
Central Clarendon Cable Limited	52	42	-	-
CTL Limited	1,319	1,332	¹ 1,467	-
First Choice Cable Services Limited	-	475	500	598
General Satellite Network Company Limited	886	872	869	1,014
Hometime (formerly Guthrie Communications Limited)	-	-	-	-
Hometime (formerly Marimaxx Limited)	-	648	773	644
Hometime (formerly Unique Vision Limited)	-	653	733	749
Jamaica Cablevision Limited	423	586	¹ 658	856
Mars Cable Vision Limited	-	-	¹ 1,721	¹ 1,745
Modern Rebroadcasting Company Limited	652	644	639	618
Odyssey Cable Vision Limited	² 176	³ 213	¹ 203	² 350
Q46 Limited	661	594	555	³ 531
Total Cable Limited	¹ 423	548	784	813

*Average number of subscribers per annum – Total quarterly number of subscribers divided by four (4).

¹ Average number of subscribers in three quarters only.

² Average number of subscribers in two quarters only.

³ Actual number of subscribers in one quarter only.

⁴ Telstar Cable Limited

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Note: Data not available for those years that reflect no information

Expenditure in relation to fees payable to the BCJ - under the current fee structure. The subscription income of the selected sample STV operators (Table 17, p.112) and the licence fees paid by these licencees/operators (Table 18, p.113) were reviewed for the four years 2013 to 2016. The review of the audited financial statements of these STV operators did not provide detailed and separate information on the licence fees paid annually, hence the utilization of the BCJ subscriber and industry information, February 2017. The subscription income and the licence fees paid by the STV operators/companies were analyzed and reviewed for accuracy. A comparison of revenue, disclosed in the audited financial statements, with the licence fees, as reflected by the BCJ in-house subscriber and industry information, was also effected (Table 19, pp.115-116).

Table 17

Subscription Income as per BCJ Subscriber and Industry Information Records - for the years

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Large-sized				
Columbus Communications/Flow	4,137,748,130	4,392,146,920	4,068,728,601	3,786,595,409
Digicel Jamaica Ltd./Telstar Cable Ltd.	529,073,493	179,810,120	¹ 168,035,876	¹ 148,417,200
Medium-sized				
Cabletron Network Systems Limited	20,964,557	65,178,633	43,947,287	51,065,442
Cornwall Communications Limited	-	72,816,960	60,537,120	49,255,050
Logic One Limited	120,122,458	142,981,292	176,210,273	168,622,337
Micro and Small-sized				
Astra Technology Limited	618,454	798,798	920,600	812,017
Cable One Jamaica Limited	11,940,804	11,722,556	11,685,082	11,305,855
Communicable limited	14,938,683	15,368,364	13,066,360	10,366,925
Central Clarendon Cable Limited	547,000	354,000	-	-
CTL Limited	30,892,219	30,374,188	31,386,546	-
First Choice Cable Services Limited	-	2,126,000	2,502,000	7,908,086
General Satellite Network Company Limited	22,929,155	22,369,070	22,384,090	26,611,553
Hometime (formerly Guthrie Communications Limited)	-	-	2,981,421	5,909,708
Hometime (formerly Marimaxx Limited)	-	-	11,094,952	10,546,874
Hometime (formerly Unique Vision Limited)	-	-	8,927,574	9,028,617
Jamaica Cablevision Limited	13,762,667	23,019,030	23,996,629	31,022,623
Mars Cable Vision Limited	31,870,090	28,413,209	30,376,099	27,685,498
Modern Rebroadcasting Company Limited	6,688,619	6,568,247	6,536,487	6,351,079
Odyssey Cable Vision Limited	6,846,088	6,503,821	4,632,928	6,515,665
Q46 Limited	15,086,180	12,792,600	11,676,600	8,675,200
Total Cable Limited	3,634,456	6,186,157	7,754,561	5,951,250

¹Telstar Cable Limited

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Note: Data not available for those years that reflect no information.

Table 18

Actual Licence Fee Paid for Each Year

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Large-sized				
Columbus Communications/Flow	206,887,406	219,607,347	203,436,429	189,329,771
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	8,990,506	^a 8,401,793	^a 7,720,860
Medium-sized				
Cabletron Network Systems Limited	1,048,227	3,258,931	2,197,364	2,553,271
Cornwall Communications Limited ^b	-	3,640,848	3,026,856	2,462,752
Logic One Limited	6,006,122	7,149,064	88,105,136	8,434,116
Small-sized				
Astra Technology Limited	30,922	39,939	46,030	40,600
Cable One Jamaica Limited	597,040	586,127	553,070	566,642
Communicable Limited	718,308	768,418	653,317	500,869
Central Clarendon Cable Limited	-	17,700	-	-
CTL Limited	1,544,610	1,518,709	1,393,041	1,250,090
First Choice Cable Services Ltd	-	103,900	125,100	136,780
General Satellite Network Company Limited	1,146,457	1,118,453	1,119,204	1,330,577
Hometime (formerly Guthrie Communications Limited)	-	-	149,071	283,870
Hometime (formerly Marimaxx Limited)	-	581,184	554,747	527,348
Hometime (formerly Unique Vision Limited)	-	469,440	446,378	451,430
Jamaica Cablevision Limited	688,133	1,150,951	1,199,831	1,551,131
Mars Cable Vision Limited	1,593,494	1,420,660	1,518,804	1,384,274
Modern Rebroadcasting Company Limited	334,430	328,412	326,824	317,554
Odyssey Cable Vision Limited	342,304	325,191	231,646	325,783
Q46 Limited	750,559	639,630	583,560	433,800
Total Cable Limited	181,722	308,310	387,728	1,728,025

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

^aTelstar Cable Limited^b Classified as medium-sized even though the criteria for licence not achieved, however the classification took into consideration the average number of subscribers.

Further to this review, the licence fees paid as a percentage of subscription earned by the STV operators were calculated and found to be within the acceptable range of 4.9 – 5 per cent of

subscription income, except for Total Cable Limited that reflected a 29 per cent of subscription income for the year 2012. Therefore, based on this information the STV operators appeared to be compliant with the law, and have remitted the 5 per cent of gross revenue as required.

A comparison of the revenue, as presented in the STV operators audited financial statements, with the reported subscription income, as presented in the BCJ in-house information, revealed varying degrees of discrepancies or differences in the reported income/revenue (Table 19, pp.115-116). The comparison was hindered by the lack of audited financial statements; for the year 2016. Audited information was available for one STV operator only (Digicel Jamaica Limited, a company listed on the Stock exchange). For the year 2015 there were no audited financial statements available for thirteen of the seventeen STV operators; while for the year 2014 there were no audited financial statements available for six of the seventeen included in the sample. Note that the total sample was reduced to seventeen since no data was available for the period 2016 to 2013 for the other STV operators. Nevertheless, the information gleaned was considered relevant, albeit that the comparison for the most part related to the year 2013 and 2014 to a lesser extent.

With reference to the large-sized STV operators, Columbus Communications Limited audited financial statements reflected revenue greater than the BCJ's information, but this could be due to the inclusion of figures of other group entities. Digicel Jamaica Limited audited financial statements showed revenue for 2016 and 2015 less than the BCJ's information, but greater for 2013. The medium-sized operators also reflected similar differences – Cabletron Network Systems Limited audited revenue was less than the BCJ's information for 2015, but greater than the BCJ's information for both 2014 and 2013; Cornwall Communications Limited audited revenue was greater than the BCJ's information for 2013, while Logic One Limited audited revenue was

less than the BCJ's information both 2014 and 2013. The small-sized STV operators analysis revealed that of the 12 companies selected, 8 reflected audited revenue as greater than the BCJ's information, two of the 12 companies reflected audited revenue as less than the BCJ's information, and the remaining two reflected negligible variances in the reported revenues, during the period 2013 to 2015 (Table19, pp.115-116).

Table 19

Comparison of Revenue as per Audited Financial Statements with the Subscription Income as per the BCJ Subscriber and Industry Information Records- for the years

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Large-sized				
Columbus Communications/Flow				
<i>Audited Financial Statements</i>	-	13,310,141,000	12,061,060,000	10,191,513,000
BCJ Information	4,137,748,130	4,392,146,920	4,068,728,601	3,786,595,409
Digicel Jamaica Ltd./Telstar Cable Ltd.				
<i>Audited Financial Statements</i>	47,394,851	46,523,068	-	223,960,789
BCJ Information	71,212,290	179,810,120	¹ 168,035,876	¹ 148,417,200
Medium-sized				
Cabletron Network Systems Limited				
<i>Audited Financial Statements</i>	-	60,,77,202	59,346,119	57,295,160
BCJ Information	20,964,557	65,178,633	43,947,287	51,065,442
Cornwall Communications Limited				
<i>Audited Financial Statements</i>	-	-	-	57,184,000
BCJ Information	-	72,816,960	60,537,120	49,255,050
Logic One Limited				
<i>Audited Financial Statements</i>	-	-	133,791,817	129,906,761
BCJ Information	120,122,458	142,981,292	176,210,273	168,622,337
Small-sized				
Astra Technology Limited				
<i>Audited Financial Statements</i>	-	-	-	4,120,506
BCJ Information	618,454	798,798	920,600	812,017
Cable One Jamaica Limited				
<i>Audited Financial Statements</i>	-	14,738,375	11,790,700	9,347,142
BCJ Information	11,940,804	11,722,556	11,685,082	11,305,855
CTL Limited				
<i>Audited Financial Statements</i>	-	-	28,380,644	16,344,156
BCJ Information	30,892,219	30,374,188	31,386,546	-

STV OPERATORS	2016 \$	2015 \$	2014 \$	2013 \$
Small-sized (continued)				
First Choice Cable Services Limited				
<i>Audited Financial Statements</i>	-	-	-	2,770,000
BCJ Information	-	2,126,000	2,502,000	7,908,086
General Satellite Network Company Limited				
<i>Audited Financial Statements</i>	-	-	-	37,514,264
BCJ Information	22,929,155	22,369,070	22,384,090	26,611,553
Hometime (formerly Guthrie Communications Limited)				
<i>Audited Financial Statements</i>	-	-	-	5,678,720
BCJ Information	-	-	12,981,421	5,909,708
Jamaica Cablevision Limited				
<i>Audited Financial Statements</i>	-	-	-	35,009,176
BCJ Information	13,762,667	23,019,030	23,996,629	31,022,623
Mars Cable Vision Limited				
<i>Audited Financial Statements</i>	-	-	31,130,229	26,739,876
BCJ Information	31,870,090	28,413,209	30,376,099	27,685,498
Modern Rebroadcasting Company Limited				
<i>Audited Financial Statements</i>	-	-	6,555,372	6,335,629
BCJ Information	6,688,619	6,568,247	6,536,487	6,351,079
Odyssey Cable Vision Limited				
<i>Audited Financial Statements</i>	-	-	6,385,145	8,852,128
BCJ Information	6,846,088	6,503,821	4,632,928	6,515,665
Q46 Limited				
<i>Audited Financial Statements</i>	-	-	19,093,892	24,182,302
BCJ Information	15,086,180	12,792,600	11,676,600	8,675,200
Total Cable Limited				
<i>Audited Financial Statements</i>	-	-	-	7,323,893
BCJ Information	3,634,456	6,186,157	7,754,561	5,951,250

¹Telstar Cable Limited

SOURCE: Audited Financial Statements of the STV operators; and BCJ STV Subscriber and Industry Information, February 2017

Note: Data not available for those years that reflect no information.

Assessment of these STV operators' ability to survive in the current economic climate.

As is evident from the financial statements analysis, all the STV operators/companies reflected liquidity issues, low asset bases, and to some extent, profitability issues. Additionally, there is the concern regarding the level of revenue generated and reported by the STV operators. The majority of the small-sized and the medium-sized STV operators experienced decrease in their companies' assets base. The pattern observed could be indicative of low investment in assets or may be

evidence of ‘going concern’ issues. This also heightens the concern in regard to the digital switchover- and the required investment costs- whether or not the STV will be able to afford, or willing to invest in the required equipment. These concerns were expressed during interviews conducted with the former Acting Legal Officer; the Monitoring and Customer Service Officer; and the Finance Officer at the BCJ (Table 1, pp.39-44).

As regards the debt-to-assets, ten (10) of the sixteen (16) small-sized STV operators reflected high leverage ratio. Cable One Jamaica Limited, CTL Limited, General Satellite Network Limited, Modern Rebroadcasting Limited, Odyssey Cable Vision Limited, QES 46 Limited and Total Cable Limited all reflected high and growing debt-to-assets ratios; while Central Communications Services Limited reflected high and rapidly growing debt-to-assets ratio. On the other hand, for Astra Technology Limited and Jamaica Cablevision Limited, even though the companies reflected high ratios, they experienced decline in their debt-to-assets ratios over the period reviewed. The medium-sized and large-sized STV operator/companies debt-to-assets ratios were consistent, except for Columbus Communications Limited that reflected increase in its leverage ratio. The higher the debt-to-assets ratio (gearing/leverage) is, the higher is the degree of risk and financial risk. Therefore, assuming that the sample is representative of the STV industry, it could then be extrapolated that the operators in the STV industry have utilized more debt financing in the operations of their companies, and could be exposed to financial risk if there is a downturn in the current economic climate. Financial risk could also be involved and lead to possible liquidation, if the STV operators are not able to meet the current liabilities of the companies.

A company’s inability to meet its short-term obligations is indicative of a liquidity issue. Liquidity was found to be unacceptable (below generally accepted accounting practices and

principles that acceptable current ratio should equal or more than 2:1) for the two large-sized and two of the medium-sized STV operators/companies. The majority of the small-sized STV operators/companies (73 per cent current ratio below 2:1) reflected liquidity issue. This is a significant issue that affects the solvency of the companies; and could negatively impact the collection of licence fees from these challenged STV operators/companies. The ability to survive in the current economic climate is heavily dependent on the STV operators effecting an increase in investment in fixed assets; expanding the companies' operations, which should lead to higher levels of current assets, as well as maintaining or reducing the levels of current liabilities.

The STV operators' ability to survive in the current economic climate is also dependent on the profitability of the operations of the companies. The profits levels of the STV operators' companies indicated that they will continue to experience challenges in meeting their obligations. The financial review revealed that the majority of the sample's small-sized STV operators/companies (thirteen of the sixteen) incurred significant losses for the years reviewed, and reflected significant accumulated losses as at the end of the financial years. The same is applicable to one of the medium-sized and one of the large-sized STV operator. An explanation for the proliferation of losses in the industry could be the excessive debt held by the STV operators/companies (see debt-to-assets pp.101-103). The review further revealed that the small-sized and medium-sized STV operators/companies experienced contraction or negligible growth in the number of subscribers for the period 2013 to 2016 (Table 16, pp.110-111) which calls into question these operators ability to continue in business.

It could be concluded that the sector had performed below acceptable levels, and this was starker for the small-sized STV operators, where the continuity of these companies as going concerns would be questionable in the absence of intervention. The recommendations emanating

from this review of regulatory treatment of small STV operators when implemented will address these issues.

Other economic impacts

Inflation and interest rates. Inflation effectively decreases the amount of goods and services that can be procured with a given amount of money. The higher the inflation rate, the higher the wage rate increase required by employees. As the increased wages paid represent an increase in the input costs, this may then cause increases in the prices of other products or services. Another inflationary factor that influences business is that investors would be unable to take advantage of investment opportunities which offer an interest rate above the inflation rate and, as such, will suffer the negative impact of inflation.

Interest rate stability is a required economic objective since instability in interest rates creates uncertainty about the future, and this can adversely impact business and consumer investment decisions. Interest rates directly influence lending and borrowing, with higher interest rates causing loan servicing to be more expensive. Hence the STV operators/companies with the high levels of debt financing would be incurring high finance charges as evidenced by the review of the financial statements (Appendix A). They would also find it difficult to acquire new equipment.

Employment. A goal of a country's economic policy is high employment that seeks to attain a level above zero – consistent with matching demand and supply of labor.

Table 16 (pp.110-111) illustrates the employment information for STV operators for the years 2014 to 2016. The review revealed an increase in the total number of persons employed by STV operators. This increase was, however, largely due to the increase in employment by the large-sized STV operator, Columbus Communications Limited/Flow Jamaica. A comparison of

the years 2015 and 2016, revealed that this company experienced a 15 per cent increase in the number of persons that were employed, and for the years 2014 and 2015, grew its employment base by 3 per cent. Of the three medium-sized STV operators, information revealed that Logic One experienced a 3 per cent decline in its employment base between the years 2015 and 2016; and information was not available for Cornwall Communications Limited. Also, information on the employment generated by Cabletron Network Systems Limited was not available for 2014 and 2015. The majority of the small-sized STV operators, for the year 2015 as compared to 2016, and 2014 as compared to 2015 experienced either nominal growth or a retention of their employment base.

Table 20

*Average Number of Employees per Annum**

STV OPERATORS	2016	2015	2014
Large-sized			
Columbus Communications/Flow	644	548	530
Digicel Jamaica Ltd./Telstar Cable Limited	12	21	37
Medium-sized			
Cabletron Network Systems Limited	232	-	-
Cornwall Communications Limited	-	-	-
Logic One Limited	27	28	28
Small-sized			
Astra Technology Limited	41	4	43
Cable One Jamaica Limited	6	53	63
Communicable Limited	5	5	4
Central Clarendon Cable Limited	23	4	-
CTL Limited	143	142	113
First Choice Cable Services Limited	-	41	41
General Satellite Network Company Limited	12	134	144
Hometime (formerly Guthrie Communications Limited)	-	-	63
Hometime (formerly Marimaxx Limited)	-	11	83
Hometime (formerly Unique Vision Limited)	-	4	53
Jamaica Cablevision Limited	111	132	112
Mars Cable Vision Limited	9	83	6

STV OPERATORS	2016	2015	2014
Small-sized (continued)			
Modern Rebroadcasting Company Limited	12	12	12
Odyssey Cable Vision Limited	6	62	6
Q46 Limited	-	-	-
Total Cable Limited	5	6	7
Not Included in Research Sample			
Advance Cable Systems Company Limited	8	-	-
Central Communications Services Limited	6 ³	4	6 ³
Central Clarendon Cable Limited	2 ³	1	-
Combined Communications Limited	12 ¹	9 ¹	12 ¹
Gemini Cable Network Limited	-	-	-
Horizon Entertainment & Communications Company Limited	-	3 ¹	-
Inntech Communications limited	7	7	7
Linscom Network Limited	-	-	-
McKoy's Cable television Limited	6	6	6 ³
Nem's Electric and Satellite Limited	4 ¹	-	-
Network Cable services Limited	7	7	7
Procables Network Limited	-	8 ¹	-
Quality Cable Services Limited	4 ¹	4	5 ³
Rural Cable Company Limited	4 ³	4 ²	-
St. Thomas Cable Network Limited	11 ³	10	8 ²
Santastic Cable Systems Limited	-	8 ²	9 ²
Cable Network Limited/Gemini Cablevision Ltd.	-	-	-
Stars Cable Company Limited	16 ¹	18 ³	18 ²
Somane Pesole Communications Limited	-	-	-
Summit Satellite Systems Limited	-	-	-
Tru-Star Cable Television	5 ¹	5	5
Venus Cable Services Limited	4 ²	-	-
Westsar Communications Limited	4 ¹	4 ³	3 ³
Satcom Cable Television Network	23 ¹	23	23
TOTAL NUMBER OF EMPLOYEES	915	827	808
PER CENT CHANGE OVER PRIOR YEAR	10%	2%	

*Average number of subscribers per annum – Total quarterly number of subscribers divided by four (4).

¹ Average number of subscribers in three quarters only.

² Average number of subscribers in two quarters only.

³ Actual number of subscribers in one quarter only.

-No data available.

The liquidation of small-sized STV operators would have a direct impact on employment.

The employment data for 2016 indicates that if the small-sized STV operators were to close

operations, approximately 259 persons would lose their jobs. Additionally, companies who supply STV operators with equipment such as cables and other material would also be impacted. There is a possibility that if these small-sized operators are granted temporary relief, or a reduction in licence fees to remain in business, the economy would benefit by persons remaining in employment.

Financial Analysis of the Broadcasting Commission of Jamaica

Asset Base. A review of the BCJ financial statements for the fiscal years 2012 to 2016 reflected significant increases in the total assets base over the years, despite the lower investment in total assets in the fiscal years 2014 and 2015 (Table 21).

Table 21

BCJ Total Assets for the years

Year	Total Assets \$	Percent Increase
2012	383,137,201	-
2013	476,089,112	24.26
2014	536,608,407	12.71
2015	616,674,962	14.92
2016	741,459,590	20.24

Source: BCJ audited financial statements

Debt-to-Assets. The BCJ financial statements review revealed a low level of debt-to assets - with the level of debt comprised mainly of current liabilities.

Liquidity. The liquidity of the BCJ is extremely high as indicated in Table 22 (p.123) that depict the current ratio over the five year period. The type of current assets held by the Commission are cash or near-cash items that are highly liquid. The Commission can therefore be considered 'cash rich'.

Table 22

BCJ Current Ratio for the years

Year	Current Assets \$	Current Liabilities \$	Current Ratio
2012	376,679,217	12,964,513	29.05 :1
2013	471,461,590	17,210,095	27.39 :1
2014	532,206,898	13,344,311	39.88 :1
2015	608,531,344	23,249,112	26.17 :1
2016	727,162,889	20,476,279	35.51 :1

Source: BCJ audited financial statements

Profitability. The review of the financial statements of the BCJ revealed that the Commission's revenue showed continued growth over the five-year period, albeit that the rate of growth declined from 7.08 to 3.22 percent in 2015 and 2016 respectively (Table 23, p.123). On the other hand, the net profit revealed another scenario, where there is a reduction in profitability of 12.27 percent and 27.42 percent in the 2013 and 2014 respectively, and an improvement of 8.97 percent in 2015 (Table 23, p.123). The significant increase in profitability for 2016, however, is accounted for by the increase in other operating income from \$48.5 million (2015) to \$88.1 million (2016). The Commission's financial statements also reflected increases in the administrative expenditures for the years 2012 to 2015; but showed a reduction in the overall administrative expenditure in 2016 (Table 24, p.124).

Table 23

BCJ Revenue and Net Profit for the years

Year	Revenue \$	Percent Increase	Net Profit \$	Per cent Increase/ (Decrease)
2012	213,211,556	-	106,439,242	-
2013	218,389,992	2.43	93,375,083	(12.27)
2014	238,629,740	9.27	67,773,768	(27.42)
2015	255,533,589	7.08	73,854,478	8.97
2016	263,768,820	3.22	134,271,012	81.80

Source: BCJ audited financial statements

Table 24

BCJ Administrative Expenditure for the years

Year	Administrative Expenditure \$	Per cent Increase/ (Decrease)
2012	113,110,932	-
2013	147,143,150	30.09
2014	191,255,275	29.98
2015	226,240,354	18.29
2016	206,170,542	(8.87)

Source: BCJ audited financial statements

The BCJ financial position is assessed as excellent, with its high total assets base; a non-existent gearing level (debt level); very high liquidity level, and excellent profitability despite the downturn in net profit in 2013 through to 2015.

Nevertheless, the Commission is concerned about the STV industry, since close examination of the STV providers financial statements indicate that the companies are operating at a loss. The majority of the STV operators' companies are financed by directors' loans thus having high levels of gearing (debt financing). In the long run it appears that, *ceteris paribus*, the majority of these companies (particularly the small and poorly performing medium-sized companies) will ultimately cease operations or merge in an effort to reinforce their market position or sell their companies to some of the larger STV operators. It is for this reason that the BCJ has taken the strategic decision to focus on facilitating industry competitiveness and viability, using the research on the regulatory treatment of STV operators, and, in particular, small STV operators as a point of departure.

Analysis of Proposed Alternative Approaches

The legal review and comparative analysis of the tiered regulatory system or the alternative system that operated in the selected jurisdictions, namely Trinidad and Tobago, India, United

Kingdom, and United States of America, revealed both similarities and differences. United Kingdom, and the United States of America both utilize tiered regulatory systems while, on the other hand, Trinidad and Tobago, as well as India, utilize alternative regulatory systems. Trinidad and Tobago as well as India, utilize the size of STV operators as the boundaries for calculations of the licence fees; but in the case of Trinidad and Tobago geographic location is also utilized. Similarly, the United States of America also utilizes geographic location to determine the licence fees. United Kingdom stands alone in that licence fees are determined/based on revenue earned.

With the foregoing in mind, the Consultants examined several possible scenarios of tiered regulatory systems based on the size of the STV operators, coupled with the subscription income; and scenarios of the alternative systems using geographic location, selected on the basis of population density, coupled with subscription income. Projections were based on licence fees generated in 2016 (BCJ Subscriber and Industry Information, February, 2017). The projection was for a three-year period, since the concession will be time as well as performance bound. After the expiration of the three years it is expected that the small STV operators will have progressed to Tier 2 (medium-sized operators) either through mergers or growth. The Consumer Price Index fiscal year inflation for the fiscal year March 2016 - March 2017 is 4.1 per cent (Statistical Institute of Jamaica, 2017) Guided by this, the calculations of the scenarios utilized an assumed inflation rate of 5 per cent across the years.

Identification of current income/fees, and the projection and/or estimate of the income/fees based on the three-tiered regulatory approaches

To facilitate the assessment of the impact of licence fees payable to the BCJ, all information available, for *all of the STV operators*, from the BCJ Subscriber and Industry information were utilized, instead of the research sample. Scenarios 1 to 15 examined the use of a tiered regulatory

system with boundaries determined by the size of the STV operators. For these assessments the STV operators' sizes as categorized in this research sample selection were applicable. Information garnered for all of the STV operators were utilized to determine the totality of the impact on the BCJ fee income.

Table 25

Summary of Proposed Tiered Regulatory System based on Size of STV operators

Classification →	Small-sized STV operators	Medium-sized STV operators	Large-sized STV operators
SCENARIOS	Per cent of Subscription Income	Per cent of Subscription Income	Per cent of Subscription Income
1	0	5	5
2	2	5	5
3	1	5	5
4	0	4	5
5	2	4	5
6	1	4	5
7	0	3	5
8	2	3	5
9	1	3	5
10	0	3	4
11	2	3	4
12	1	3	4
13	0	3 ²	4
14	0	4 ²	5
15	0	5 ²	5

² For small-sized STV operators with licence fees greater than J\$1 million in 2016, merged to be classified as medium-sized STV operators

Justification of the per cent proposed for licence fees. In Jamaica, the legal requirement is for STV operators to pay annual licence fees of 5 per cent of gross subscription income, across the board. This is similar to the licence fee regime for STV operators in the USA (pp.76-77) where the regulations and statutes give the franchising authority or the regulator the power to determine the terms and conditions of cable television licences including licence fees. In the UK, on the other hand, licence fees vary from a low of 0.02 per cent to a high of 0.1608 per cent depending

on the annual turnover (p.77). In the cases of Trinidad and Tobago and India, the licence fees fall between those required in the UK and the USA.

For the purposes of this study, the scenarios presented reflect reduced licence fees for small-sized STV operators ranging from 0 to 3 per cent of annual subscription income, due to the fact that many of those operators operate at a low level of commercial viability; operate in areas with homes widely dispersed, farm land, and hilly terrain; coupled with lack of proper infrastructure to support their doing business.

The scenarios reflect reduced or maintained licence fees for medium-sized operators ranging from 3 per cent to 5 per cent of annual subscription income, because those reviewed showed varying levels of profitability, and should be better able to afford the higher licence fees than the small-sized STV operators.

In the case of large-sized operators, the scenarios reflect reduced or maintained licence fees of from 4 per cent to 5 per cent of annual subscription income, in consideration of their varying levels of profitability but high asset base.

The following Tables 26 to 40 (pp. 128-157) indicate the assumptions and relevant results.

Scenario 1

Assumptions 1:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continues at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 0 per cent

Licence fees paid by medium-sized STV operators – 5 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 26

Projection: Based on Assumptions 1

SCENARIO 1	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	1,100,639	1,155,671	1,213,455
Cornwall Communications Limited	4,153,405	4,361,076	4,579,129	4,808,086
Logic One Limited	6,006,122	6,306,429	6,621,751	6,952,838
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	-	-	-
First Choice Cable Services Limited	-	-	-	-
General Satellite Network Company Limited	1,146,457	-	-	-
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	-	-	-
Modern Rebroadcasting Company Limited	334,430	-	-	-

		PROJECTION FOR YEAR		
SCENARIO 1	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Small-sized (continued)				
Odyssey Cable Vision Limited	342,304	-	-	-
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	2,665,751	2,799,039	2,938,991
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	-	-	-
Linscom Network Limited	1,259,605	-	-	-
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	-	-	-
Santastic Cable Systems Limited	1,057,329	-	-	-
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Weststar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	259,442,029	272,414,131	286,034,837
Per cent Increase/(Decrease) over 2016 Actual		(2.02)	2.44	8.02
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 2

Assumptions 2:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continues at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 2 per cent

Licence fees paid by medium-sized STV operators – 5 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 27

Projection: Based on Assumptions 2

		PROJECTION FOR YEAR		
SCENARIO 2	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	1,100,639	1,155,671	1,213,455
Cornwall Communications Limited	4,153,405	4,361,076	4,579,129	4,808,086
Logic One Limited	6,006,122	6,306,429	6,621,751	6,952,838
Small-sized				
Astra Technology Limited	30,922	12,988	13,637	14,319
Cable One Jamaica Limited	597,040	250,757	263,295	276,459
Communicable Limited	718,308	301,690	316,774	332,613
Central Communications Services Limited	333,793	140,193	147,203	154,563
CTL Limited	1,544,610	648,737	681,173	715,232
First Choice Cable Services Limited	-	-	-	-
General Satellite Network Company Limited	1,146,457	481,512	505,588	530,867
Jamaica Cablevision Limited	688,133	289,016	303,467	318,640
Mars Cable Vision Limited	1,593,494	669,268	702,731	737,867

SCENARIO 2	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Modern Rebroadcasting Company Limited	334,430	140,461	147,484	154,858
Odyssey Cable Vision Limited	342,304	143,768	150,956	158,504
Q46 Limited	750,559	315,235	330,997	347,546
Total Cable Limited	181,722	76,324	80,140	84,147
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	6,080	6,384	6,703
Central Clarendon Cable Limited	27,350	11,487	12,061	12,664
Combined Communications Limited	2,538,811	2,665,751	2,799,039	2,938,991
Gemini Cable Network Limited	234,150	98,343	103,260	108,423
Horizon Entertainment & Communications Company Limited	240,553	101,032	106,084	111,388
Inntech Communications Limited	1,108,135	465,417	488,687	513,122
Linscom Network Limited	1,259,605	529,034	555,486	583,260
McKoy's Cable Television Limited	746,628	313,584	329,263	345,726
Nem's Electric and Satellite Limited	9,900	4,158	4,366	4,584
Network Cable Services Limited	220,409	92,572	97,200	102,060
Procables Network Limited	490,125	205,853	216,145	226,952
Quality Cable Services Limited	42,250	17,745	18,632	19,564
Rural Cable Company Limited	69,930	29,371	30,839	32,381
St. Thomas Cable Network Limited	1,683,718	707,161	742,520	779,646
Santastic Cable Systems Limited	1,057,329	444,078	466,282	489,596
Cable Network Limited/Gemini Cablevision Ltd.	123,200	51,744	54,331	57,048
Stars Cable Company Limited	847,797	356,075	373,878	392,572
Somane Pesole Communications Limited	33,155	13,925	14,621	15,353
Summit Satellite Systems Limited	530,730	222,907	234,052	245,755
Tru-Star Cable Television	33,030	13,873	14,566	15,295
Venus Cable Services Limited	65,748	27,614	28,995	30,444
Westsar Communications Limited	335,390	140,864	147,907	155,302
Satcom Cable Television Network	265,891	111,674	117,258	123,121
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	266,876,565	280,220,393	294,231,413
Per cent Increase/(Decrease) over 2016 Actual		0.79	5.83	11.12
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 3

Assumptions 3:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continues at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 1 per cent

Licence fees paid by medium-sized STV operators – 5 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 28

Projection: Based on Assumptions 3

		PROJECTION FOR YEAR		
SCENARIO 3	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	1,100,639	1,155,671	1,213,455
Cornwall Communications Limited	4,153,405	4,361,076	4,579,129	4,808,086
Logic One Limited	6,006,122	6,306,429	6,621,751	6,952,838
Small-sized				
Astra Technology Limited	30,922	6,494	6,818	7,159
Cable One Jamaica Limited	597,040	125,378	131,647	138,230
Communicable Limited	718,308	150,845	158,387	166,306
Central Communications Services Limited	333,793	70,097	73,601	77,281
CTL Limited	1,544,610	324,368	340,587	357,616-
General Satellite Network Company Limited	1,146,457	240,756	252,794	265,434
Jamaica Cablevision Limited	688,133	144,508	151,733	159,320
Mars Cable Vision Limited	1,593,494	334,634	351,365	368,934
Modern Rebroadcasting Company Limited	334,430	70,231	73,742	77,429
Odyssey Cable Vision Limited	342,304	71,884	75,478	79,252
Q46 Limited	750,559	157,617	165,498	173,773

SCENARIO 3	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Total Cable Limited	181,722	38,162	40,070	42,073
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	3,040	3,192	3,351
Central Clarendon Cable Limited	27,350	5,744	6,031	6,332
Combined Communications Limited	2,538,811	2,665,751	2,799,039	2,938,991
Gemini Cable Network Limited	234,150	49,172	51,630	54,212
Horizon Entertainment & Communications Company Limited	240,553	50,516	53,042	55,694
Inntech Communications Limited	1,108,135	232,708	244,344	256,561
Linscom Network Limited	1,259,605	264,517	277,743	291,630
McKoy's Cable Television Limited	746,628	156,792	164,632	172,863
Nem's Electric and Satellite Limited	9,900	2,079	2,183	2,292
Network Cable Services Limited	220,409	46,286	48,600	51,030
Procables Network Limited	490,125	102,926	108,073	113,476
Quality Cable Services Limited	42,250	8,873	9,316	9,782
Rural Cable Company Limited	69,930	14,685	15,420	16,191
St. Thomas Cable Network Limited	1,683,718	353,581	371,260	389,823
Santastic Cable Systems Limited	1,057,329	222,039	233,141	244,798
Cable Network Limited/Gemini Cablevision Ltd.	123,200	25,872	27,166	28,524
Stars Cable Company Limited	847,797	178,037	186,939	196,286
Somane Pesole Communications Limited	33,155	6,962	7,311	7,676
Summit Satellite Systems Limited	530,730	111,453	117,026	122,877
Tru-Star Cable Television	33,030	6,936	7,283	7,647
Venus Cable Services Limited	65,748	13,807	14,497	15,222
Westsar Communications Limited	335,390	70,432	73,953	77,651
Satcom Cable Television Network	265,891	55,837	58,629	61,560
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	263,379,425	276,548,396	290,375,816
Per cent Increase/(Decrease) over 2016 Actual		(0.53)	4.44	9.66
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 4

Assumptions 4:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continues at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 0 per cent

Licence fees paid by medium-sized STV operators – 4 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 29

Projection: Based on Assumptions 4

		PROJECTION FOR YEAR		
SCENARIO 4	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	880,511	924,537	970,764
Cornwall Communications Limited	4,153,405	3,488,861	3,663,304	3,846,469
Logic One Limited	6,006,122	5,045,143	5,297,400	5,562,270
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	-	-	-
First Choice Cable Services Limited	-	-	-	-
General Satellite Network Company Limited	1,146,457	-	-	-
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	-	-	-
Modern Rebroadcasting Company Limited	334,430	-	-	-
Odyssey Cable Vision Limited	342,304	-	-	-

SCENARIO 4	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	2,132,601	2,239,231	2,351,193
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	-	-	-
Linscom Network Limited	1,259,605	-	-	-
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	-	-	-
Santastic Cable Systems Limited	1,057,329	-	-	-
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Weststar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	256,555,250	262,032,769	274,153,492
Per cent Increase/(Decrease) over 2016 Actual		(3.11)	(1.04)	3.54
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 5

Assumptions 5:

Five (5) per cent inflation
 Base year – Actual for 2016
 Inflation for years 2 and 3 continue at five (5) per cent
 Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.
 Licence fees paid by small-sized STV operators – 2 per cent
 Licence fees paid by medium-sized STV operators – 4 per cent
 Licence fees paid by large-sized STV operators – 5 per cent
 Combined Communications Limited – Classified as medium-sized STV operator.

Table 30

Projection: Based on Assumptions 5

		PROJECTION FOR YEAR		
SCENARIO 5	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	880,511	924,537	970,764
Cornwall Communications Limited	4,153,405	3,488,861	3,663,304	3,846,469
Logic One Limited	6,006,122	5,045,143	5,297,400	5,562,270
Small-sized				
Astra Technology Limited	30,922	12,988	13,637	14,319
Cable One Jamaica Limited	597,040	250,757	263,295	276,459
Communicable Limited	718,308	301,690	316,774	332,613
Central Communications Services Limited	333,793	140,193	147,203	154,563
CTL Limited	1,544,610	648,737	681,173	715,232
General Satellite Network Company Limited	1,146,457	481,512	505,588	530,867
Jamaica Cablevision Limited	688,133	289,016	303,467	318,640
Mars Cable Vision Limited	1,593,494	669,268	702,731	737,867
Modern Rebroadcasting Company Limited	334,430	140,461	147,484	154,858
Odyssey Cable Vision Limited	342,304	143,768	150,956	158,504

		PROJECTION FOR YEAR		
SCENARIO 5	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Small-sized (continued)				
Q46 Limited	750,559	315,235	330,997	347,546
Total Cable Limited	181,722	76,324	80,140	84,147
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	6080	6,384	6,703
Central Clarendon Cable Limited	27,350	11,487	12,061	12,664
Combined Communications Limited	2,538,811	2,132,601	2,239,231	2,351,193
Gemini Cable Network Limited	234,150	98,343	103,260	108,423
Horizon Entertainment & Communications Company Limited	240,553	101,032	106,084	111,388
Inntech Communications Limited	1,108,135	465,417	488,687	513,122
Linscom Network Limited	1,259,605	529,034	555,486	583,260
McKoy's Cable Television Limited	746,628	313,584	329,263	345,726
Nem's Electric and Satellite Limited	9,900	4,158	4,366	4,584
Network Cable Services Limited	220,409	92,572	97,200	102,060
Procables Network Limited	490,125	205,853	216,145	226,952
Quality Cable Services Limited	42,250	17,745	18,632	19,564
Rural Cable Company Limited	69,930	29,371	30,839	32,381
St. Thomas Cable Network Limited	1,683,718	707,161	742,520	779,646
Santastic Cable Systems Limited	1,057,329	444,078	466,282	489,596
Cable Network Limited/Gemini Cablevision Ltd.	123,200	51,744	54,331	57,048
Stars Cable Company Limited	847,797	356,075	373,878	392,572
Somane Pesole Communications Limited	33,155	13,925	14,621	15,352
Summit Satellite Systems Limited	530,730	222,907	234,052	245,755
Tru-Star Cable Television	33,030	13,873	14,566	15,295
Venus Cable Services Limited	65,748	27,614	28,995	30,444
Weststar Communications Limited	335,390	140,864	147,907	155,302
Satcom Cable Television Network	265,891	111,674	117,258	123,121
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	263,989,786	277,727,007	291,048,739
Per cent Increase/(Decrease) over 2016 Actual		(0.30)	4.68	9.92
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 6

Assumptions 6:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 1 per cent

Licence fees paid by medium-sized STV operators – 4 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited –Classified as medium-sized STV operator.

Table 31

Projection: Based on Assumptions 6

		PROJECTION FOR YEAR		
SCENARIO 6	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	880,511	924,537	970,764
Cornwall Communications Limited	4,153,405	3,488,861	3,663,304	3,846,469
Logic One Limited	6,006,122	5,045,143	5,297,400	5,562,270
Small-sized				
Astra Technology Limited	30,922	6,494	6,818	7,159
Cable One Jamaica Limited	597,040	125,378	131,647	138,230
Communicable Limited	718,308	150,845	158,387	166,306
Central Communications Services Limited	333,793	70,097	73,601	77,281
CTL Limited	1,544,610	324,368	340,587	357,616
General Satellite Network Company Limited	1,146,457	240,756	252,794	265,434
Jamaica Cablevision Limited	688,133	144,508	151,733	159,320
Mars Cable Vision Limited	1,593,494	334,634	351,365	368,934
Modern Rebroadcasting Company Limited	334,430	70,231	73,742	77,429

		PROJECTION FOR YEAR		
SCENARIO 6	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Small-sized (continued)				
Odyssey Cable Vision Limited	342,304	71,884	75,478	79,252
Q46 Limited	750,559	157,617	165,498	173,773
Total Cable Limited	181,722	38,162	40,070	42,073
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	3,040	3,192	3,351
Central Clarendon Cable Limited	27,350	5,744	6,031	6,332
Combined Communications Limited	2,538,811	2,132,601	2,239,231	2,351,193
Gemini Cable Network Limited	234,150	49,172	51,630	54,212
Horizon Entertainment & Communications Company Limited	240,553	50,516	53,042	55,694
Inntech Communications Limited	1,108,135	232,708	244,344	256,561
Linscom Network Limited	1,259,605	264,517	277,743	291,630
McKoy's Cable Television Limited	746,628	156,792	164,632	172,863
Nem's Electric and Satellite Limited	9,900	2,079	2,183	2,293
Network Cable Services Limited	220,409	46,286	48,600	51,030
Procables Network Limited	490,125	102,926	108,073	113,476
Quality Cable Services Limited	42,250	8,873	9,316	9,782
Rural Cable Company Limited	69,930	14,685	15,420	16,191
St. Thomas Cable Network Limited	1,683,718	353,581	371,260	389,823
Santastic Cable Systems Limited	1,057,329	222,039	233,141	244,798
Cable Network Limited/Gemini Cablevision Ltd.	123,200	25,872	27,166	28,524
Stars Cable Company Limited	847,797	178,037	186,939	196,286
Somane Pesole Communications Limited	33,155	6,962	7,311	7,676
Summit Satellite Systems Limited	530,730	111,453	117,026	122,877
Tru-Star Cable Television	33,030	6,936	7,283	7,647
Venus Cable Services Limited	65,748	13,807	14,497	15,222
Weststar Communications Limited	335,390	70,432	73,953	77,651
Satcom Cable Television Network	265,891	55,837	58,629	61,560
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	260,272,518	273,286,144	286,950,451
Per cent Increase/(Decrease) over 2016 Actual		(1.71)	3.21	8.37
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 7

Assumptions 7:

Five (5) per cent inflation
 Base year – Actual for 2016
 Inflation for years 2 and 3 continue at five (5) per cent
 Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.
 Licence fees paid by small-sized STV operators – 0 per cent
 Licence fees paid by medium-sized STV operators – 3 per cent
 Licence fees paid by large-sized STV operators – 5 per cent
 Combined Communications Limited – Classified as medium-sized STV operator.

Table 32

Projection: Based on Assumptions 7

SCENARIO 7	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	-	-	-
First Choice Cable Services Limited	-	-	-	-
General Satellite Network Company Limited	1,146,457	-	-	-
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	-	-	-
Modern Rebroadcasting Company Limited	334,430	-	-	-
Odyssey Cable Vision Limited	342,304	-	-	-

SCENARIO 7	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	-	-	-
Linscom Network Limited	1,259,605	-	-	-
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	-	-	-
Santastic Cable Systems Limited	1,057,329	-	-	-
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Westsar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	253,668,471	266,351,895	279,669,490
Per cent Increase/(Decrease) over 2016 Actual		(4.20)	0.59	5.62
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 8

Assumptions 8:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 2 per cent

Licence fees paid by medium-sized STV operators – 3 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited –Classified as medium-sized STV operator.

Table 33

Projection: Based on Assumptions 8

		PROJECTION FOR YEAR		
SCENARIO 8	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,726	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	12,988	13,637	14,319
Cable One Jamaica Limited	597,040	250,757	263,295	276,459
Communicable Limited	718,308	301,690	316,774	332,613
Central Communications Services Limited	333,793			
CTL Limited	1,544,610	648,737	681,173	715,232
First Choice Cable Services Limited	-	-		
General Satellite Network Company Limited	1,146,457	481,512	505,588	530,867
Jamaica Cablevision Limited	688,133	289,016	303,467	318,640
Mars Cable Vision Limited	1,593,494	669,268	702,731	737,867
Modern Rebroadcasting Company Limited	334,430	140,461	147,484	154,858
Odyssey Cable Vision Limited	342,304	143,768	150,956	158,504

SCENARIO 8	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Q46 Limited	750,559	315,235	330,997	347,546
Total Cable Limited	181,722	76,324	80,140	84,147
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	6,080	6,384	6,703
Central Clarendon Cable Limited	27,350	11,487	12,061	12,664
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	98,343	103,260	108,423
Horizon Entertainment & Communications Company Limited	240,553	101,032	106,084	111,388
Inntech Communications Limited	1,108,135	465,417	488,687	513,122
Linscom Network Limited	1,259,605	529,034	555,486	583,260
McKoy's Cable Television Limited	746,628	313,584	329,263	345,726
Nem's Electric and Satellite Limited	9,900	4,258	4,366	4,584
Network Cable Services Limited	220,409	92,572	97,200	102,060
Procables Network Limited	490,125	205,853	216,145	226,952
Quality Cable Services Limited	42,250	17,745	18,632	19,564
Rural Cable Company Limited	69,930	29,371	30,839	32,381
St. Thomas Cable Network Limited	1,683,718	707,161	742,520	779,646
Santastic Cable Systems Limited	1,057,329	444,078	466,282	489,596
Cable Network Limited/Gemini Cablevision Ltd.	123,200	51,744	54,331	57,048
Stars Cable Company Limited	847,797	356,075	373,878	392,572
Somane Pesole Communications Limited	33,155	13,925	14,621	15,352
Summit Satellite Systems Limited	530,730	222,907	234,052	25,755
Tru-Star Cable Television	33,030	13,878	14,566	15,295
Venus Cable Services Limited	65,748	27,614	28,995	30,444
Westsar Communications Limited	335,390	140,864	147,907	155,302
Satcom Cable Television Network	265,891	111,674	117,258	123,121
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	261,103,007	274,158,157	287,866,065
Per cent Increase/(Decrease) over 2016 Actual		(1.39)	3.54	8.72
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 9

Assumptions 9:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 1 per cent

Licence fees paid by medium-sized STV operators – 3 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited –Classified as medium-sized STV operator.

Table 34

Projection: Based on Assumptions 9

		PROJECTION FOR YEAR		
SCENARIO 9	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	6,494	6,818	7,159
Cable One Jamaica Limited	597,040	125,378	131,647	138,230
Communicable Limited	718,308	150,845	158,387	166,306
Central Communications Services Limited	333,793	70,097	73,601	77,281
CTL Limited	1,544,610	324,368	340,587	357,616
General Satellite Network Company Limited	1,146,457	240,756	252,794	265,434
Jamaica Cablevision Limited	688,133	144,508	151,733	159,320
Mars Cable Vision Limited	1,593,494	334,634	351,365	368,934
Modern Rebroadcasting Company Limited	334,430	70,231	73,742	77,429
Odyssey Cable Vision Limited	342,304	71,884	75,478	79,252
Q46 Limited	750,559	157,617	165,498	173,773

SCENARIO 9	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Total Cable Limited	181,722	38,162	40,070	42,073
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	3,040	3,192	3,351
Central Clarendon Cable Limited	27,350	5,744	6,031	6,332
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	49,172	51,630	54,212
Horizon Entertainment & Communications Company Limited	240,553	50,516	53,042	55,694
Inntech Communications Limited	1,108,135	232,708	244,344	256,561
Linscom Network Limited	1,259,605	264,517	277,743	291,630
McKoy's Cable Television Limited	746,628	156,792	164,632	172,863
Nem's Electric and Satellite Limited	9,900	2,079	2,183	2,292
Network Cable Services Limited	220,409	46,286	48,600	51,030
Procables Network Limited	490,125	102,926	108,073	113,476
Quality Cable Services Limited	42,250	8,873	9,316	9,782
Rural Cable Company Limited	69,930	14,685	15,420	16,191
St. Thomas Cable Network Limited	1,683,718	353,581	371,260	389,823
Santastic Cable Systems Limited	1,057,329	222,039	233,141	244,798
Cable Network Limited/Gemini Cablevision Ltd.	123,200	25,872	27,166	28,524
Stars Cable Company Limited	847,797	178,037	186,939	196,286
Somane Pesole Communications Limited	33,155	6,962	7,311	7,676
Summit Satellite Systems Limited	530,730	111,453	117,026	122,877
Tru-Star Cable Television	33,030	6,936	7,283	7,647
Venus Cable Services Limited	65,748	13,807	14,497	15,222
Westsar Communications Limited	335,390	70,432	73,953	77,651
Satcom Cable Television Network	265,891	55,837	58,629	61,560
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	257,385,739	270,255,026	283,767,777
Per cent Increase/(Decrease) over 2016 Actual		(2.80)	2.06	7.17
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 10

Assumptions 10:

Five (5) per cent inflation
 Base year – Actual for 2016
 Inflation for years 2 and 3 continue at five (5) per cent
 Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.
 Licence fees paid by small-sized STV operators – 0 per cent
 Licence fees paid by medium-sized STV operators – 3 per cent
 Licence fees paid by large-sized STV operators – 4 per cent
 Combined Communications Limited – Classified as medium-sized STV operator.

Table 35

Projection: Based on Assumptions 10

SCENARIO 10	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	173,785,421	182,474,692	191,598,427
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	22,221,086	23,332,140	24,498,747
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	-	-	-
General Satellite Network Company Limited	1,146,457	-	-	-
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	-	-	-
Modern Rebroadcasting Company Limited	334,430	-	-	-
Odyssey Cable Vision Limited	342,304	-	-	-
Q46 Limited	750,559	-	-	-

SCENARIO 10	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	-	-	-
Linscom Network Limited	1,259,605	-	-	-
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	-	-	-
Santastic Cable Systems Limited	1,057,329	-	-	-
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Westsar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	204,666,844	214,900,187	225,645,196
Per cent Increase/(Decrease) over 2016 Actual		(22.71)	(18.84)	(14.78)
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 11

Assumptions 11:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees paid by small-sized STV operators – 2 per cent

Licence fees paid by medium-sized STV operators – 3 per cent

Licence fees paid by large-sized STV operators – 4 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 36

Projection: Based on Assumptions 11

SCENARIO 11	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	173,785,421	182,474,692	191,598,427
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	22,221,086	23,332,140	24,498,747
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	12,988	13,637	14,319
Cable One Jamaica Limited	597,040	250,757	263,295	276,459
Communicable Limited	718,308	301,690	316,774	332,613
Central Communications Services Limited	333,793			
CTL Limited	1,544,610	648,737	681,173	715,232
General Satellite Network Company Limited	1,146,457	-		
Jamaica Cablevision Limited	688,133	481,512	505,588	530,867
Mars Cable Vision Limited	1,593,494	289,016	303,467	318,640
Modern Rebroadcasting Company Limited	334,430	669,268	702,731	737,867
Odyssey Cable Vision Limited	342,304	140,461	147,484	154,858
Q46 Limited	750,559	143,768	150,956	158,504

SCENARIO 11	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Total Cable Limited	181,722	76,324	80,140	84,147
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	6,080	6,384	6,703
Central Clarendon Cable Limited	27,350	11,487	12,061	12,664
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	98,343	103,260	108,423
Horizon Entertainment & Communications Company Limited	240,553	101,032	106,084	111,388
Inntech Communications Limited	1,108,135	465,417	488,687	513,122
Linscom Network Limited	1,259,605	529,034	555,486	583,260
McKoy's Cable Television Limited	746,628	313,584	329,263	345,726
Nem's Electric and Satellite Limited	9,900	4,258	4,366	4,584
Network Cable Services Limited	220,409	92,572	97,200	102,060
Procables Network Limited	490,125	205,853	216,145	226,952
Quality Cable Services Limited	42,250	17,745	18,632	19,564
Rural Cable Company Limited	69,930	29,371	30,839	32,381
St. Thomas Cable Network Limited	1,683,718	707,161	742,520	779,646
Santastic Cable Systems Limited	1,057,329	444,078	466,282	489,596
Cable Network Limited/Gemini Cablevision Ltd.	123,200	51,744	54,331	57,048
Stars Cable Company Limited	847,797	356,075	373,878	392,572
Somane Pesole Communications Limited	33,155	13,925	14,621	15,352
Summit Satellite Systems Limited	530,730	222,907	234,052	25,755
Tru-Star Cable Television	33,030	13,878	14,566	15,295
Venus Cable Services Limited	65,748	27,614	28,995	30,444
Westsar Communications Limited	335,390	140,864	147,907	155,302
Satcom Cable Television Network	265,891	111,674	117,258	123,121
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	212,101,380	222,706,440	233,841,772
Per cent Increase/(Decrease) over 2016 Actual		(19.90)	(15.89)	(11.69)
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 12

Assumptions 12:

Five (5) per cent inflation
 Base year – Actual for 2016
 Inflation for years 2 and 3 continue at five (5) per cent
 Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.
 Licence fees paid by small-sized STV operators – 1 per cent
 Licence fees paid by medium-sized STV operators – 3 per cent
 Licence fees paid by large-sized STV operators – 4 per cent
 Combined Communications Limited – Classified as medium-sized STV operator.

Table 37

Projection: Based on Assumptions 12

SCENARIO 12	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	173,785,421	182,474,692	191,598,427
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	22,221,086	23,332,140	24,498,747
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	6,494	6,818	7,159
Cable One Jamaica Limited	597,040	125,378	131,647	138,230
Communicable Limited	718,308	150,845	158,387	166,306
Central Communications Services Limited	333,793	70,097	73,601	77,281
CTL Limited	1,544,610	324,368	340,587	357,616
General Satellite Network Company Limited	1,146,457	240,756	252,794	265,434
Jamaica Cablevision Limited	688,133	144,508	151,733	159,320
Mars Cable Vision Limited	1,593,494	334,634	351,365	368,934
Modern Rebroadcasting Company Limited	334,430	70,231	73,742	77,429
Odyssey Cable Vision Limited	342,304	71,884	75,478	79,252
Q46 Limited	750,559	157,617	165,498	173,773

SCENARIO 12	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Total Cable Limited	181,722	38,162	40,070	42,073
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	3,040	3,192	3,351
Central Clarendon Cable Limited	27,350	5,744	6,031	6,332
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	49,172	51,630	54,212
Horizon Entertainment & Communications Company Limited	240,553	50,516	53,042	55,694
Inntech Communications Limited	1,108,135	232,708	244,344	256,561
Linscom Network Limited	1,259,605	264,517	277,743	291,630
McKoy's Cable Television Limited	746,628	156,792	164,632	172,863
Nem's Electric and Satellite Limited	9,900	2,079	2,183	2,292
Network Cable Services Limited	220,409	46,286	48,600	51,030
Procables Network Limited	490,125	102,926	108,073	113,476
Quality Cable Services Limited	42,250	8,873	9,316	9,782
Rural Cable Company Limited	69,930	14,685	15,420	16,191
St. Thomas Cable Network Limited	1,683,718	353,581	371,260	389,823
Santastic Cable Systems Limited	1,057,329	222,039	233,141	244,798
Cable Network Limited/Gemini Cablevision Ltd.	123,200	25,872	27,166	28,524
Stars Cable Company Limited	847,797	178,037	186,939	196,286
Somane Pesole Communications Limited	33,155	6,962	7,311	7,676
Summit Satellite Systems Limited	530,730	111,453	117,026	122,877
Tru-Star Cable Television	33,030	6,936	7,283	7,647
Venus Cable Services Limited	65,748	13,807	14,497	15,222
Westsar Communications Limited	335,390	70,432	73,953	77,651
Satcom Cable Television Network	265,891	55,837	58,629	61,560
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	209,137,390	219,594,260	230,573,973
Per cent Increase/(Decrease) over 2016 Actual		(21.02)	(17.07)	(12.92)
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 13

Assumptions 13:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Merger of small-sized STV operators to form medium-sized STV operators where such operators paid licence fees greater than \$1 million during 2016.

Licence fees paid by small-sized STV operators – 0 per cent

Licence fees paid by medium-sized STV operators – 3 per cent

Licence fees paid by large-sized STV operators – 4 per cent

Combined Communications Limited –Classified as medium-sized STV operator.

Table 38

Projection: Based on Assumptions 13

		PROJECTION FOR YEAR		
SCENARIO 13	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	173,785,421	182,474,692	191,598,427
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	22,221,086	23,332,140	24,498,747
Medium-sized				
Cabletron Network Systems Limited	1,048,227	660,384	693,403	728,073
Cornwall Communications Limited	4,153,405	2,616,645	2,747,478	2,884,852
Logic One Limited	6,006,122	3,783,857	3,973,050	4,171,703
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	973,105	1,021,760	1,072,848
General Satellite Network Company Limited	1,146,457	722,268	758,382	796,301
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	-	-	-
Modern Rebroadcasting Company Limited	334,430	-	-	-
Odyssey Cable Vision Limited	342,304	-	-	-

SCENARIO 13	2016 \$ ACTUAL LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
Small-sized (continued)				
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	1,599,451	1,679,423	1,763,395
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	698,125	733,031	769,683
Linscom Network Limited	1,259,605	793,551	833,229	874,890
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	1,060,742	1,113,779	1,169,468
Santastic Cable Systems Limited	1,057,329	666,117	699,423	734,394
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Westsar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	210,584,655	221,113,888	232,169,582
Per cent Increase/(Decrease) over 2016 Actual		(20.47)	(16.49)	(12.32)
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 14

Assumptions 14:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Merger of small-sized STV operators to form medium-sized STV operators where such operators paid licence fees greater than \$1 million during 2016.

Licence fees paid by small-sized STV operators – 0 per cent

Licence fees paid by medium-sized STV operators – 4 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited –Classified as medium-sized STV operator.

Table 39

Projection: Based on Assumptions 14

		PROJECTION FOR YEAR		
SCENARIO 14	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	880,511	924,537	970,764
Cornwall Communications Limited	4,153,405	3,488,861	3,663,304	3,846,469
Logic One Limited	6,006,122	5,045,143	5,297,400	5,562,270
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	1,297,473	1,362,347	1,430,464
General Satellite Network Company Limited	1,146,457	963,025	1,011,176	1,061,735
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	1,338,535	1,405,462	1,475,735
Modern Rebroadcasting Company Limited	334,430	-	-	-

		PROJECTION FOR YEAR		
SCENARIO 14	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Small-sized (continued)				
Odyssey Cable Vision Limited	342,304	-	-	-
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	2,132,601	2,239,231	2,351,193
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	930,833	977,375	1,026,244
Linscom Network Limited	1,259,605	1,058,069	1,110,972	1,166,521
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	1,414,323	1,485,039	1,559,291
Santastic Cable Systems Limited	1,057,329	888,157	932,564	979,193
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Weststar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	264,445,664	277,667,948	291,551,345
Per cent Increase/(Decrease) over 2016 Actual		(0.13)	4.86	10.11
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 15

Assumptions 15:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Merger of small-sized STV operators to form medium-sized STV operators where such operators paid licence fees greater than \$1 million during 2016.

Licence fees paid by other small-sized STV operators – 0 per cent

Licence fees paid by medium-sized STV operators – 5 per cent

Licence fees paid by large-sized STV operators – 5 per cent

Combined Communications Limited – Classified as medium-sized STV operator.

Table 40

Projection: Based on Assumptions 15

		PROJECTION FOR YEAR		
SCENARIO 15	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Large-sized				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Medium-sized				
Cabletron Network Systems Limited	1,048,227	1,100,639	1,155,671	1,213,455
Cornwall Communications Limited	4,153,405	4,361,076	4,448,297	4,537,263
Logic One Limited	6,006,122	6,306,429	6,432,558	6,561,209
Small-sized				
Astra Technology Limited	30,922	-	-	-
Cable One Jamaica Limited	597,040	-	-	-
Communicable Limited	718,308	-	-	-
Central Communications Services Limited	333,793	-	-	-
CTL Limited	1,544,610	1,621,841	1,702,934	1,788,080
First Choice Cable Services Limited	-	-	-	-
General Satellite Network Company Limited	1,146,457	1,203,781	1,263,970	1,327,168
Jamaica Cablevision Limited	688,133	-	-	-
Mars Cable Vision Limited	1,593,494	1,673,169	1,756,827	1,844,669
Modern Rebroadcasting Company Limited	334,430	-	-	-

		PROJECTION FOR YEAR		
SCENARIO 15	2016 \$ ACTUAL LICENCE	1 \$	2 \$	3 \$
Small-sized (continued)				
Odyssey Cable Vision Limited	342,304	-	-	-
Q46 Limited	750,559	-	-	-
Total Cable Limited	181,722	-	-	-
Not Included in Research Sample				
Advance Cable Systems Company Limited	14,476	-	-	-
Central Clarendon Cable Limited	27,350	-	-	-
Combined Communications Limited	2,538,811	2,665,751	2,799,039	2,938,991
Gemini Cable Network Limited	234,150	-	-	-
Horizon Entertainment & Communications Company Limited	240,553	-	-	-
Inntech Communications Limited	1,108,135	1,163,541	1,221,718	1,282,804
Linscom Network Limited	1,259,605	1,322,586	1,388,715	1,458,151
McKoy's Cable Television Limited	746,628	-	-	-
Nem's Electric and Satellite Limited	9,900	-	-	-
Network Cable Services Limited	220,409	-	-	-
Procables Network Limited	490,125	-	-	-
Quality Cable Services Limited	42,250	-	-	-
Rural Cable Company Limited	69,930	-	-	-
St. Thomas Cable Network Limited	1,683,718	1,767,904	1,856,299	1,949,114
Santastic Cable Systems Limited	1,057,329	1,110,196	1,165,705	1,223,991
Cable Network Limited/Gemini Cablevision Ltd.	123,200	-	-	-
Stars Cable Company Limited	847,797	-	-	-
Somane Pesole Communications Limited	33,155	-	-	-
Summit Satellite Systems Limited	530,730	-	-	-
Tru-Star Cable Television	33,030	-	-	-
Venus Cable Services Limited	65,748	-	-	-
Weststar Communications Limited	335,390	-	-	-
Satcom Cable Television Network	265,891	-	-	-
TOTAL LICENCE FEES PAID TO BCJ	264,788,923	269,305,047	282,450,274	296,246,362
Per cent Increase/(Decrease) over 2016 Actual		1.71	6.67	11.88
REVENUE AS PER BCJ AUDITED FINANCIAL STATEMENTS	263,768,820			

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Licence fees payable to the BCJ - under the proposed regulatory approaches.

Table 41

Projected Impact on BCJ fees based on Scenarios 1-10

SCENARIO	2016 Actual \$	PROJECTIONS FOR YEAR						
		1 \$	Per cent Δ	2 \$	Per cent Δ	3 \$	Per cent Δ	TOTAL (3 years)
1	264,788,923	259,442,029	(2.02)	272,414,131	2.88	286,034,837	8.02	817,890,998
2	264,788,923	266,876,565	0.79	280,220,393	5.83	294,231,413	11.12	841,328,372
3	264,788,923	263,379,425	(0.53)	276,548,396	4.44	290,375,816	9.66	830,303,638
4	264,788,923	256,555,250	(3.11)	262,032,769	(1.04)	274,153,492	3.54	792,741,511
5	264,788,923	263,989,786	(0.30)	277,189,275	4.68	291,048,739	9.92	832,227,801
6	264,788,923	260,272,518	(1.71)	273,286,144	3.21	286,950,451	8.37	820,500,114
7	264,788,923	253,668,471	(4.20)	266,351,895	0.59	279,669,490	5.62	799,689,856
8	264,788,923	261,103,007	(1.39)	274,158,157	3.54	287,866,065	8.72	823,127,230
9	264,788,923	257,385,739	(2.80)	270,255,026	2.06	283,767,777	7.17	811,408,543
10	264,788,923	204,666,844	(22.71)	214,900,187	(18.84)	225,645,196	(14.78)	645,212,227
11	264,788,923	212,101,380	(19.90)	222,706,449	(15.89)	233,841,772	(11.69)	668,649,601
12	264,788,923	209,137,390	(21.02)	219,594,260	(17.07)	230,573,973	(12.92)	659,305,623
13	264,788,923	210,584,655	(20.47)	221,113,888	(16.49)	232,169,582	(12.32)	663,868,125
14	264,788,923	264,445,664	(0.13)	277,667,948	4.86	291,551,345	10.11	833,664,957
15	264,788,923	269,305,047	1.71	282,450,274	6.67	296,246,362	11.88	848,001,684

Table 41 reflects the proposed licence fees as a percentage of gross subscription income that would be payable to the BCJ under the proposed fifteen (15) scenarios. A review of the projections revealed that scenarios 1, 2, 3, 5, 6, 8, and 9, have seven highest total licence fees, over the projected period, where the tiered regulatory system is *based on the size of the STV operators* and there are *no mergers* of the companies.

For both scenarios 1, 2 and 3, the proposed licence fees are 5 per cent on gross subscription income for both the large-sized and medium-sized STV operators; while the small-sized STV operators' proposed licence fees are none, 2 per cent and 1 per cent, respectively. These scenarios would effectively be *two-tiered* systems, since the large-sized and the medium-sized STV

operators would be paying at the same licence fees rate, even though the differential would be the level of gross subscription income earned. For scenarios 5, 6, 8 and 9 are all proposed *three-tiered* licence fees for the large-sized, the medium-sized, and the small-sized STV operators as depicted in Table 25 (p.126). In the case of scenarios 14 and 15, it is assumed that the small-sized STV operators/companies, which paid licence fees greater than J\$1 million for the year 2016, would merge to become medium-sized STV operators. The proposed licence fees as a per cent of gross subscription income for the large-sized, medium-sized and small-sized STV operators, in scenario 14 are 5 per cent, 4 per cent and none respectively, hence effectively a *three-tiered* system; while that for scenario 15 are 5 per cent, 5 per cent and none respectively – effectively a *two-tiered system*. As classified, for scenarios 1, 2, 3 and 15 there would be no differential between the large-sized and medium-sized STV operators, which could negatively impact the motivation of the small-sized STV operators in regard to growth, collaboration and innovation.

Scenarios 4, 7, 10, 11, and 12 are also reflective of *three-tiered* regulatory systems that could be considered by the BCJ, even though the total projected income are lower than the other scenarios.

Assessment of the sustainability of STV operations under the proposed regulatory approaches

The sustainability of the STV operations under the proposed regulatory approaches is now examined. The review is restricted to the small-sized STV operators in the research sample, since the financial implications would be similar for the others, all things being equal. The research review is positioned on scenarios 1, 2, 3, 5, 6, 8, 9, 14 and 15 as synchronized to the prior section (Licence fees payable to the BCJ – under the proposed regulatory approaches), and the projected reduction or increase in licence fees depicted in Tables 42 to 50 (pp.161-167). In scenarios 2, 5

and 8 the small-sized STV operators are projected to pay licence fees of 2 per cent of gross subscription income (Table 42, p.161); in scenarios 3, 6, and 9 that group of STV operators is projected to pay licence fees of 1 per cent of gross subscription income (Table 43, pp.161-162), while for scenarios 1, 14 and 15 the said group is **not** projected to pay licence fees over the three-year projections.

If the criteria, (annual business plans submitted to and approved by the BCJ at the commencement of each year) as determined for the three-year period, are met and all other assumptions hold true, the STV operators/companies should experience reduction in the licence fees expenditure for all scenarios, except for scenario 15. The projected reduction in licence fees paid by the STV operators should, all things being equal, result in availability of funds to support administrative expenditure, technical support, and acquisition of equipment or an increase in the profits of the STV companies.

However, there are projected reductions as well as projected increases in licence fees expenditure for scenario 15 of the proposed regulatory approaches (Table 50, pp.166-167). In this scenario, which posited possible mergers of small-sized STV operators with licence fees greater than J\$1 million for the year 2016, there are negligible increases (between J\$50,000 and J\$500,000) for the total of the three-year projected fees over the licence fees for base year (2016), and therefore should not significantly impact these STV operators, as this is predicated on the increased market share and customers arising from the merger.

For scenarios 1, 2, and 3, no change in the licence fees was projected for the medium-sized and large-sized STV operators, hence only the sample's small-sized STV operators projected reductions in licence fees are considered.

Table 42

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 1

SCENARIO 1	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized				
Astra Technology Limited	30,923	30,923	30,923	92,769
Cable One Jamaica Limited	597,040	597,040	597,040	1,791,120
CTL Limited	1,544,611	1,544,611	1,544,611	4,633,833
Communicable Limited	718,308	718,308	718,308	2,154,924
Central Communication Services Limited	333,793	333,793	333,793	1,001,379
General Satellite Network Company Limited	1,146,458	1,146,458	1,146,458	3,439,374
Jamaica Cablevision Limited	688,133	688,133	688,133	2,064,399
Mars Cable Vision Limited	1,593,494	1,593,494	1,593,494	4,780,482
Modern Rebroadcasting Company Limited	334,431	334,431	334,431	1,003,293
Odyssey Cable Vision Limited	342,305	342,305	342,305	1,026,915
Q46 Limited	750,559	750,559	750,559	2,251,677
Total Cable Limited	181,723	181,723	181,723	545,169

Table 43

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 2

SCENARIO 2	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized				
Astra Technology Limited	17,935	17,286	16,604	51,825
Cable One Jamaica Limited	346,283	333,745	320,581	1,000,609
CTL Limited	895,874	863,438	829,379	2,588,691
Central Communication Services Limited	193,600	186,590	179,230	559,420
Communicable Limited	416,619	401,534	385,696	1,203,849
General Satellite Network Company Limited	664,946	640,870	615,590	1,921,406
Jamaica Cablevision Limited	399,117	384,667	369,493	1,153,277

SCENARIO 2	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized (continued)				
Mars Cable Vision Limited	924,227	890,763	855,627	2,670,617
Modern Rebroadcasting Company Limited	193,970	186,947	179,573	560,490
Odyssey Cable Vision Limited	198,537	191,348	183,801	573,686
Q46 Limited	435,324	419,562	403,013	1,257,899
Total Cable Limited	105,399	101,583	97,576	304,558

Table 44

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 3

SCENARIOS 3	PROJECTED REDUCTION IN LICENCE FEES FOR SMALL-SIZED STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized				
Astra Technology Limited	24,429	24,104	23,763	72,296
Cable One Jamaica Limited	471,662	465,393	458,811	1,395,866
Central Communications Services Limited	263,696	260,192	256,511	780,399
CTL Limited	1,220,243	1,204,024	1,186,995	3,611,261
Communicable Limited	567,464	559,921	552,002	1,679,387
General Satellite Network Company Limited	905,702	893,664	881,024	2,680,390
Jamaica Cablevision Limited	543,625	536,400	528,813	1,608,838
Mars Cable Vision Limited	1,258,860	1,242,129	1,224,560	3,725,549
Modern Rebroadcasting Company Limited	264,200	260,689	257,002	781,891
Odyssey Cable Vision Limited	270,421	266,827	263,053	800,301
Q46 Limited	592,942	585,061	576,786	1,754,789
Total Cable Limited	143,561	141,653	139,649	424,863

For scenarios 5, 6, 8, 9 and 14 no changes in the licence fees were projected for the large-sized STV operators, hence only the sample's small-sized, and medium-sized STV operators projected reductions in licence fees are included in Tables 45 to 49 (pp.163-166).

Table 45

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 5

SCENARIO 5	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Medium-sized				
Cabletron Network System Limited	167,716	123,691	77,464	368,871
Cornwall Communications Limited	664,545	490,102	306,937	1,461,584
Logic One Limited	960,980	708,723	443,852	2,113,555
Small-sized				
Astra Technology Limited	17,935	17,286	16,604	51,825
Cable One Jamaica Limited	346,283	333,745	320,581	1,000,609
CTL Limited	895,874	863,438	829,379	2,588,691
Central Communication Services Limited	193,600	186,590	179,230	559,420
Communicable Limited	416,619	401,534	385,696	1,203,849
General Satellite Network Company Limited	664,946	640,870	615,590	1,921,406
Jamaica Cablevision Limited	399,117	384,667	369,493	1,153,277
Mars Cable Vision Limited	924,227	890,763	855,627	2,670,617
Modern Rebroadcasting Company Limited	193,970	186,947	179,573	560,490
Odyssey Cable Vision Limited	198,537	191,348	183,801	573,686
Q46 Limited	435,324	419,562	403,013	1,257,899
Total Cable Limited	105,399	101,583	97,576	304,558

Table 46

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches – Scenario 6

SCENARIO 6	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Medium-sized				
Cabletron Network System Limited	167,716	123,691	77,464	368,871
Cornwall Communications Limited	664,545	490,102	306,937	1,461,584
Logic One Limited	960,980	708,723	443,852	2,113,555

SCENARIO 6 (continued)	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized				
Astra Technology Limited	24,429	24,104	23,763	72,296
Cable One Jamaica Limited	471,662	465,393	458,811	1,395,866
CTL Limited	1,220,243	1,204,024	1,186,995	3,611,261
Central Communication Services Limited	263,696	260,192	256,511	780,399
Communicable Limited	567,464	559,921	552,002	1,679,387
General Satellite Network Company Limited	905,702	893,664	881,024	2,680,390
Jamaica Cablevision Limited	543,625	536,400	528,813	1,608,838
Mars Cable Vision Limited	1,258,860	1,242,129	1,224,560	3,725,549
Modern Rebroadcasting Company Limited	264,200	260,689	257,002	781,891
Odyssey Cable Vision Limited	270,421	266,827	263,053	800,301
Q46 Limited	592,942	585,061	576,786	1,754,789
Total Cable Limited	143,561	141,653	139,649	424,863

Table 47

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 8

SCENARIO 8	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Medium-sized				
Cabletron Network System Limited	387,844	354,825	320,155	1,062,824
Cornwall Communications Limited	1,536,760	1,405,928	1,268,554	4,211,242
Logic One Limited	2,222,265	2,033,073	1,834,420	6,089,758
Small-sized				
Astra Technology Limited	17,935	17,286	16,604	51,825
Cable One Jamaica Limited	346,283	333,745	320,581	1,000,609
CTL Limited	895,874	863,438	829,379	2,588,691
Central Communication Services Limited	193,600	186,590	179,230	559,420
Communicable Limited	416,619	401,534	385,696	1,203,849
General Satellite Network Company Limited	664,946	640,870	615,590	1,921,406
Jamaica Cablevision Limited	399,117	384,667	369,493	1,153,277
Mars Cable Vision Limited	924,227	890,763	855,627	2,670,617

SCENARIO 8	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized (continued)				
Modern Rebroadcasting Company Limited	193,970	186,947	179,573	560,490
Odyssey Cable Vision Limited	198,537	191,348	183,801	573,686
Q46 Limited	435,324	419,562	403,013	1,257,899
Total Cable Limited	105,399	101,583	97,576	304,558

Table 48

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 9

SCENARIO 9	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Medium-sized				
Cabletron Network System Limited	387,844	354,825	320,155	1,062,824
Cornwall Communications Limited	1,536,760	1,405,928	1,268,554	4,211,242
Logic One Limited	2,222,265	2,033,073	1,834,420	6,089,758
Small-sized				
Astra Technology Limited	24,429	24,104	23,763	72,296
Cable One Jamaica Limited	471,662	465,393	458,811	1,395,866
CTL Limited	1,220,243	1,204,024	1,186,995	3,611,261
Central Communication Services Limited	263,696	260,192	256,511	780,399
Communicable Limited	567,464	559,921	552,002	1,679,387
General Satellite Network Company Limited	905,702	893,664	881,024	2,680,390
Jamaica Cablevision Limited	543,625	536,400	528,813	1,608,838
Mars Cable Vision Limited	1,258,860	1,242,129	1,224,560	3,725,549
Modern Rebroadcasting Company Limited	264,200	260,689	257,002	781,891
Odyssey Cable Vision Limited	270,421	266,827	263,053	800,301
Q46 Limited	592,942	585,061	576,786	1,754,789
Total Cable Limited	143,561	141,653	139,649	424,863

Table 49

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches –Scenario 14

SCENARIO 14	PROJECTED REDUCTION IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Medium-sized				
Cabletron Network System Limited	167,716	123,691	77,464	368,871
Cornwall Communications Limited	664,545	490,102	306,937	1,461,584
Logic One Limited	960,980	708,723	443,852	2,113,555
Small-sized				
Astra Technology Limited	30,923	30,923	30,923	92,769
Cable One Jamaica Limited	597,040	597,040	597,040	1,791,120
CTL Limited	247,138	182,264	114,147	543,549
Central Communication Services Limited	333,793	333,793	333,793	1,001,379
Communicable Limited	718,308	718,308	718,308	2,154,924
General Satellite Network Company Limited	183,433	135,282	84,723	403,438
Jamaica Cablevision Limited	688,133	688,133	688,133	2,064,399
Mars Cable Vision Limited	254,959	188,032	117,759	560,751
Modern Rebroadcasting Company Limited	334,431	334,431	334,431	1,003,293
Odyssey Cable Vision Limited	342,305	342,305	342,305	1,026,915
Q46 Limited	750,559	750,559	750,559	2,251,677
Total Cable Limited	181,723	181,723	181,723	545,169

Table 50

Projected Changes in Licence fees based on Proposed Tiered Regulatory Approaches – Scenario 15

SCENARIO 15	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR SMALL-SIZED STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized				
Astra Technology Limited	(30,923)	(30,923)	(30,923)	(92,768)
Cable One Jamaica Limited	(597,040)	(597,040)	(597,040)	(1,791,121)
Cabletron Network Systems Limited	52,411	107,443	165,227	325,082

SCENARIO 15	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR SMALL-SIZED STV OPERATORS FOR YEAR			
	1 \$	2 \$	3 \$	TOTAL \$
Small-sized (continued)				
Central Communications Services Limited	(333, 793)	(333, 793)	(333, 793)	(1,001,379)
CTL Limited	77,231	158,323	243,469	479,022
Communicable Limited	(718,308)	(718,308)	(718,308)	(2,154,925)
General Satellite Network Company Limited	57,323	117,512	180,710	355,545
Jamaica Cablevision Limited	(688,133)	(688,133)	(688,133)	(2,064,400)
Mars Cable Vision Limited	79,675	163,333	251,175	494,182
Modern Rebroadcasting Company Limited	(334,431)	(334,431)	(334,431)	(1,003,293)
Odyssey Cable Vision Limited	(342,305)	(342,305)	(342,305)	(1,026,914)
Q46 Limited	(750,559)	(750,559)	(750,559)	(2,251,677)
Total Cable Limited	(181,723)	(181,723)	(181,723)	(545,168)

**Identification of current income/fees, and the projection and/or estimate the income/fees
based on the alternative regulatory approaches**

Trinidad and Tobago (alternative system) as well as the United States of America (tiered regulatory system) utilized geographic location to determine their licence fees. Following this principle, the analysis of the alternative regulatory approaches focused on the geographic location of the STV operators in Jamaica. Using data from the Statistical Institute of Jamaica (2011) (Table 51, p.168) population density was utilized in the allocation of the STV operators in the tiers.

Table 51

Population Density as per Statistical Institute of Jamaica 2011

Population per Square Kilometre	Parishes
86 - 100	Portland Trelawny
101 - 200	Hanover St. Ann St. Elizabeth St. Mary St. Thomas Westmoreland
201 - 300	Clarendon Manchester
301 - 400	St.James (Second city located)
400 +	Kingston St. Andrew St. Catherine

The proposed alternative system was based on geographic location - specifically population density in Jamaica *coupled with* subscription income. The analysis of income/fees on the alternative regulatory approaches was based on the research sample, since the result can be extrapolated to the other STV operators. The base utilized for the projections was the licence fees (BCJ Subscriber and Industry Information, February, 2017) generated in 2016. Where a STV has licence to operate in *more than one parish*, the base year licence fees were allocated in equal proportion to the number of parishes in which the STV operated (Table 52, pp.169-170).

The projection was for a three-year period, to facilitate comparison with the other scenarios under the regulatory approaches where possible. The Consumer Price Index fiscal year inflation for the fiscal year March 2016 - March 2017 is 4.1 per cent (Statistical Institute of Jamaica, 2017), and since inflation is expected to continue its upward trend the calculations of the scenarios utilized an inflation rate of 5 per cent across the years.

Table 52

Classification of Selected STV operators Based on Location of Service in Jamaica

Population Density¹	STV Operators²	Location(s) in which STV operators/companies are located	Allocation based on number of parishes	2016 Licence Fees
			\$	\$
86 - 100	Astra Technology Limited	Portland		30,923
	Modern Rebroadcasting Company Limited	Trelawny, St. James	334,431	167,215
	Cornwall Communications Limited	Trelawny, St. James, St. Catherine, Westmoreland, Hanover	4,153,405	1,038,351
101- 200	Central Communication Services Limited	St. Ann		333,793
	Odyssey Cable Vision Limited	St. Ann		342,305
	QES 46 Limited	Hanover, Westmoreland		750,559
	Total Cable Limited	St. Elizabeth		181,723
	Cable One Jamaica Limited	St. Mary Clarendon		597,040
	Cornwall Communications Limited	Westmoreland, Trelawny, St. James, St. Catherine, Hanover	4,153,405	1,038,351
	Cabletron Network Systems Limited	Westmoreland		1,048,228
	Communicable Limited	Westmoreland		718,308
201 - 300	General Satellite Network Company Limited	Clarendon		1,14,458
301- 400	Cornwall Communications Limited	St. James, Trelawny, St. Catherine, Westmoreland, Hanover	4,153,405	1,038,351
	Modern Rebroadcasting Company Limited	Trelawny, St. James	334,331	167,215
	Mars Cable Vision Limited	Manchester Clarendon		1,593,494
400 +	Columbus Communications/Flow	Islandwide		206,887,406
	Digicel Jamaica Ltd /Telstar Cable Ltd	Kingston & St. Andrew, National licence		26,453,674
	Logic One Limited	Kingston & St. Andrew		6,006,123
	CTL Limited	Kingston & St. Andrew		1,544,611

Population Density ¹	STV Operators ²	Location(s) in which STV operators/companies are located	Allocation based on number of parishes	2016 Licence Fees
			\$	\$
400 + (continued)	Jamaica CableVision Limited	St. Catherine		688,133
	Cornwall Communications Limited	St. Catherine, Trelawny, St. James, Westmoreland, Hanover	4,153,405	1,038,351

¹ Statistical Institute of Jamaica 2011

² Classification source BCJ (2014b)

Table 53 indicates the five tiers identified in the Statistical Institute of Jamaica map for population density in Jamaica, and two proposed alternative scenarios based on the per cent of subscription income, for each identified tier. Subsequently, the scenarios are presented along with their assumptions.

Table 53

Summary of Proposed Five-tiered Alternative Regulatory System

	SCENARIOS	
Geographic Location Classification	1	2
	Per cent of Subscription Income	Per cent of Subscription Income
400 +	5	5
301 - 400	5	4
201 - 300	4	3
101 - 200	2	1
86 - 100	1	0

Scenario 1 –Alternative Regulatory System

Assumptions 1:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees based on Table 53 (p.170)

Table 54

Projection: Based on Assumptions 1- Alternative Regulatory System

SCENARIO 1 –Alternative Regulatory System	2016 \$ ACTUAL/ ALLOCATED LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
400 +				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Logic One Limited	6,006,122	6,306,429	6,432,558	6,561,209
CTL Limited	1,544,610	1,621,841	1,702,934	1,788,080
Jamaica Cablevision Limited	688,133	722,540	758,667	796,600
Cornwall Communications Limited ¹	1,038,351	1,090,269	1,144,782	1,202,021
300 - 400				
Cornwall Communications Limited ¹	1,038,351	872,215	915,826	961,617
Modern Rebroadcasting Company Limited ¹	167,215	140,461	147,484	154,858
Mars Cable Vision Limited	1,593,494	1,338,535	1,405,462	1,475,735
201 - 300				
General Satellite Network Company Limited	1,146,457	722,268	758,381	796,300
101 - 200				
Central Communications Services Limited	333,793	140,193	147,203	154,563
Odyssey Cable Vision Limited	342,304	143,768	150,956	158,504
Q46 Limited	750,559	315,235	330,997	347,546
Total Cable Limited	181,722	76,324	80,140	84,147
Cable One Jamaica Limited	597,040	250,757	263,295	276,459

SCENARIO 1 –Alternative Regulatory System	2016 \$ ACTUAL/ ALLOCATED LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
101-200 (continued)				
Cornwall Communications Limited ¹	1,038,351	436,108	457,913	480,809
Cabletron Network Systems Limited	1,048,227	440,256	462,268	485,382
Communicable Limited	718,308	301,690	316,774	342,116
86 - 100				
Astra Technology Limited	30,922	6,494	6,818	7,159
Modern Rebroadcasting Company Limited ¹	167,215	35,115	36,871	38,715
Cornwall Communications Limited ¹	1,038,351	218,054	228,956	240,404
TOTAL FEE	252,810,614	260,186,685	273,006,826	286,518,122
Per Cent Change over actual/allocated 2016 licence fees		2.92	7.99	13.33

¹ Actual total licence fees allocated in proportion to the number of parishes in which the STV operator/company are located.

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Scenario 2 –Alternative Regulatory System

Assumptions 2:

Five (5) per cent inflation

Base year – Actual for 2016

Inflation for years 2 and 3 continue at five (5) per cent

Annual Business Plan for the small-sized and/or medium-sized STV operators/companies submitted to and approved by the BCJ at the commencement of each projected year.

Licence fees based on Table 53 (p.170)

Table 55

Projection: Based on Assumptions 2- Alternative Regulatory System

SCENARIO 2 –Alternative Regulatory System	2016 \$ ACTUAL/ ALLOCATED LICENCE	PROJECTION FOR YEAR		
		1 \$	2 \$	3 \$
400 +				
Columbus Communications/Flow	206,887,406	217,231,776	228,093,365	239,498,033
Digicel Jamaica Ltd./Telstar Cable Limited	26,453,674	27,776,358	29,165,176	30,623,434
Logic One Limited	6,006,122	6,306,429	6,432,558	6,561,209
CTL Limited	1,544,610	1,621,841	1,702,934	1,788,080
Jamaica Cablevision Limited	688,133	722,540	758,667	796,600
Cornwall Communications Limited ¹	1,038,351	1,090,269	1,144,782	1,202,021
300 - 400				
Cornwall Communications Limited ¹	1,038,351	654,161	686,869	721,213
Modern Rebroadcasting Company Limited ¹	167,215	105,346	110,613	116,144
Mars Cable Vision Limited	1,593,494	1,003,901	1,054,096	1,106,801
201 - 300				
General Satellite Network Company Limited	1,146,457	481,512	505,588	530,867
101 - 200				
Central Communications Services Limited	333,793	70,097	75,601	77,281
Odyssey Cable Vision Limited	342,304	71,884	75,478	79,252
Q46 Limited	750,559	157,617	165,498	173,773
Total Cable Limited	181,722	76,324	80,140	84,147

		PROJECTION FOR YEAR		
SCENARIO 2 –Alternative Regulatory System	2016 \$ ACTUAL/ ALLOCATED LICENCE	1 \$	2 \$	3 \$
101-200 (continued)				
Cable One Jamaica Limited	597,040	125,378	131,647	138,230
Cornwall Communications Limited ¹	1,038,351	218,054	228,956	240,404
Cabletron Network Systems Limited	1,048,227	440,256	462,268	485,382
Communicable Limited	718,308	150,845	158,387	171,058
86 - 100				
Astra Technology Limited	30,922	-	-	-
Modern Rebroadcasting Company Limited ¹	167,215	-	-	-
Cornwall Communications Limited ¹	1,038,351	-	-	-
TOTAL FEE	252,810,614	258,304,588	271,032,623	284,393,929
Per Cent Change over actual/allocated 2016 licence fees		2.17	7.21	12.49

¹ Actual total licence fees allocated in proportion to the number of parishes in which the STV operator/company are located.

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Licence fees payable to the BCJ – under the proposed alternative approaches

Table 56

Projected Impact on BCJ fees based on Scenarios 1-2 Alternative Regulatory System

		PROJECTIONS FOR YEAR						
SCENARIO	2016 Actual/ \$	1 \$	Per cent Δ	2 \$	Per cent Δ	3 \$	Per cent Δ	TOTAL (3 years)
1	252,810,614	260,186,685	2.92	273,006,826	7.99	286,518,122	13.33	820,248,028
2	252,810,614	258,304,588	2.17	271,032,623	7.21	284,393,929	12.49	814,309,966

Table 56 reflects the proposed licence fees as a per cent of gross subscription income that would be payable to the BCJ under the proposed two (2) scenarios. A review of the projections

revealed that for both scenarios, the total projected licence fees for all three years are higher than 2016 actual licence fees collected by the BCJ; where the five-tiered alternative system is *based on the geographic location of the STV operators* coupled with a percentage of gross subscription income. However the implementation of foregoing alternative regulatory approaches can be problematic where a STV operator conducts business across the tiers, as for example Cornwall Communications Limited. The assumption of equal distribution over the number of parishes, dependent upon the number of subscribers in the parish, may or may not be justifiable or fair to the STV operator.

Further to the above, the implications of the alternative regulatory system for the STV operators were considered.

Assessment of sustainability of STV operations under the proposed alternative approaches

Table 57

Projected Changes in Licence fees based on Proposed Tiered Alternative Regulatory Approaches

– Scenario 1

	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
SCENARIO 1 – Alternative Regulatory System	1 \$	2 \$	3 \$	TOTAL \$
400 +				
Columbus Communications/Flow	10,344,370	21,205,959	32,610,627	64,160,956
Digicel Jamaica Ltd./Telstar Cable Limited	1,322,684	2,711,502	4,169,760	8,203,946
Logic One Limited	300,307	426,436	946,716	1,673,459
CTL Limited	77,231	158,324	243,470	479,025
Jamaica Cablevision Limited	34,407	70,534	108,467	213,408
Cornwall Communications Limited ¹	51,918	106,431	163,670	322,019
300 - 400				
Cornwall Communications Limited ¹	(166,136)	(122,525)	(76,734)	(365,395)
Modern Rebroadcasting Company Limited ¹	(26,754)	(19,731)	(12,357)	(58,842)
Mars Cable Vision Limited	(254,959)	(188,032)	(117,759)	(560,750)
201 - 300				
General Satellite Network Company Limited	(424,189)	(388,076)	(350,157)	(1,162,422)

	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR STV OPERATORS FOR YEAR			
SCENARIO 1 – Alternative Regulatory System (continued)	1 \$	2 \$	3 \$	TOTAL \$
101 - 200				
Central Communications Services Limited	(193,600)	(186,590)	(179,230)	(559,420)
Odyssey Cable Vision Limited	-(198,536)	(191,348)	(183,800)	(573,684)
Q46 Limited	(435,324)	(419,562)	(750,211)	(1,605,097)
Total Cable Limited	(105,398)	(101,582)	(97,575)	(304,555)
Cable One Jamaica Limited	(346,283)	(333,745)	(320,581)	(1,740,223)
Cornwall Communications Limited ¹	(602 ,243)	(580,438)	(557,542)	(1,740,223)
Cabletron Network Systems Limited	(607,971)	(585,959)	(562,845)	(1,756,775)
Communicable Limited	(416,618)	(401,534)	(376,192)	(1,194,344)
86 - 100				
Astra Technology Limited	(24,428)	(24,104)	(23,763)	(72,295)
Modern Rebroadcasting Company Limited ¹	(132,100)	(130,344)	(128,500)	(390,944)
Cornwall Communications Limited ¹	(820,297)	(809,395)	(797,947)	(2,427,639)

¹ Actual total licence fees allocated in proportion to the number of parishes in which the STV operator/company are located.

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

Table 58

Projected Changes in Licence fees based on Proposed Tiered Alternative Regulatory - Approaches

- Scenario 2

	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR SMALL-SIZED STV OPERATORS FOR YEAR			
SCENARIO 2 – Alternative Regulatory System	1 \$	2 \$	3 \$	TOTAL \$
400 +				
Columbus Communications/Flow	10,344,370	21,205,959	32,610,627	64,160,956
Digicel Jamaica Ltd./Telstar Cable Limited	1,322,684	2,711,502	4,169,760	8,203,946
Logic One Limited	300,307	426,436	946,716	1,673,459
CTL Limited	77,231	158,324	243,470	479,025
Jamaica Cablevision Limited	34,407	70,534	108,467	213,408
Cornwall Communications Limited ¹	51,918	106,431	163,670	322,019
300 - 400				
Cornwall Communications Limited ¹	(384,190)	(351,4820)	(317,138)	(!,052,810)
Modern Rebroadcasting Company Limited ¹	(61,8690)	(56,602)	(51,071)	(169,542)
Mars Cable Vision Limited	(589,593)	(539,398)	(486,693)	(1,615,684)

	PROJECTED INCREASE/(REDUCTION) IN LICENCE FEES FOR SMALL-SIZED STV OPERATORS FOR YEAR			
SCENARIO 2 –Alternative Regulatory System (continued)	1	2	3	TOTAL
	\$	\$	\$	\$
201 - 300				
General Satellite Network Company Limited	(664,945)	(640,869)	(615,590)	(1,921,404)
101 - 200				
Central Communications Services Limited	(263,696)	((258,192)	(256,512)	(778,400)
Odyssey Cable Vision Limited	(270,420)	(266,826)	(263,052)	(800,298)
Q46 Limited	(592,942)	(585,061)	(576,786)	(1,754,789)
Total Cable Limited	(105,398)	(101,582)	(97,575)	(304,555)
Cable One Jamaica Limited	(471,662)	(465,393)	(458,810)	(1,395,865)
Cornwall Communications Limited ¹	(820,297)	(809,395)	(797,947)	(2,427,639)
Cabletron Network Systems Limited	(607,971)	(585,959)	(562,845)	(1,756,775)
Communicable Limited	(567,463)	(559,921)	(547,250)	(1,674,634)
86 - 100				
Astra Technology Limited	(30,922)	(30,922)	(30,922)	(92,766)
Modern Rebroadcasting Company Limited ¹	(167,215)	(167,215)	(167,215)	(501,645)
Cornwall Communications Limited ¹	(1,038,351)	(1,038,351)	(1,038,351)	(3,115,053)

¹Actual total licence fees allocated in proportion to the number of parishes in which the STV operator/company are located.

SOURCE: BCJ STV Subscriber and Industry Information, February 2017

The sustainability of the STV operations under the proposed alternative regulatory approaches is now examined. The review examined all the STV operators in the research sample. A close examination of the projections for scenarios 1 and 2 – alternative regulatory approaches indicated that the STV operators classified between 86 – 400 population per square kilometre (Statistical Institute of Jamaica, 2011) all benefited from reduction in the licence fees. On the other hand, the STV operators classified as 400 and more were all projected to have increases in the licence fees based on the inflation assumptions.

Note specifically, the projected total licence fees for the three-year period for medium-sized STV operator – Cornwall Communications Limited – that operated in several bands is J\$8.3

million for the alternative regulatory approach, as compared to J\$12.5 million under the regulatory approach.

RECOMMENDATIONS

Summary of existing legal framework in Jamaica and other jurisdictions

The legal frameworks of five (5) countries were reviewed. These countries included Jamaica, Trinidad and Tobago, India, United Kingdom and the United States of America with a focus on New York City.

The research revealed that in Jamaica the STV industry is regulated by the BCJ, which is a state/government run organization. The laws governing the Jamaican STV industry are the Broadcasting and Radio Re-Diffusion Act 1949 (BRRA) and the Television and Sound Broadcasting Regulations 1996 (TSBR). The BRRA establishes the BCJ and makes it mandatory for STV operators to have a licence to operate. The BRRA also stipulates a nationality requirement for STV operators, whereby an STV service must be controlled by Jamaicans and/or nationals of CARICOM territories. The BRRA provides for three categories of licencees to operate an STV service, namely: wired, wireless and special licences, the first two are self-explanatory, a special licence allows and STV operator to operator island-wide. The BRRA prescribes a fine of J\$500,000 or a term of imprisonment of three years for individuals who operate an STV service without a licence.

The TSBR prescribes the various fees which are to be paid by STV operators. These fees include an initial non-refundable fee of J\$110,000, a fee based on the economic value of the zones in which a STV operator conduct business in, and an annual licence fee of 5 per cent of total gross annual revenues earned. The current legal framework in Jamaica does not make provision for a tiered regulatory or alternative system, as all STV operators pay the same annual licence fee of 5 per cent as stated previously. There are proposed amendments to the BRRA, to include, *inter alia*,

enabling the BCJ to have the power to charge administrative fees and providing for other STV platforms such as IPTV and satellite television.

In Trinidad and Tobago, the legal framework is governed by the TA and the regulations made thereunder. The TA establishes the TATT as the regulatory body which has oversight of the STV industry. Under the TA a concession must be granted before one can operate an STV service. Correspondingly a fine of TT\$250,000 (J\$4,797,027.50) to operate and a term of imprisonment of five (5) years is the penalty for operating an STV service without a licence.

TA (Fees) Regulations provides for the payment of various fees by STV operators depending on the type of concession granted. The four types of concessions are Minor Territorial, Niche, Major Territorial and National. Minor Territorial and Niche concessionaires pay the lowest application fees of TT\$200 (J\$3,837.62). Major Territorial and National concessionaries pay an application fee of TT\$1000 (J\$19,188.11). STV operators who have been granted a Major Territorial and National concession also pay higher annual licence fees which are determined by a formula; the minimum fee payable for these types of STV licences is TT\$10,000 (J\$191,881.10). The minimum licence fees payable by Minor Territorial and Niche STV operators is TT\$1,000 (J\$19,188.11). The Niche category applies to STV operators who operate only in a part of Trinidad and Tobago, Minor Territorial refers to STV operators that conduct business in the island of Tobago only, Major Territorial is a term applied to STV operations in the island of Trinidad only, and National describes an operator licensed to provide STV service throughout Trinidad and Tobago.

The third country examined was India. STV operators are regulated by the TRAI. In India the STV sector comprises traditional cable television operators as well as satellite television (HITS and DTH) and internet based television services (IPTV). Traditional cable television operators, in

India include LCOs and MSOs. LCOs are traditional cable television operators who operate throughout India. MSOs are larger in size and typically provide several telecommunication services in addition to STV services. Both are required to be registered and pay licence fees. Under the CTNR, the registration fees for cable operators are Rs. 500 (J\$1,000). MSO are charged a registration fee of Rs. 100,000 (J\$200,000). Annual licence fees in India are Rs. 500 (J\$1,000). India also has a nationality requirement for registration as cable television operator, which is provided for under the CTNR

The fourth country examined was the United Kingdom (UK). The STV industry in the UK, comprises of mainly large players, including Virgin Media, BT, TalkTalk, and Sky. The legal and regulatory framework of the STV industry is governed mainly by the CA and the Ofcom. The OFCA establishes Ofcom as a government entity and defines the governance structure of Ofcom. The CA establishes Ofcom as the regulatory body in the UK for STV operators. The CA has also retained some of the provisions of the broadcasting Act BA 1996. The CA requires STV operators to acquire a TLCS licence before they can operate. Ofcom is also responsible for establishing the application and licence fees payable by STV operators. The application fees payable by STV operators is 2500 pounds (UK£) (J\$417,690.75). The minimum licence fees payable by STV operators is 1000 pounds (UK£) (J\$167,076.30). STV operators pay licence fees according to their annual earnings (Table 6, pp.76-77)

The final country examined was the United States of America (USA). STV operators in the USA are regulated by both Federal and State Law. The Federal Law which governs STV operators in the USA is the Communications Act 1934 (CA 1934). The CA 1934 establishes the Federal Communications Commission (FCC) as the oversight body for STV operators in the entire USA. The CA 1934 also empowers individual states to determine the licencing regulations

of STV operators. In New York City the Department of Information Technology and Telecommunications (DoITT) is the relevant oversight body for STV operators. The DoITT must receive approval from the City Council before a STV operator can be granted a franchise to operate. The annual licence fees charged by STV operators are not fixed by law in New York City and may vary. Franchises are granted based on the geographical location. A franchise granted may either include a city wide franchise to operate in the entire city of New York or a limited franchise to operate in a specific borough of New York City such as Queens. Though there are no fixed licence fees, the common licence fees gleaned from the contracts involving the various STV operators was 5 per cent.

Summary of concerns and challenges facing STV operators under the current legal framework, as well as concerns of the BCJ

Many of the concerns and challenges facing STV operators are especially pronounced among the small STV operators; these were expressed by them in the 2015 BCJ survey of STV operators to obtain their views on re-zoning (BCJ's Licencee Questionnaire, 2015). The concerns and challenges relevant to the present study are represented, as follows:

- Business contraction - largely influenced by:
 - cord-shaving and cord-cutting;
 - copyright enforcement and the high cost of content; and
 - competition from internet packages.
- Financial challenges:
 - liquidity issues;
 - financial gearing;
 - inadequate assets base;

- low profitability;
- high cost of customs duties and other fees payable for the importation of equipment for the industry in general and the DSO in particular.
- Social challenges:
 - theft of infrastructure
 - extortion
- Other challenges and concerns:
 - Insufficient JPS light poles to run cables;
 - concern that the larger operators may be using their dominant position and relationship with content providers to prevent other operators from accessing some content; and
 - burdensome administrative requirements such as licensed providers being required to submit a technical application to provide service, even when that licensee has already demonstrated ability and capacity to provide cable service.

The interviews conducted with Managers and Officers of the BCJ, along with documents and public statements, reflect the concern of the Commission for the various challenges faced by the small-sized STV operators. Also, there is a convergence of views from both the BCJ and STV operators on a number of issues that require urgent attention. The concerns of the BCJ are as follows:

- Small-sized STV operators' technical constraints: high cost of equipment required to complete the DSO; low levels of technical and record-keeping competency in some cases.
- Small-sized STV operators' administrative practices: low levels of compliance with record-keeping and provision of financial statements.

- Collaboration/cooperation among small-sized STV operators: inadequate levels of collaboration among STV providers to develop mutually beneficial arrangements for cost-sharing and income generation.
- Small-sized operators' financial constraints: high cost of equipment, copyright fees, BCJ fees, salaries for technical personnel – all coupled with the absence of any special loan arrangement for small-sized STV operators from any of the financial institutions.
- Small-sized operators' zone limitations: high cost of providing service to poorly populated areas; providing cable and equipment over geographically challenging terrain.
- Inadequacy of existing legislation and regulations: legal definition of 'broadcasting' too limited; need for 'broadcasting' to be given a platform neutral definition.
- Copyright compliance: high copyright fees; some channels not being offered even through copyright.
- Content opportunities/challenges: Lack of competitive content, including the need for quality indigenous content for national development; provision of alternative content to those provided on blocked channels, channels that require high copyright fees, and internet accessible content.
- Digital Switchover: Although most STV operators have completed the DSO, a few small-sized STV operators are yet to complete the process.

Summary of the use of three-tiered or other alternative systems, and their provisions for clear boundaries and incentives

All five jurisdictions were studied to determine if a tiered regulatory or alternative system existed. A tiered regulatory system is one that has different categories with clearly defined

boundaries for each category. An alternative system is one that does not have all the characteristics of a tiered regulatory system.

In Jamaica it was determined that no tiered regulatory system is in existence as all STV operators were charged annual licence fees of 5 per cent of gross annual subscription. This figure applied to STV operators regardless of size. In Trinidad and Tobago, an alternative system exists because the boundaries in each of the categories (Major Territorial, Minor Territorial, National and Niche) are determined by mainly geographical factors and the size of the STV operator. India has an alternative system as the size of the STV operator is a major determinant. In addition to this MSOs serve a dual function as cable operators and distributors of content. The UK has a tiered regulatory structure since there are clearly defined boundaries in relation to licence fees paid. The boundaries are determined by a specific monetary value. The USA has a tiered regulatory system because in New York City the licence granted are clearly defined, for example citywide or a limited licence. Licence fees are also not fixed by law.

In some of the jurisdictions, there were similarities in the tiered regulatory or alternative structures. India and Trinidad were similar in terms of the size of the STV operator as well as geographic location being a common factor. Trinidad and Tobago as well as the USA had a similar structure in relation to geographic location, the USA however has a more clearly defined structure as the licence area are clearly defined. USA and UK were similar in relation to the fact that both charge a percentage of gross subscription income as annual licence fees.

In reviewing the suitability of Jamaica adopting the systems used by the various jurisdictions several factors were taken into account. The fact that the UK has only large STV operators is a very important consideration and would render their system unsuitable for Jamaica. In relation to Trinidad and Tobago, that country is unique in that the country consists of two

islands, and their STV industry is categorized based on that reality; the Minor territorial category is specific to Tobago, and the Major territorial is specific to Trinidad.

In addition to a tiered regulatory system or alternative system the jurisdictions reviewed also offered incentives to STV operators and implemented policies/regulations to improve their ability to upgrade their equipment and engage in the DSO process while offering enhanced services to more customers. These incentives include:

- **Funding/Subsidies:** In each of the four jurisdictions under review, the government provides some level of funding/subsidy for delivery of broadband services to remote and rural communities, schools, libraries, health care providers, the unemployed, the elderly and disabled. In most cases, the Universal Service Fund is a major source of funding.
- **Tax Incentives:** All four countries offer varying forms of tax incentives, and not exclusively to the STV sector. In Trinidad and Tobago and the United Kingdom, tax rebates are offered to specific types of businesses - to micro and small enterprises in the case of Trinidad and Tobago, and in the United Kingdom the Tax Relief Scheme for Research and Development.
- **Tax Holiday:** A tax holiday is offered in Trinidad and Tobago for 7 years to projects approved by the government, while in India a tax holiday is granted to STV operators for a specified period during which they are expected to complete the DSO.
- **Tax credits:** In Trinidad and Tobago, companies with Small Business Certification benefit from a tax credit equivalent to 25% of their chargeable profits for a period of 5 years. In India under the “StartUp India” programme, businesses of five years or less,

and with an annual turnover not exceeding INR 25 crore in any preceding financial year, qualify for tax exemptions.

- Customs duties exemptions. Full exemption from Customs Duties on imports of machinery and raw materials (for specific projects including production of approved local media content) is offered to businesses in Trinidad and Tobago. In India, STV operators enjoy full exemption from Customs Duties on imports of machinery and raw materials to facilitate DSO.
- Loan program. The U.S. Government, through the Small Business Administration (SBA), provides a guarantee to banks and lenders for the money they lend to small businesses owners. This guarantee protects the lenders interests by promising to pay a portion of the loan back if the business owner defaults on the loan.

It must also be noted that the above incentives and policies are tied to the desired outcomes that the regulatory authorities seek to achieve in areas not limited to the DSO process such as improved management to curb the insolvency being observed in the sector; adherence to all laws and regulations governing STV operations; collaboration with the creative industries, in local communities and nationally, in promoting and facilitating the production and broadcast of local productions; and ensuring that persons with disabilities have access to their services.

Summary of feasibility analysis of existing and alternative regulatory systems, taking note of the impact on the fees and operations of the BCJ and its licencees

The review of the audited financial statements revealed steady growth in the asset base of the large-sized STV companies. Among the medium-sized STV companies, Logic One Limited showed steady growth, and Cornwall Communications' asset base fluctuated between 2011 and

2013 to end up where it started in 2011. Review of the sample of small-sized companies, the review revealed fluctuations in the asset base.

For the large-sized operators, Columbus Communications Limited reflected consistent debt-to-assets ratio over the period; and Digicel Jamaica Limited showed low change in 2013 over 2012 (during Telstar Cable operations), but reflected an increase in the level of leverage in 2015 to 2016. For the medium-sized STV operators - the debt-to-assets ratios were consistent over the period. For the small-sized STV operators in this sample, the majority of companies maintained a constant leverage ratio, except for Cable One Jamaica Limited, Central Communications Service Limited, General Satellite Network Limited, and Odyssey Cable Vision Limited that reflected significant deterioration (higher leverage) in the debt-to-assets ratio for the period.

For the large-sized companies in the STV industry, liquidity was found to be unacceptable over the period. In regard to the sample's medium-sized companies in the industry - on the one hand liquidity was acceptable for Logic One Limited as calculated - 3.78:1(2014); 2.79:1 (2013), and 3.00:1 (2012); while on the other hand liquidity was unacceptable for both Cabletron Network Systems Limited as calculated – 0.26:1 (2014), 0.26:1 (2013), and 0.24:1 (2012); and Cornwall Communications Limited as calculated - 0.82:1 (2013); 1.31:1 (2012), and 1.45:1 (2011). In regard to the small-sized companies in the STV industry the sample reflected that the majority of these operators experienced liquidity issues. The selected sample showed that 27 per cent of the companies had an acceptable current ratio of above two, while 73 per cent had an unacceptable current ratio of 1 : 1 and below, during the period.

The review of the profitability of the companies within the sample revealed that 13 of the 16 small-sized companies incurred losses which ranged from an upper limit of over \$20 million (General Satellite Network Company Limited in 2012) to a lower limit of \$42,812 (CTL Limited in 2013). Three of the 16 small-sized companies realized profits for the three-year period ranging

from \$42,000 to \$430,000. Three of the medium-sized companies' financial statements all revealed profits that ranged from \$1.6 million to \$6 million approximately for the three-year period, while one of this group revealed significant losses over the three-year period. The two large-sized companies - Columbus Communications/Flow Jamaica Limited reflected losses for the four years period; while Digicel Jamaica Limited/Telstar Jamaica Limited reflected losses in the earlier years under Telstar management with a change to profit in 2015 following the merger with Digicel Jamaica Limited. Thirteen of the 16 small-sized STV operators/licencees, suffered significant accumulated losses over the three-year period. It is noteworthy to state here that, the STV operators' ability to survive in the current economic climate is dependent on the profitability of the operations of the companies; but the profit levels of the STV operators' companies indicated that they will continue to experience challenges in meeting their obligations.

In addition to the accumulated losses the review revealed that the small-sized and medium-sized STV operators/companies experienced contraction or negligible growth in the number of subscribers for the period 2013 to 2016, which spells a very uncertain future for these STV operators.

A review of the BCJ financial statements for the fiscal years 2012 to 2016 showed significant increases in the total assets base and a low level of debt-to assets - with the level of debt comprised mainly of current liabilities. The liquidity of the BCJ is extremely high since the type of current assets held by the Commission are cash or near-cash items. The review of the financial statements of the BCJ also revealed that the Commission's revenue showed continued growth over the five-year period, although the rate of growth declined from 7.08 to 3.22 per cent in 2015 and 2016 respectively. On the other hand, the net profit revealed another scenario, where there is a reduction in profitability of 12.27 per cent and 27.42 per cent in the 2013 and 2014

respectively, and an improvement of 8.97 per cent in 2015. The significant increase in profitability for 2016, however, is accounted for by the increase in other operating income from \$48.5 million (2015) to \$88.1 million (2016). In addition, the Commission's financial statements reflected increases in the administrative expenditures for the years 2012 to 2015; but showed a reduction in the overall administrative expenditure in 2016.

The feasibility analysis examined several possible scenarios of tiered regulatory systems based on the size of the STV operators coupled with the subscription income; and scenarios of the alternative systems based on geographic location - specifically population density in Jamaica coupled with subscription income. The projections were based on licence fees generated in 2016 (BCJ Subscriber and Industry Information, February, 2017). The projection was for a three-year period, since the concession will be time as well as performance bound.

Scenarios 1 to 15 examined the use of a tiered regulatory system with boundaries determined by the size of the STV operators as indicated below (Table 59):

Table 59

Classification, scenarios and proposed licence fee structure for tiered regulatory systems

Classification →	Small-sized STV operators	Medium-sized STV operators	Large-sized STV operators
SCENARIOS	Per cent of Subscription Income	Per cent of Subscription Income	Per cent of Subscription Income
1	0	5	5
2	2	5	5
3	1	5	5
4	0	4	5
5	2	4	5
6	1	4	5
7	0	3	5
8	2	3	5
9	1	3	5
10	0	3	4
11	2	3	4
12	1	3	4
13	0	3 ²	4

Classification →	Small-sized STV operators	Medium-sized STV operators	Large-sized STV operators
SCENARIOS (continued)	Per cent of Subscription Income	Per cent of Subscription Income	Per cent of Subscription Income
14	0	4 ²	5
15	0	5 ²	5

² For small-sized STV operators with licence fees greater than J\$1 million in 2016, merged to be classified as medium-sized STV operators.

For these scenarios, the STV operators' sizes as categorized - small-sized, medium-sized and large-sized - in the research sample selection, were applicable, with the determination of sizes guided by the MIIC (2013) definition of SMEs (p.19) Information garnered for all of the STV operators were utilized to determine the totality of the impact on the BCJ fee income.

The proposed licence fees as a percentage of gross subscription income that would be payable to the BCJ under the proposed fifteen (15) scenarios were examined (Table 60).

Table 60

SCENARIO	2016 Actual \$	PROJECTIONS FOR YEAR						
		1 \$	Per cent Δ	2 \$	Per cent Δ	3 \$	Per cent Δ	TOTAL (3 years)
1	264,788,923	259,442,029	(2.02)	272,414,131	2.88	286,034,837	8.02	817,890,998
2	264,788,923	266,876,565	0.79	280,220,393	5.83	294,231,413	11.12	841,328,372
3	264,788,923	263,379,425	(0.53)	276,548,396	4.44	290,375,816	9.66	830,303,638
4	264,788,923	256,555,250	(3.11)	262,032,769	(1.04)	274,153,492	3.54	792,741,511
5	264,788,923	263,989,786	(0.30)	277,189,275	4.68	291,048,739	9.92	832,227,801
6	264,788,923	260,272,518	(1.71)	273,286,144	3.21	286,950,451	8.37	820,500,114
7	264,788,923	253,668,471	(4.20)	266,351,895	0.59	279,669,490	5.62	799,689,856
8	264,788,923	261,103,007	(1.39)	274,158,157	3.54	287,866,065	8.72	823,127,230
9	264,788,923	257,385,739	(2.80)	270,255,026	2.06	283,767,777	7.17	811,408,543
10	264,788,923	204,666,844	(22.71)	214,900,187	(18.84)	225,645,196	(14.78)	645,212,227
11	264,788,923	212,101,380	(19.90)	222,706,449	(15.89)	233,841,772	(11.69)	668,649,601
12	264,788,923	209,137,390	(21.02)	219,594,260	(17.07)	230,573,973	(12.92)	659,305,623
13	264,788,923	210,584,655	(20.47)	221,113,888	(16.49)	232,169,582	(12.32)	663,868,125
14	264,788,923	264,445,664	(0.13)	277,667,948	4.86	291,551,345	10.11	833,664,957
15	264,788,923	269,305,047	1.71	282,450,274	6.67	296,246,362	11.88	848,001,683

Projections for tiered regulatory systems

A review of the projections revealed that scenarios 1, 2, 3, 5, 6, 8, and 9, have seven highest total licence fees, over the projected period, where the tiered regulatory system is *based on the size of the STV operators* and there are *no mergers* of the companies.

For both scenarios 1, 2 and 3, the proposed licence fees are 5 per cent on gross subscription income for both the large-sized and medium-sized STV operators; while the small-sized STV operators' proposed licence fees are none, 2 per cent and 1 per cent, respectively. These scenarios would effectively be *two-tiered* systems, since the large-sized and the medium-sized STV operators would be paying at the same licence fees rate, even though the differential would be the level of gross subscription income earned. For scenarios 5, 6, 8 and 9 are all proposed *three-tiered* licence fees for the large-sized, the medium-sized, and the small-sized STV operators as depicted in Table 25 (p.126).

In the case of scenarios 14 and 15, it is assumed that the small-sized STV operators/companies, which paid licence fees greater than J\$1 million for the year 2016, would merge to become medium-sized STV operators. The proposed licence fees as a per cent of gross subscription income for the large-sized, medium-sized and small-sized STV operators, in scenario 14 are 5 per cent, 4 per cent and none respectively, hence effectively a *three-tiered* system; while that for scenario 15 are 5 per cent, 5 per cent and none respectively – effectively a *two-tiered system*. As classified, for scenarios 1, 2, 3 and 15 there would be no differential between the large-sized and medium-sized STV operators, which could negatively impact the motivation of the small-sized STV operators in regard to growth, collaboration and innovation.

Scenarios 4, 7, 10, 11, and 12 are also reflective of *three-tiered* regulatory systems that could be considered by the BCJ, even though the total projected income are lower than the other scenarios.

The sustainability of the STV operations under the proposed regulatory approaches was examined, and the review was restricted to the small-sized STV operators in the research sample. The research review is positioned on scenarios 1, 2, 3, 5, 6, 8, 9, 14 and 15 as synchronized to the prior section. In scenarios 2, 5 and 8 the small-sized STV operators are projected to pay licence fees of 2 per cent of gross subscription income; in scenarios 3, 6, and 9 that group of STV operators is projected to pay licence fees of 1 per cent of gross subscription income, while for scenarios 1, 14 and 15 the said group is **not** projected to pay licence fees over the three-year projections.

If the criteria, as determined for the three-year period, are met and all other assumptions hold true, the STV operators/companies should experience reduction in the licence fees expenditure for all scenarios, except for scenario 15. In the case of scenario 15, there are projected reductions and increases in licence fees expenditure under this proposed regulatory approach. The projected increases (between J\$50,000 and J\$500,000) for the total of the three year projected fees over the base year (2016) licence fees are negligible, and as such, should not significantly impact these STV operators, as this is predicated on the increased market share, and customers arising from the merger. Although the financial impacts on the STV operators/companies are considered insignificant, the recommendations for tiered licence fees, incentives, and changes to the legislation (in the long-term) should influence the quality of service delivery to the customers as well as the long-term viability of the companies.

The analysis of the alternative regulatory approaches focused on the geographic location of the STV operators in Jamaica. Population density as identified by the Statistical Institute of Jamaica (2011) was utilized in the allocation of the STV operators in the tiers.

The proposed alternative system was based on geographic location – determined by population density in Jamaica *coupled with* subscription income (Table 61).

Table 61

Classification, scenarios and proposed licence fee structure for alternative regulatory systems

	SCENARIOS	
Geographic Location Classification *	1	2
	% of Subscription Income	% of Subscription Income
400 +	5	5
301 - 400	5	4
201 - 300	4	3
101 - 200	2	1
86 - 100	1	0

*Statistical Institute of Jamaica 2011

The analysis of income/fees on the alternative regulatory approaches was based on the research sample. The base utilized for the projections was the licence fees generated in 2016 (BCJ Subscriber and Industry Information, February, 2017). Where a STV has licence to operate in *more than one parish*, the base year licence fees was allocated in equal proportion to the number of parishes in which the STV operated

A review of the projections revealed that for both scenarios, the total projected licence fees for all three years are higher than 2016 actual licence fees collected by the BCJ.

Table 62

Projections for alternative regulatory systems

SCENARIO	2016 Actual/ \$	PROJECTIONS FOR YEAR						
		1 \$	Per cent Δ	2 \$	Per cent Δ	3 \$	Per cent Δ	TOTAL (3 years)
1	252,810,614	260,186,685	2.92	273,006,826	7.99	286,518,122	13.33	820,248,028
2	252,810,614	258,304,588	2.17	271,032,623	7.21	284,393,929	12.49	814,309,966

However the implementation of foregoing alternative regulatory approaches can be problematic where a STV operator conducts business across the tiers, as for example Cornwall Communications Limited. The assumption of equal distribution over the number of parishes, dependent upon the number of subscribers in the parish, may or may not be justifiable or fair to the STV operator. A close examination of the projections for scenarios 1 and 2 – indicated that the STV operators classified between 86 and 400 population per square kilometre (Statistical Institute of Jamaica, 2011) all benefited from reduction in the licence fees. On the other hand, the STV operators classified as 400 population and more per square kilometre (Statistical Institute of Jamaica, 2011) were all projected to have increases in the licence fees. Note, however, the medium-sized STV operator in the sample– namely Cornwall Communications Limited – that operated in several bands, projected total licence fees for the three years period of J\$8.3 million for the alternative regulatory approach, as compared to J\$12.5 million under the tiered regulatory approaches.

Steps to be taken to secure a competitive, healthy cable market

The steps outlined in this section are compatible with existing government policies as expressed in the following:

Vision 2030 has mandated the BCJ to “establish funding mechanisms to support development of local and public broadcasting content” (Planning Institute of Jamaica, n.d., p. 297) and “develop capacity and focus on contents (sic) standards reform and monitoring” (Planning Institute of Jamaica, n.d., p.297).

The Government of Jamaica’s (GOJ) Growth Agenda Policy Paper (2015) calls for:

Deliberate policy intervention to encourage stronger economic growth ... This should include support for initiatives to drive the expansion of economic activities in new and emerging growth areas (Business Process Outsourcing, Digital Animation, etc.) as well as in Micro, Small and Medium Sized Enterprises. (p.12)

In the Micro, Small and Medium Enterprise Entrepreneurship Policy (2013), the Ministry of Industry, Investment and Commerce (MIIC) acknowledged that “MSMEs are responsible for the majority of employment, help to create wealth, form the backbone for private sector growth and expansion, and contribute to social development” (p.6). The MIIC policy paper on MSMEs (2013) also states that “despite their economic significance, MSMEs face many challenges that hinder their growth and development hence it is imperative for the Government of Jamaica (GOJ) to place entrepreneurship and MSME development at the forefront of the country’s economic policy agenda” (p.6).

The Universal Service Fund mission is “To positively impact Jamaica’s socio-economic development by enabling a knowledge-based society through universal access to the Internet, digital inclusion” (Universal Service Administrative Company, 2017a). In addition as reflected in the Public Bodies Estimates of Revenue and Expenditure for the year ending March 2018, states that the USF “plans to establish and provide grant and loan funding of \$300 million to medium small and micro enterprises that are directly involved in the information, communication and technology sector, particularly those that will impact economic growth” (Ministry of Finance and the Public Service, 2017, March, p.271).

It should also be noted that the steps below are in keeping with the current International Monetary Fund (IMF) Stand-By Arrangement as expresses in the Letter of Intent, Memorandum of Economic and Financial Policies, and Technical Memorandum of Understanding of March 29, 2017 which states:

The Government of Jamaica continues to implement its economic reform programme, now supported by a three-year precautionary Stand-By Arrangement (SBA), approved by the Executive Board of the IMF in November last year. We seek to catalyse a positive cycle of growth and job creation with increasing support for our poorest citizens. To achieve these broad objectives, we are re-orienting the budget composition toward growth-enhancing and social spending, while progressively transforming our public sector to make it more efficient and o effective. We have also significantly shifted our tax system from direct to indirect taxes and are expanding and improving security spending as crime represents an insidious obstacle to growth in Jamaica. (p.2)

With regard to the government's ability to offer customs waivers under the current SBA with the IMF, it is noted that the Letter of Intent, Memorandum of Economic and Financial Policies, and Technical Memorandum of Understanding dated August 30, 2016 states that “the granting of new discretionary waivers is subject to a ‘de minimis cap’ of J\$10 million in any month (p.29)”. Obtaining customs waivers have been competitive and are normally at or close to the ‘de minimis cap’ as indicated by the review of waivers granted for the period October 2016 to March 2017 (Ministry of Finance and the Public Service, 2017). Consequently, the BCJ and the MOEYI would need to lobby the Ministry of Finance on behalf of STV operators for the Minister’s discretion in granting the STV operators customs waiver for the purposes of importing equipment required for providing Universal Access, media literacy programmes, and the production and broadcast of local content.

With regard to its policy regarding customs, the IMF position is not focused on what items should or should not be taxed, but on the modernization of customs administration to improve efficiency and to eliminate corruption (IMF, October 20, 2003)

Securing a competitive cable market involves balancing the needs of individual STV operators against the objectives set by the BCJ for the STV sector. The main objective of the achievement of a competitive cable market should be to ensure that powerful entities do not dominate the STV industry. Both legal and financial safeguards are required to ensure this.

1. Making any changes to existing provisions of the BRRA necessitates amendment to the law. (For example, provision for a fine to be levied against an operator for false statements on annual returns, or a change in the scale of fees - even a temporary reduction of annual licence fees - would require an amendment to the BRRA.).

The steps to be taken to amend the legislation will include several players such as the BCJ, the Office of the Parliamentary Counsel (OPC), and the Minister with responsibility for the BCJ as well as the Parliament of Jamaica,

The first step in amending the legislation would include the Executive Director of the BCJ making such a recommendation. On the acceptance of the recommendation by the Minister, the new legislation would be drafted in the form of a Bill, the drafting would be done by the OPC. Subsequent to the completion of the drafting of the Bill, it is introduced and debated in Parliament. After the Bill passes through both Houses of Parliament, it is sent to the Governor General to be signed, after which it becomes law.

The establishment of a tiered regulatory system that promotes the participation of ‘players’ of various sizes in the Jamaican STV sector is essential to a healthy cable industry. The implementation of a tiered system will require the amendment to the BRRA; and the steps outlined above for changes or amendments to the legislation are applicable. The relevant tiers, the percentage on gross subscription income for each tier, and the criteria to qualify must be clearly stated.

Providing incentives for STV operators to establish operations in grossly underserved areas is necessary to ensure that citizens in these areas have access to STV services. Implementation of incentives for STV operators within the proposed new regulatory framework should include Universal Fund support and waiver of customs duties for small-sized STV operators. The implementation of the incentives will require the following steps:

- Discussions with BCJ Commissioners to explain the purpose of those incentives (which aim at providing Universal Access to the Jamaican public, encouraging the production of Jamaican media content, and promoting media plurality in the STV sector), to obtain their feedback and elicit their support for this facilitation that should include, *inter alia*, the BCJ's active support for the establishment of an organization representing STV operators to facilitate cooperation and partnerships within the STV sector in the best interest of STV operators and the Jamaican public they serve;
- Discussions with BCJ Managers/Officers to explain the purpose of those incentives, get their feedback and elicit their support;
- Discussions with STV operators to explain the purpose of those incentives, get their feedback and elicit their support. The STV operators' role(s) in relation to Universal Service Fund obligations on the one hand, and support for providing broadband services on the other, must be fully explained;
- Discussions with the Minister of Education, Youth and Information (MOEYI) and other relevant MOEYI personnel to explain the purpose of those incentives, get their feedback and elicit their support for this measure;
- MOEYI to table a proposal to the Cabinet to establish an inter-ministerial body (comprising the relevant ministries and agencies) to examine those incentives, assess

- their costs/benefits to all relevant parties (especially the people of Jamaica), with the objective of the inter-ministerial body preparing a submission to the Cabinet for its consideration and approval of those incentives;
- The facilitation of cooperation and partnerships within the STV sector, including interconnectivity to share expenditure relating to headend signal equipment and joint arrangements for copyright payment, to promote financial viability and delivery of broadcast/media services to the population should lead to a competitive and healthy cable market; and
 - Facilitating cooperation among STV operators through meetings and workshops. This could include digital switchover workshops and other training/workshops that directly affect STV operators.

The implementation of incentives for the medium-sized and large-sized STV operators are similar to the steps outlined above for the small-sized STV operators, with special focus on their role in providing Universal Access to the Jamaican public, encouraging the production and sharing of Jamaican media content, and accommodating media plurality in the STV sector.

In addition to steps relevant to the changes or amendments to legal requirements and those relevant to the implementation of incentives to the small- sized STV operators and other STV operators, the following steps should be effected prior to the ‘roll-out’ of *the three-tiered* regulatory system.

- Assessing and reviewing the gross annual subscription income trends in 2016 and 2017 for all STV operators;
- Reviewing the quarterly licence fees paid by the STV operators in 2016 and 2017;

- Conduct meetings with the STV operators to inform of the proposed regulatory changes in the industry and to obtain their “buy-in”;
 - Advise STV operators of the legislative changes proposed to facilitate the recommended three-tiered regulatory system. Clearly indicate the due process involved and the time span such a process would take;
 - Obtain the agreement and support of the STV operators for the proposed three-tiered regulatory system;
 - Advise the STV operators of the proposed requirements for each tier.
- Assigning the STV operators to categories or tiers. The assignment should be based on quarterly licence fees paid in 2016 or 2017. Assign as follows:
 - Small-sized STV operators - Gross revenue less than J\$20,000,000
 - Medium-sized STV operators - Gross revenue greater than J\$20,000,000 but less than J\$150,000,000;
 - Large-sized STV operators - Gross revenue greater than J\$150,000,000.
 - Review the number of zones in which the STV operators are located, to ensure that those classified as: small-sized operate in less than 3 (three) parishes; medium-sized operate in 3 (three) or more, but not island-wide; and large-sized operate island-wide;
- Assess the geographical zones with a view to determining whether there is a need for additional STV operators;
 - In zones that are saturated, the BCJ can refuse additional licence applications and make recommendation for the establishment of operations in under-served communities. This must however be balanced against the concept of the free

market, the provision of universal service and the fact that competition drives down prices;

- Inform the STV operators of the category in which the companies are assigned;
- Advise the STV operators of the requirements and benefits of each tier:
 - Requirements include:
 - Annual Business Plan;
 - Annual Audited Financial Statement filed with the BCJ within six months after the year end.
 - Benefits include:
 - Incentives which are derived if STV are compliant with the Laws of Jamaican and the Regulations.
- Advise the STV of the requirement for mergers or expansions to facilitate growth and subsequent movement to the higher tier:
 - Small-sized STV operators could explore the option of merging with other small-sized STV operators with a view of becoming larger in size. It must however be noted that the BCJ cannot directly advise STV operators to merge, but can facilitate this through training programmes, meetings and workshops;
- BCJ to form a Monitoring Committee with responsibility for:
 - Monitoring the STV operators quarterly to ensure compliance with Business Plan prepared by the operators and agreed with the BCJ;
 - Reporting on the STV operators' compliance or non-compliance with the requirements of the assigned tiers; and

- Determining action(s) required or sanction(s) to be taken to ensure the STV operators are complaint.

Other steps that could be undertaken to ensure a competitive and healthy cable industry are as follows:

- The BCJ can implement a cable television week and facilitate an industry convention for STV operators and content providers to display their programme offerings. Care must be taken to ensure that the smaller STV operators are fully represented, and offer the STV operators the chance to meet and forge meaningful partnerships;
- The BCJ as a public body could provide the impetus for local STV operators to form partnerships with other STV operators located in other CARICOM states. This can be done by encouraging the establishment of an association of CARICOM STV operators. A benefit that could accrue from the formation of such an association could be purchasing of television content at a lower cost (derived from economies of scale) than would have been otherwise.

Recommendations for a new regulatory framework

Incentives. The incentives recommended by this study are responsive to the concerns expressed by STV operators and managers/officers of the BCJ and are to be offered within a three-tiered system with clear boundaries (see boundaries and transition criteria, pp.186-187).

For small-sized STV operators the following incentives are recommended:

1. Universal Service Fund support for STV operators who seek to operate in remote areas which are undeserved, especially areas where there are schools, health clinics, the elderly, persons with disabilities, and children. This incentive addresses the concerns expressed by both the STV operators and the BCJ regarding zone

limitations currently being experienced, as well as the financial constraints faced by the small STV operators in providing service to underserved areas.

2. USF support would require the establishment and monitoring of the delivery of set targets specified in a business plan, approved by the BCJ, that includes increased coverage to unserved and under-served communities, compliance with regulations and timely, accurate reporting.

It must be noted here that this incentive is aimed at giving the STV operators a greater role in national development by assisting the government in bridging the technology/knowledge divide through Universal Access. This study notes that Section 11(1) of the Telecommunications Act (the Act) (Jamaica) requires all entities seeking to apply for a carriers licence to operate a telecommunications network, to undertake to comply with Universal Service Obligations. Telecommunications networks would include entities that offer voice and data services. Section 9(3) (d) of the Act excludes entities that provide solely STV and broadcast services. Based on the interpretation of the legislation, entities that offer voice or data services as well STV services are captured by the legislation as entities that are bound by the Universal Service Obligations since those entities are required to apply for a licence under the Act.

The Universal Obligations are set out in the Act which was amended in 2012 to broaden its scope. Under the Act and its 2012 amendment the obligations include *inter alia*:

- Promoting internet access in educational institutions, public libraries and post offices throughout Jamaica;
- Pursuing strategies to increase access to high capacity networks and the dissemination of information and communications technology services in un-served and underserved areas of Jamaica;

3. STV operators of all sizes, who have completed the DSO process and are therefore broadband carriers, are capable of providing communications technology services that are specified above. Therefore, it is recommended that the case be put forward on behalf of STV operators that they receive support from the USF to provide universal service.

Under section 42A of the Telecommunications Act 2012, the universal service levy is to be used to fund the obligation to provide universal service namely:

- The provision of loans or grants for information and communications technology projects operated by local non-profit organizations **and** loans, grants or equity investment for information and communications technology projects operated by local micro, small and medium-sized-businesses (excluding domestic network operators) for the purpose of stimulating the expansion of information and communications technology access;
- The facilitation of lifelong learning and a knowledge-based society by providing universal access to information;
- The development of local content;
- The promotion of information, and the enhanced development of local content; and
- The promotion of information and communications technology literacy through literacy programmes and the Government's delivery of e-services.

It should be noted here that in Trinidad and Tobago funding available from the Universal Service Fund is applicable only to the basic telecommunications services, which include voice and internet services; while in India, the Universal Service Fund can be used to fund various projects including the provision of broadband connectivity to villages in a phased manner.

4. For STV operators to access Universal Access funding in Jamaica they would have to provide broadband and internet services. This means that the STV operators would have to also apply for a licence under the Telecommunications Act to provide such services. These entities would also have to contribute to the Universal Service Fund annually, however the benefits to be derived from Universal Access Funding to provide broadband and internet services to unserved and under-served areas would make this worthwhile to the STV operators and beneficial to the wider society.

Universal Service Fund supports for STV operators who are involved in activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content. This incentive addresses concerns of STV operators and the BCJ regarding content challenges/opportunities arising from copyright compliance, cord-cutting and cord-shaving. It strengthens the role of STV operators in cultural and community development while also addressing the technical and financial constraints that prevent some small STV operators from completing the DSO process.

5. Waiver of customs duties and other government taxes and fees for the importation and purchase of equipment required for activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content. This is an additional incentive that addresses the financial and technical constraints being faced by STV operators. The conditions seek to strengthen the role of STV operators in cultural and community development while addressing the concern regarding content challenges/opportunities.

6. Facilitation of cooperation and partnerships within the STV sector, including interconnectivity to share expenditure relating to headend signal equipment and joint arrangements for copyright payment, to promote financial viability and delivery of broadcast/media services to the population. This incentive addresses a number of concerns expressed by both the STV operators and managers/officers of the BCJ including: financial and technical constraints, zonal constraints, copyright compliance and local content development and broadcast.

For the medium-sized and large sized STV operators the following incentives are recommended:

- I. Universal Service Fund support for STV operators who are involved in activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content; however, the content thereby produced must be made available to small-sized STV operators at minimal or no cost to them.
- II. Waiver of customs duties and other government taxes and fees for: the importation and purchase of equipment required for completion of the DSO; activities that promote media literacy, provide internship programmes for students, and facilitate the development and broadcast of local content. The local content thereby produced must be made available to small-sized STV operators at minimal or no cost to them.
- III. Facilitation of cooperation and partnerships within the STV sector, including interconnectivity to share expenditure relating to headend signal equipment, and

joint arrangements for copyright payments, to promote financial viability and delivery of broadcast/media services to the population.

Fees structure. The fees structure should be based on a tiered regulatory approach.

1. It is recommended that a tiered system for STV operators be implemented in Jamaica and classified as follows: large-sized, medium-sized and small-sized STV operators. These three groupings should be determined by the gross subscription income earned by STV operators that determines the licence fees *coupled with* the number of zones/parishes for which the STV operators/companies are licensed.

Based on the scenarios examined, any of the following options as ranked by the total projected licence fees over the three-year period could be considered for implementation.

Table 63

Ranked tiered regulatory systems

Ranked SCENARIO	TOTAL PROJECTED LICENCE FEES \$
15 ¹	848,001,683
2 ²	841,328,372
14 ⁴	833,664,957
5 ³	832,227,801
3 ²	830,303,638
8 ³	823,127,230
6 ³	820,500,114
1 ²	817,890,998
9 ³	811,408,543
7 ³	799,689,856
4 ³	792,741,511
11 ³	668,649,601
13 ³	663,868,125
12 ³	659,305,623
10 ³	645,212,227

¹ Two-tiered regulatory system, with merger of selected small-sized STV operators.

² Two-tiered regulatory systems; ³ Three-tiered regulatory systems;

⁴ Three-tiered regulatory system, with merger of selected small-sized operators.

Scenarios 1, 2, and 3 are categorized as *two-tiered regulatory systems* since the large-sized and the medium-sized STV operators would be paying the same per cent of gross subscription income and are not recommended. **Scenario 15**, which is categorized as a *two-tiered regulatory system*, where the merger of the small-sized STV operators with licence fees in 2016 greater than one million dollars (J\$1,000,000), is ranked the highest in total projected licence fees. Scenario 15 utilized **none, 5 per cent and 5 per cent** of gross subscription income as the licence fees for the small-sized, medium-sized and large-sized STV operators respectively indicated the *overall highest total licence fees* for all of the scenarios. However, the actualization of the total licence fees for scenario 15 would be heavily dependent on the mergers which *may or may not* materialize. The two-tiered regulatory systems are not recommended as the range for the licence fees would be narrow and not be incentive for the growth within the industry.

All other scenarios are categorized as *three-tiered regulatory systems*.

2. **Scenario 14** that utilized **none, 4 per cent and 5 per cent** of gross subscription income as the licence fees for the small-sized (with mergers for those STV operators that generated licence fees greater than \$1 million in 2016), medium-sized and large-sized STV operators, respectively, indicated the *highest total licence fees* in this category for the three-year period. Nevertheless, it must be borne in mind that the mergers may or may not occur.
3. This is followed by **scenario 5** that utilized **2 per cent, 4 per cent and 5 per cent** of gross subscription income as the licence fees for the small-sized, medium-sized and large-sized STV operators respectively, and indicated the *second highest total licence fees* in this category for the three year period.

4. **Scenario 8** that utilized **2 per cent, 3 per cent and 5 per cent** of gross subscription income as the licence fees for the small-sized, medium-sized and large-sized STV operators respectively, indicated the *third highest total licence* fees in this category for the three-year period.
5. **Any of these three scenarios** would be recommended for implementation.

Boundaries and transition criteria. A three-tiered system for STV operators is recommended for implementation in Jamaica.

The suggested boundaries are as follows:

I. Tier 1 - large-sized STV operators:

Based on gross subscription income greater than J\$150,000,000 per annum; and licensed to provide island-wide service;

II. Tier 2 - medium-sized STV operators:

Based on gross subscription income of between J\$20,000,000 and J\$150,000,000 per annum; and licensed to provide service to 3 or more parishes, but not island-wide;

III. Tier 3 - small-sized STV operators:

Based on gross subscription income of less than J\$20,000,000 per annum; and licensed to provide service to less than three parishes.

Clear boundaries have been established for each tier in the system being recommended; therefore the BCJ and the STV operators will be able to identify cases where STV operators transition from one tier to the next. Such transition can take place either by way of mergers **or** by an STV operator obtaining additional licences to expand services. In the case of mergers or expansions, two or more Tier 2 medium-sized STV operators may transition to Tier 1 if the merged or expanded entity can provide island-wide service and if the gross subscription income is between

J\$20,000,000 and J\$150,000,000. Also, if one or more Tier 3 small-sized STV operators merge or experience growth that led to expansion, hence provide services to cover more than three (3) parishes, and the merged/expanded entity subscription income falls within the prescribed band then the merged entity would transition to Tier 2.

Recommendation for the use of traditional and new instruments to promote financial sustainability, legal compliance, and cultural development to influence the STV market

Recommendations have been made for the use of new instruments that should **promote financial sustainability**. The scenarios examined under the alternative regulatory approaches that considered population density as determined by the Statistical Institute of Jamaica (2011) were not assessed as financially sustainable. Some of the STV operators classified (86 to 400 population per square kilometer) were projected to benefit from reduction in the licence fees payable to the BCJ; and the others, classified as 400 and more population per square kilometer, were projected to experience increased licence fees. The challenge to financial sustainability was applicable to the BCJ under the alternative regulatory approaches, since the scenarios indicated substantial reduction in projected revenue for the Commission, for example Cornwall Communications Limited, where the STV operators/companies conduct businesses in more than one zone (based on population density). The STV operator would also be challenged under the alternative regulatory system, since the assumption of equal distribution of subscription income over the number of parishes, dependent upon the number of subscribers in the parish, may or may not be justifiable or fair.

1. The use of a three-tiered regulatory approach/instrument as recommended should promote financial sustainability to both the STV operators and the BCJ. The small-sized and to a lesser extent the medium-sized STV operators will benefit from reduction

- in licence fees payable with the variations in the fees. This reduction in licence fees should afford the STV operators funds to “plough-back” into the businesses thus facilitating expansion and growth; as well as making available funds to reduce the STV operators’ indebtedness statements analyses. With regard to the BCJ, the recommended three-tiered regulatory instrument, when implemented, all things are equal, should reflect changes over the base year of 2016 and the projected three years period of:(0.47) per cent to 9.73 per cent for scenario 5, and (1.48) per cent to 8.62 per cent for scenario 8. Consequently the Commission would not have experienced significant reduction overall in the licence fees collectible from the STV operators; and would have achieved its objective of facilitating industry competitiveness and viability.
2. It is further recommended, in the effort to achieve a healthy and competitive cable industry, that the BCJ conduct further research on the following: the services provided by the STV operators over the three-year period – assessing whether the operators have been financially compliant with their business plans; have experienced improved profitability, liquidity and reduction in the levels of gearing/leverage. If the STV operators are non-compliant then the BCJ should review the continuation of the lowered licence fees and incentives.
 3. On the other hand, after the expiration of the three-year period that offered the tiered regulatory system and incentives, if the majority of the STV operators have been compliant and have merged or expanded into higher tiers, the BCJ must consider whether or not those remaining in the tier 3 (small-sized STV operators) still have a role in the provision of cable service in the country. Consideration must be given to the challenges, these tier 3 (small-sized STV operators inclusive of the micro

enterprises) experience in offering cable service in areas that are difficult to traverse – mountainous terrains - and underserved, the lack of proper infrastructure; homes widely dispersed, and whether or not those STV operators will be encouraged to operate as an interconnected partner/franchisee for the more established STV operators.

Recommendations for amendment to the legislation were made to **support legal compliance**.

4. The BRRA should be amended to provide sanctions for licencees, including STV operators, to be fined a prohibitive/deterrent fee (for example J\$500,000 to J\$1,000,000) if false statements are made on annual returns submitted by the operators.
5. In respect of the concern levied by the BCJ's Technical Officers in relation to the legal requirement for a Chief Technical Officer to be employed to the STV operators/companies, it is recommended that the Regulations be amended to allow the employment of a Chief Technical Officer on a part-time basis.
6. The BCJ should consider a tiered regulatory system for Jamaica. The legislation would have to be amended to accommodate this change. There should be a three-tiered system based on small-sized (**tier 3**), medium-sized (**tier 2**) and large-sized (**tier 1**) STV operators. It is further recommended that for this change to be effective, the amendment should allow for the BCJ to determine the licence fees up to a maximum percentage. This would enable the BCJ to change the licence fees without the need for the legislation to be amended each time. Clearly defined boundaries are recommended for each category (see boundaries, p.210), with each category having a different percentage criteria with respect to annual licence fees.
7. Consideration should be given to the provision of a policy of temporary reduction in licence fees for struggling STV operators, accompanied by a three-year recovery plan

approved by the BCJ. The determination of a struggling STV operator should be based on the current audited financial information available, the level of indebtedness/gearing, liquidity, and accumulated losses over a three-year period. A Monitoring Committee comprising the Executive Director and an Independent Authority should be established to review the performance of those struggling STV operators against their business plans, to determine the truth (facts) of their situation.

Recommendations for the **use of new instruments to promote cultural development** to influence the STV market were presented. Through their Community Channels, STV operators are already playing a role as active participants in Jamaica's Creative Industries which are a key component in the Government of Jamaica's Vision 2030 National Development Plan that has mandated the BCJ to "establish funding mechanisms to support development of local and public broadcasting content" (Planning Institute of Jamaica, n.d, p. 297).

The production and broadcasting of local content face stiff competition from easily accessible foreign productions. Content from foreign channels, which was previously offered by STV operators and is now blocked or subject to copyright compliance, is now available through the internet in Jamaica's new media environment. The new technology has brought with it an influx of foreign programmes; however, this situation also provides the opportunity for STV operators to provide content that can differentiate them from their competitors. This can be a determining factor for their achievement of financial viability. The programming experience of local TV stations sends a clear message regarding the attractiveness of locally produced content to Jamaican audiences. Locally produced programmes such as Schools' Challenge Quiz, Magnum Kings and Queens of Dancehall and the Contender Series enjoy great popularity and are now featured in Prime Time TV, which was previously reserved for popular foreign programmes. These

local programmes became big money earners, and the lesson to cable providers is that they will either become mainly excellent internet providers or begin offering high quality alternative content (Jamaica/Caribbean/Africa) that interests their subscribers.

STV operators can overcome the problem of content repetition by being pro-active in creating and broadcasting local content that appeals to their audiences as “JACS Communications” did in Portmore a few years ago with their call-in interactive programme that became very popular with customers. This strategic merger of technology, talent and community can become a new source of wealth creation.

The BCJ website states that the Commission has an important role to play in encouraging the development of local content and in providing Jamaicans with access to diverse sources of information (BCJ, 2014). It is therefore in keeping with this role that this study recommends the implementation of incentives for local content production and the broadcasting of such productions by STV operators (see incentives, p.180).

References

- About Zeel (2017). Retrieved from: <http://www.zeetelevision.com/about-us/about-zee.html>
- Broadcasting Commission of Jamaica, (BCJ). (2013). *Jamaica Roadmap Report for the Transition from Analogue to Digital Television Broadcasting*. Kingston, Jamaica.
- BCJ. (2014a). *An Analysis of the Jamaican STV Sector*. (Jamaica Broadcasting Commission Report). Kingston, Jamaica.
- BCJ. (2014b). *Annual Report 2013/14*. (Jamaica Broadcasting Commission report). Kingston, Jamaica.
- BCJ. (2015) Quarterly Report. Retrieved from <http://www.broadcastingcommission.org/phocadownload/reports/MCCC%20Quarterly%20Report%20July%20-%20September%202015.pdf>
- BCJ. (2015, October). An overview of the Jamaican media sector.
- BCJ. (2014a). Licenced Subscriber Television Operators. Retrieved from <http://www.broadcastingcommission.org/services/radio-tv-cable-services/licensed-television-subscriber-operators/submissions-directory>
- BCJ. (2014b). Quarterly Report. Retrieved from <http://www.broadcastingcommission.org/phocadownload/reports/MCCC%20Quarterly%20Report%20July%20-%20September%202016.pdf>
- Request for Proposal. (2016). Research on Regulatory Treatment of Small Cable Operators.
- Bhawan, S. (2013, August, 19). Guidelines for grant of unified license. Government of India, Ministry of Communications and Information Technology, Department of Telecommunications.
- Bhawan, M., & Marg, J. (2010). Implementation of Digital Addressable Cable TV Systems

in India. *Telecom Regulatory Authority of India*.

Britannica Encyclopaedia. (2012, March 22). *British Broadcasting Corporation (BBC)*.

Retrieved from <http://www.britannica.com>

Brown, A. (1990, May). Caribbean Culture and Mass Communication Technology in the 21st Century. A Roundtable Discussion Paper presented to the Caribbean Studies Association Conference. Port of Spain, Trinidad. Retrieved from https://issuu.com/carizineaggreypedia/docs/caribbean_cultures_and_mass_communication

Business Wire. (2016, May 16). *Liberty Global Completes Acquisition of Cable & Wireless Communications Plc*. Retrieved from <http://www.businesswire.com/news/home/20160516005969/en/Liberty-Global-Completes-Acquisition-Cable-Wireless-Communications>.

Cable TV Providers. (n.d.). Retrieved from <http://www.cable.co.uk>

Cable Operators Federation of India. (2016, June 9). *Letter to Telecom Regulatory Authority of India (TRAI) re Consultation Paper on Interconnection framework for Broadcasting TV Services distributed through Addressable Systems*. Retrieved from <http://www.trai.gov.in/sites/default/files/201606130522200100423COFI.pdf>

Caribbean Institute of Media and Communication, University of the West Indies, Mona Campus for the Broadcasting Commission of Jamaica. (2012, October). *Study of the Output of Jamaica's Electronic Media Sector Content – A Final Report*. Kingston, Jamaica.

Federal Communications Commission. (2017, January 27). *FCC Order*. Retrieved from http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0302/FCC-17-17A1.pdf

Federal Communications Commission. (2017). *Strategic Plan 2015-18*. Retrieved from

<https://transition.fcc.gov/Reports/strategic-plan-2015-2018.pdf>

Federal Communications Commission, (2016, November 2). Wireline competition bureau

announces results of rate-of-return carriers that accepted offer of model support. Retrieved from https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1246A1.pdf

Federal Communications Commission (n.d.). *Cable Television*. Retrieved from

<https://www.fcc.gov/media/engineering/cable-television>.

Government of Jamaica (2015, March). *Growth Agenda Policy Paper*. Retrieved from

<https://webstore.pioj.gov.jm/images/PreviewDocument/231.pdf>

Government Publishing Office – USA (January, 2017). *Small Business Broadband Deployment*

Act. Retrieved from <https://www.gpo.gov/fdsys/pkg/CREC-2017-01-10/html/CREC-2017-01-10-pt1-PgH268.htm>

Green, C. (2015, October 15). *Insights on copyright licensing and enforcement policy for an*

increasingly borderless digital environment. Speech to the Rotary Club of Kingston.

Jamaica Pegasus. Kingston, Jamaica. Retrieved from

<http://www.broadcastingcommission.org/resources/speeches-presentations?start=5>

Hagey, K. & Ramachandran, S. (2014). Pay TV's New Worry: 'Shaving' the Cord: A Growing

Share of Subscribers Are Choosing Skinnier Bundles of Channels, *The Wall Street Journal*.

Retrieved from

<http://finance.yahoo.com/news/pay-tv-worry-shaving-cord-235800581.html>

International Monetary Fund. (October 20, 2003). *Changing Customs: Challenges and Strategies*

for the Reform of Customs Administration. Retrieved from

<http://www.imf.org/external/pubs/nft/2003/customs/>

International Monetary Fund. (March 29, 2017). *Jamaica: Letter of Intent, Memorandum of*

Economic and Financial Policies, and Technical Memorandum of Understanding.

Retrieved from <https://www.imf.org/external/np/loi/2017/jam/032917.pdf>

International Monetary Fund. (April, 2017). *Jamaica: First Review Under the Stand-By*

Arrangement, Request for a Waiver of a Performance Criterion, and request for Modification of Performance Criteria. Retrieved from

<https://www.imf.org/en/Publications/CR/Issues/2017/04/18/Jamaica-First-Review-Under-the-Stand-By-Arrangement-Request-for-Waiver-of-a-Performance-44844>

Investopedia. (n.d.). Total Debt to Total Assets. Retrieved from

<http://www.investopedia.com/terms/t/totaldebttototalassets.asp#ixzz4dnyjf6ad>

Investopedia. (n.d.). Liquidity Measurement Ratios. Retrieved from

<http://www.investopedia.com/university/ratios/liquidity-measurement/#ixzz4dmOnehl9>

Jamaica Roadmap Report for the Transition from Analogue to Digital Television Broadcasting.

(2015, May)

McKillop, D. (2012, March). Report of the Commission on Credit Unions Ministry of Finance,

Ireland. Retrieved from www.finance.gov.ie/sites/default/.../Report-of-the-Commission-on-Credit-Unions.pdf

Ministry of Finance and the Public Service. (2017). *Waivers 2017 and 2016.* Retrieved from

<http://www.mof.gov.jm/documents/documents-publications/document-centre/category/194-2016-waivers.html>

Ministry of Finance and the Public Service. (March, 2017). *Jamaica Public Bodies Estimates of*

Revenue and Expenditure for the Year Ending March 2018. Retrieved from <https://www.imf.org/external/np/loi/2017/jam/032917.pdf>

Ministry of Industry, Investment and Commerce. (2013). *MSME Entrepreneurship Policy.*

Retrieved from

<http://www.miic.gov.jm/sites/default/files/pdfs/Tabled%20MSME%20and%20Entrepreneurship%20Policy.pdf>

Morgan, H. (2014, July 2). *Trench Town for Jamaica's Cultural Hub*. Retrieved from

http://www.jamaicaobserver.com/columns/Trench-Town-for-Jamaica-s-cultural-hub_17074785

NYC, Department of Information Technology and Telecommunications (DoITT). (n.d.). Cable

TV. Retrieved from: [https://www1.nyc.gov/site/doiTrinidad and Tobago/residents/cable-tv.page](https://www1.nyc.gov/site/doiTrinidad%20and%20Tobago/residents/cable-tv.page)

NYC, DoITT (n.d.). Cable TV Franchises. Retrieved from:

[http://www1.nyc.gov/site/doiTrinidad and Tobago/business/cable-tv-franchise.page](http://www1.nyc.gov/site/doiTrinidad%20and%20Tobago/business/cable-tv-franchise.page)

Office of Communications. (OfCom). (2016). *The Communication Market Report 2016*. Ofcom.

Ofcom (2016, March 30). *Ofcom's Tariff Table 2016/2017*. Ofcom

OfCom. (2016, November 22). *Television Licensable Content Services: Guidance notes for license applicants*. Ofcom.

OfCom. (2017, January 23). *Apply for a TV Broadcast License*. Retrieved from

<https://www.ofcom.org.uk/manage-your-license/tv-broadcast-licenses/apply-for-a-tv-broadcast-license>.

OfCom. (2015, June 12). *Sixty small-scale radio stations take to the air in*

Ofcom trials. Retrieved from <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2015/60-dab-trials>.

Online Business Dictionary. (2017, March). *Incentive*. Retrieved from

www.businessdictionary.com

- Organization for Economic Cooperation and Development (OECD). (2013). *Global Forum, 2013 Competition Issues in Television and Broadcasting*. Retrieved from <http://www.oecd.org/daf/competition/TV-and-broadcasting2013.pdf>
- Planning Institute of Jamaica. (2016, June 2). *Social Enterprise at the Heart of Development – Vision 2030 Jamaica and Community Renewal Programme*. Retrieved from [http://www.pioj.gov.jm/Portals/0/Economic_Sector/Final_SEBI_II_Launch_Presentation_2016%20\(PIOJ\)%20\(21-6-16\).pdf](http://www.pioj.gov.jm/Portals/0/Economic_Sector/Final_SEBI_II_Launch_Presentation_2016%20(PIOJ)%20(21-6-16).pdf)
- Planning Institute of Jamaica. (n.d.). *Vision 2030 National Development Plan*. Retrieved from <http://www.vision2030.gov.jm/National-Development-Plan>
- PricewaterhouseCoopers (PwC) (2014). *India Entertainment and Media Outlook 2014*. Retrieved from <https://www.pwc.in/assets/pdfs/india-entertainment-and-media-outlook/india-entertainment-and-media-outlook-2014.pdf>.
- Reckord, M. (2016, October 13). *Excellent Films Produced by Propella Project*. Retrieved from <http://jamaica-gleaner.com/article/entertainment/20161031/excellent-films-produced-propella-project>
- Rose, G. (2016, January 8). *Accompong Maroons Launch Abeng 88.7 FM*. Retrieved from <http://jis.gov.jm/accompong-maroons-launch-abeng-88-7-fm/>
- Siddharth, N. (2008). A Broad Overview of Broadcasting Legislation in India. *Alternative Law Forum, Bangalore*.
- Statistical Institute of Jamaica (2011) Retrieved from <http://statinja.gov.jm/maps.aspx>
- Statistical Institute of Jamaica. (2017). Consumer Price Index Fiscal year inflation rate (March 2016- March 2017). Retrieved from <http://statinja.gov.jm/>
- StartUp India. (n.d.). *Startup Definition*. (2016). Retrieved from

<http://www.startupindia.gov.in/>

Telecommunications Authority of Trinidad and Tobago. (2014). *Statutory Duties*. Retrieved from <https://tatt.org.tt/abouttatt/StatutoryDuties.aspx>

Telecommunications Authority of Trinidad and Tobago. (2012). *Universal Service Framework for Telecommunications Services in Trinidad and Tobago*. Retrieved from <https://tatt.org.TT/Portals/0/Documents/Universal%20Service%20Framework%20June%202012.pdf>

Telecom Regulatory Authority of India. (2010, August 5). *Implementation of Digital Addressable Cable TV Systems in India*. Retrieved from <http://www.trai.gov.in/sites/default/files/finalreom5agust.pdf>

Universal Service Administrative Company. (2017a). *Delivering Universal Service*. Retrieved from <http://usac.org>

Universal Service Administrative Company. (2017b). *Rate-of-Return Reform Order 2017*. Retrieved from <http://usac.org/hc/rules-and-orders/rate-of-return-reform-order.aspx>

Universal Service Fund (Jamaica). (2017). *Mission and Vision Statement*. Retrieved from http://usf.gov.jm/?page_id=1163 2017

Universal Service Obligation Fund, Department of Telecommunications, Ministry of Communication and Information Technology, Government of India. (2014). *What We Do*. Retrieved from <http://usof.gov.in/usof-cms/home.jsp>

Universal Service Obligation Fund, Department of Telecommunications, Ministry of Communication and Information Technology, Government of India (2012). *National Telecom Policy*. Retrieved from <http://www.usof.gov.in/usof-cms/miscellaneous/NTP-06.06.2012-final.pdf>

Virgin Media Inc. (2014). EWCA 133. British Telecommunications PLC v Office of Communications, British Sky Broadcasting Ltd. The Football Association Premier League. Retrieved from <http://www.bailii.org/ew/cases/EWCA/Civ/2014/133.html>

Legislation

Communications Act (2003) UK

Guidelines for obtaining a Direct to Home broadcasting license 2001 (India)

Guidelines for providing Headend in the Sky Broadcasting Service 2009 (India)

Guidelines for provisioning of Internet Protocol Television Services 2006 (India)

National Telecoms Policy of India (2012)

New York Public Service Law

New York City Charter

Telecom Regulatory Authority of India Act (1997)

Telecommunications Act 2001 (Trinidad and Tobago)

The Broadcasting Act 1990 (UK)

The Broadcasting Act 1996 (UK)

The Broadcasting and Radio Re-Diffusion Act 1949 (Jamaica)

The Cable Television Networks (Regulation) Act 1995 (India)

The Cable Television and Networks Rule (1994) India

The Communications Act of 1934, 47 U.S.C (USA)

The Indian Telegraph Act 1885

The Indian Wireless Telegraphy Act 1933

The Telecommunications (Fees) Regulations (Trinidad and Tobago)

The Television and Sound Broadcasting Regulations 1996 (Jamaica)

APPENDIX A

EXCERPT FROM AUDITED FINANCIAL STATEMENTS OF STV OPERATORS

ASTRA TECHNOLOGY LTD.	2013	2012	2011
	\$	\$	\$
FIXED ASSETS	5,412,059	6,138,735	6,931,474
CURRENT ASSETS	596,680	361,450	943,527
TOTAL ASSETS	6,008,739	6,500,185	7,875,001
CURRENT LIABILITES	8,517,058	8,504,579	12,925,574
DIRECTOR LOANS	8,621,238	8,301,114	11,273,171
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(1,436,269)	(930,575)	(4,120,998)
NET PROFIT/(LOSS) FOR YEAR	(1,669,730)	(2,365,844)	(930,575)
REVENUE	4,120,506	4,643,520	3,197,017
OTHER INCOME	148,655	128,965	73,000
DIRECT EXPENSES	1,424,886	1,815,710	2,148,663
ADMIN. EXPENSES	4,514,005	4,393,044	2,051,929

CABLE ONE JAMAICA LTD.	2015	2014	2013	2012
	\$	\$	\$	\$
FIXED ASSETS	295,064	1,003,340	1,003,340	1,357,478
CURRENT ASSETS	1,551,798	2,251,500	1,495,010	975,000
TOTAL ASSETS	1,846,862	3,254,840	2,498,350	2,332,478
CURRENT LIABILITES	2,961,636	3,150,700	3,790,000	3,323,440
DIRECTOR LOANS	6,774,762	4,480,750	1,354,422	1,556,007
EQUITY	1,000	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(7,878,036)	(4,377,610)	2,637,072	(1,349,378)
NET PROFIT/(LOSS) FOR YEAR	(3,500,426)	(2,951,580)	(1,116,188)	(948,905)
REVENUE	14,738,375	11,790,700	9,347,142	10,697,500
ADMIN. EXPENSES	18,238,801	14,742,280	10,463,330	11,646,405

CABLETRON NETWORKS SYSTEMS LTD.	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	21,469,143	26,991,480	32,662,145
CURRENT ASSETS	10,001,638	11,979,638	11,084,031
TOTAL ASSETS	31,470,781	38,971,118	43,746,176
CURRENT LIABILITES	39,170,854	47,052,771	45,008,909
DIRECTOR LOANS			
EQUITY	2,600	2,600	2,600
ACCUMULATED PROFIT/(LOSS)	(42,293,128)	(36,456,905)	(23,143,994)
NET PROFIT/(LOSS) FOR YEAR	(5,836,223)	(13,312,911)	(10,893,058)
REVENUE	60,077,202	59,346,119	57,295,160
OTHER INCOME	74,820	111,530	109,025
DIRECT EXPENSES	17,408,259	24,188,483	22,554,370
ADMIN. EXPENSES	46,010,633	46,839,830	44,217,952

COLUMBUS COMMUNICATIONS /FLOW	2015	2014	2013	2012
	\$	\$	\$	\$
	\$'000			
FIXED ASSETS	18,903,701	16,569,864	16,181,820	13,470,566
GOODWILL AND OTHER INTANGIBLES	1,954,602	2,019,598	2,228,458	2,241,890
CURRENT ASSETS	2,684,408	2,521,412	1,911,891	1,729,458
TOTAL ASSETS	23,542,711	21,110,874	20,322,169	17,441,914
CURRENT LIABILITES	30,117,510	26,704,676	24,924,827	21,654,996
DIRECTOR LOANS				
due to related parties	26,850,202	24,016,025	22,627,662	19,706,918
EQUITY				
CAPITAL CONTRIBUTION	170,256	170,256	170,256	170,256
ACCUMULATED PROFIT/(LOSS)	(7,034,106)	(6,388,181)	(5,344,685)	(2,890,370)
NET PROFIT/(LOSS) FOR YEAR	(645,925)	(1,043,496)	(2,454,315)	(1,205,677)
REVENUE	13,310,141	12,061,060	10,191,513	8,673,370
DIRECT EXPENSES	6,188,896	5,780,928	7,566,595	6,223,091
ADMIN. EXPENSES	1,752,681	2,186,379	3,174,758	1,762,189

CTL LIMITED	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	2,583,085	2,798,873	3,114,661
CURRENT ASSETS	1,292,311	1,192,622	948,325
TOTAL ASSETS	3,875,396	3,991,495	4,062,986
CURRENT LIABILITES	655,870	977,619	757,619
SHAREHOLDER/DIRECTOR LOANS	14,810,262	14,810,262	15,058,941
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(11,591,736)	(11,797,386)	(11,754,574)
NET PROFIT/(LOSS) FOR YEAR	205,650	(42,812)	(349,039)
REVENUE	28,380,644	16,344,156	13,939,842
DIRECT EXPENSES	18,089,629	9,948,401	8,595,299
ADMIN. EXPENSES	10,291,015	5,647,090	4,940,175

CENTRAL COMMUNICATION SERVICE LTD.	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	175,600	899,000	4,577,433
CURRENT ASSETS	1,178,773	1,813,437	114,506
TOTAL ASSETS	1,354,373	2,712,437	4,691,939
CURRENT LIABILITES	3,088,985	4,701,438	4,005,713
SHAREHOLDER/DIRECTOR LOANS	12,466,293	12,466,293	15,639,024
EQUITY	100	100	100
ACCUMULATED PROFIT/(LOSS)	(14,201,004)	(14,455,394)	(14,952,898)
NET PROFIT/(LOSS) FOR YEAR	254,391	403,312	(2,221,928)
REVENUE	9,782,725	9,535,086	5,798,174
ADMIN. EXPENSES	8,643,725	8,209,552	8,020,102

CORNWALL COMMUNICATIONS LIMITED	2013	2012	2011
	\$	\$	\$
FIXED ASSETS	57,139,510	50,633,548	56,053,783
CURRENT ASSETS	6,243,905	8,842,773	7,483,564
TOTAL ASSETS	63,383,415	59,476,321	63,537,347
CURRENT LIABILITIES	7,590,823	6,734,565	5,155,019
DIRECTOR LOANS/RELATED PARTY	20,137,747	19,962,344	23,417,897
EQUITY	6	6	6
ACCUMULATED PROFIT/(LOSS)	26,654,848	19,779,419	17,964,442
NET PROFIT/(LOSS) FOR YEAR	6,875,429	1,814,977	1,561,570
REVENUE	65,799,500	58,117,100	57,184,000
ADMIN. EXPENSES	68,374,071	57,427,123	56,648,910

COMMUNICABLE LIMITED	2005	2004	2003
	\$	\$	\$
FIXED ASSETS	2,352,983	320,526	2,990,960
CURRENT ASSETS	2,416,536	1,514,704	1,461,708
TOTAL ASSETS	4,769,519	1,835,230	4,452,668
CURRENT LIABILITIES	478,695	711,793	467,805
DIRECTOR LOANS	3,539,312	3,539,312	3,539,312
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	750,512	493,125	444,550
NET PROFIT/(LOSS) FOR YEAR	257,387	48,574	287,767
REVENUE	9,888,778	6,872,900	5,510,590
DIRECT EXPENSES	4,646,963	2,554,606	2,296,305
ADMIN. EXPENSES	4,808,224	4,208,046	2,859,854

DIGICEL JAMAICA LIMITED/ TELSTAR CABLE LIMITED	2016	2015	2013*	2012*
	\$'000	\$'000	\$	\$
NON-CURRENT ASSETS	65,934,919	56,914,072	320,829,110	291,528,212
CURRENT ASSETS	27,412,473	23,187,218	4,906,970	2,835,965
TOTAL ASSESTS	93,347,392	80,101,290	328,994,775	319,467,882
CURRENT LIABILITES	19,959,310	16,056,691	134,304,729	108,558,126
NON-CURRENT LIABILITIES	59,673,323	51,202,442	67,867,965	57,780,011
EQUITY	2,574,213	2,574,213	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	10,415,291	9,594,497	79,755,467	26,764,973
NET PROFIT/(LOSS) FOR YEAR	820,794	2,662,187	(52,990,494)	(10,661,092)
REVENUE	47,394,851	46,523,068	223,960,789	237,417,930
Income from equip. sales	1,166,805	1,022,084	-	-
Other Income	359,303	237,869	24,107,117	455,553
DIRECT EXPENSES	22,790,341	20,728,660	186,390,102	130,747,994
ADMIN. EXPENSES	8,733,705	9,619,684	302,058,400	231,369,448
FINANCE COSTS	5,306,104	3,976,746	40,212,452	22,158,707
Acquisition of Telstar Cable Ltd. September 11, 2014				
No financial statement submitted for 2014.				
* Telstar Cable financial information 2012 and 2013				

FIRST CHOICE CABLE SERVICE LIMITED	2013	2012	2011
	\$	\$	\$
FIXED ASSETS	7,053,847	7,659,274	8,369,888
CURRENT ASSETS	69,804	935,551	780,839
TOTAL ASSETS	7,123,651	8,594,825	9,150,726
CURRENT LIABILITES	277,683	483,085	317,590
SHAREHOLDERS' LOANS	2,484,375	2,484,375	2,004,375
EQUITY	200	200	200
ACCUMULATED PROFIT/(LOSS)	(3,804,482)	(2,538,710)	(1,337,314)
NET PROFIT/(LOSS) FOR YEAR	(1,265,772)	(1,201,396)	(684,624)
REVENUE	2,770,000	3,205,000	3,233,000
DIRECT EXPENSES	571,621	1,124,795	836,775
ADMIN. EXPENSES	3,464,151	3,281,601	3,071,830

GENERAL SATELLITE NETWORK COMPANY LTD.	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	9,707,324	10,499,165	11,291,006
CURRENT ASSETS	396,553	474,250	660,123
Directors current account	-	5,881,600	5,881,600
TOTAL ASSETS	10,103,877	16,855,015	17,832,729
CURRENT LIABILITES	13,220,846	21,051,679	14,213,856
DIRECTOR LOANS	14,538,049	9,052,149	6,516,955
EQUITY	100	100	100
ACCUMULATED PROFIT/(LOSS)	(35,481,499)	(21,744,017)	(14,088,301)
NET PROFIT/(LOSS) FOR YEAR	(13,737,483)	(7,655,716)	(20,372,516)
REVENUE	37,514,264	34,155,969	43,276,249
ADMIN. EXPENSES	49,035,225	39,882,456	60,962,406
FINANCE COSTS	2,216,522	1,929,229	2,686,358

HOME TIME ENTERTAINMENT LIMITED	2015	2014	2013
	\$	\$	\$
FIXED ASSETS	10,166,270	12,131,402	14,096,534
CURRENT ASSETS	12,814,900	5,006,463	2,991,824
TOTAL ASSETS	22,981,170	17,137,866	17,088,358
CURRENT LIABILITES	2,771,250	2,602,710	1,821,912
DIRECTOR'S LOANS	6,106,044	6,106,044	10,992,400
EQUITY	100	100	100
ACCUMULATED PROFIT/(LOSS)	14,103,777	8,429,113	4,273,946
NET PROFIT/(LOSS) FOR YEAR	5,674,765	4,155,067	4,273,946
REVENUE	46,882,359	39,681,732	33,856,995
DIRECT EXPENSES	25,225,891	21,154,102	17,808,452
ADMIN. EXPENSES	10,961,025	9,986,524	8,249,344

HOME TIME FORMERLY MAR MAXX COMMUNICATIONS LTD.	2008	2007	2006
	\$	\$	\$
FIXED ASSETS	930,551	1,120,497	925,216
CURRENT ASSETS	775,852	1,083,029	1,034,723
TOTAL ASSETS	1,706,403	2,203,526	1,959,939
CURRENT LIABILITES	1,402,104	1,474,744	535,248
DIRECTOR LOANS	256,023	256,023	151,024
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	303,299	727,782	1,423,691
NET PROFIT/(LOSS) FOR YEAR	(424,483)	(695,909)	429,216
REVENUE	6,471,426	5,842,867	5,889,836
ADMIN. EXPENSES	6,895,909	6,538,776	5,396,036

HOMETIME FORMERLY UNIQUE VISION CABLE COMPANY LTD.	2008	2007	2006
	\$	\$	\$
FIXED ASSETS	6,264,634	7,353,889	5,517,639
CURRENT ASSETS	288,760	169,949	335,669
TOTAL ASSETS	6,553,394	7,523,838	5,853,308
CURRENT LIABILITES	4,014,850	4,407,643	6,366,000
DIRECTORS LOANS	6,705,414	5,685,502	4,947,495
EQUITY	200	200	200
ACCUMULATED PROFIT/(LOSS)	(6,367,070)	(4,969,807)	(2,527,485)
NET PROFIT/(LOSS) FOR YEAR	(1,397,263)	(1,782,156)	(4,435,003)
REVENUE	3,832,589	4,008,156	1,026,577
DIRECT EXPENSES	2,350,037	2,356,657	2,323,885
ADMIN. EXPENSES	2,879,815	3,433,655	3,137,695

HOMETIME FORMERLY GUTHRIE'S COMMUNICATIONS LTD.	2013	2012	2011
	\$	\$	\$
FIXED ASSETS	5,390,916	4,577,786	5,351,063
CURRENT ASSETS	5,717,458	7,092,639	6,298,338
TOTAL ASSETS	11,108,374	11,670,425	11,649,401
CURRENT LIABILITIES	2,549,879	7,092,639	2,287,452
DIRECTORS' DRAWINGS	217,833	1,034,569	2,515,296
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	8,775,328	9,597,575	11,976,245
NET PROFIT/(LOSS) FOR YEAR	212,322	236,626	275,650
REVENUE	5,678,720	8,143,200	7,836,342
DIRECT EXPENSES	1,311,576	577,328	2,090,001
ADMIN. EXPENSES	4,084,048	7,210,951	5,332,887

JAMAICA CABLEVISION LIMITED	2013	2012*	2011
	\$	\$	\$
FIXED ASSETS	2,180,896	125,661	170,028
CURRENT ASSETS	3,787,516	1,238,137	1,356,266
TOTAL ASSETS	5,968,412	1,363,798	1,526,294
CURRENT LIABILITIES	9,888,689	7,688,636	5,859,522
DIRECTOR LOANS	12,679,434	12,679,434	12,679,434
LONG TERM LOANS -DIRECTORS (note 17)	35,591,544	*32829416	26,461,061
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(53,834,655)	(51,834,688)	(49,903,971)
NET PROFIT/(LOSS) FOR YEAR	(1,999,967)	(1,930,717)	(1,930,717)
REVENUE	35,009,176	42,463,381	45,071,199
OPERATING EXPENSES	46,273,677	43,505,127	46,370,846
* restated			

ODYSSEY CABLEVISION LIMITED	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	5,127,021	3,731,288	5,002,783
CURRENT ASSETS	3,323,737	3,744,726	1,495,562
TOTAL ASSETS	8,450,758	7,476,014	6,498,345
CURRENT LIABILITES	714,999	1,269,602	1,269,602
DIRECTOR LOANS	32,086,844	21,642,319	15,931,855
EQUITY	2	2	2
ACCUMULATED PROFIT/(LOSS)	(22,921,089)	(15,435,909)	(10,011,078)
NET PROFIT/(LOSS) FOR YEAR	(7,485,180)	(5,424,831)	(1,963,420)
REVENUE	6,385,145	8,852,128	6,410,473
OTHER INCOME			
DIRECT EXPENSES	2,441,880	1,264,000	-
ADMIN. EXPENSES	7,403,404	9,416,616	5,173,047
FINANCE COSTS	4,025,037	3,596,343	3,200,846

LOGIC ONE LIMITED	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	3,513,734	4,362,838	3,997,771
CURRENT ASSETS	24,103,488	22,209,977	18,250,355
TOTAL ASSETS	27,617,222	26,572,815	22,248,126
CURRENT LIABILITES	6,368,694	7,955,374	6,056,904
DIRECTOR LOANS	5,808,990	4,464,050	5,587,485
EQUITY	200	200	200
ACCUMULATED PROFIT/(LOSS)	15,451,838	14,165,691	10,616,037
NET PROFIT/(LOSS) FOR YEAR	1,286,147	3,549,654	2,919,893
REVENUE	133,791,817	129,906,761	108,496,660
DIRECT EXPENSES	28,622,090	28,198,574	25,193,238
ADMIN. EXPENSES	103,466,399	96,973,619	84,929,566

MARS CABLE VISION LIMITED	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	21,353,541	23,794,762	15,614,050
CURRENT ASSETS	1,420,202	1,220,502	1,396,091
TOTAL ASSETS	22,773,743	25,015,264	17,010,141
CURRENT LIABILITES	5,755,643	3,791,681	1,139,064
LONG TERM LOANS	10,214,991	16,818,436	-
DIRECTOR LOANS	4,185,673	3,092,795	14,645,480
EQUITY	6,010,212	10,000	10,000
ACCUMULATED PROFIT/(LOSS)	(12,392,776)	(7,697,648)	1,215,597
NET PROFIT/(LOSS) FOR YEAR	(4,695,128)	(6,511,831)	(1,031,753)
REVENUE	31,130,229	26,739,876	28,455,066
DIRECT EXPENSES	3,840,145	3,297,944	9,055,712
ADMIN. EXPENSES	28,434,453	27,342,652	19,946,716

MODERN REBROADCASTING COMPANY LIMITED	2014	2013	2012
	\$	\$	\$
FIXED ASSETS	561,325	561,325	561,325
CURRENT ASSETS	1,579,636	1,938,739	1,252,282
TOTAL ASSETS	2,140,961	2,500,064	1,813,607
CURRENT LIABILITES	147,739	140,250	112,905
DIRECTOR LOANS	3,906,942	3,906,942	2,479,348
EQUITY	10,000	10,000	10,000
ACCUMULATED PROFIT/(LOSS)	(1,923,720)	(1,557,128)	(788,646)
NET PROFIT/(LOSS) FOR YEAR	(366,592)	(768,482)	409,548
REVENUE	6,555,372	6,335,629	6,305,586
DIRECT EXPENSES	1,659,832	1,855,043	1,019,876
ADMIN. EXPENSES	5,256,730	5,171,840	4,758,229

QES - 46 LIMITED	**2014	2013	***2012
	\$	\$	\$
FIXED ASSETS	5,932,867	6,903,509	7,490,597
CURRENT ASSETS	2,764,983	2,498,758	2,761,811
TOTAL ASSETS	8,697,850	9,402,267	10,252,408
CURRENT LIABILITES	7,625,382	4,897,378	3,936,358
DIRECTOR LOANS	4,357,186	4,939,174	5,247,301
LONG TERM LOAN	1,877,602	2,333,333	3,502,057
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(5,163,320)	(2,766,618)	(2,281,327)
NET PROFIT/(LOSS) FOR YEAR	(2,394,702)	(387,291)	(648,726)
REVENUE	19,093,892	24,182,302	18,052,323
DIRECT EXPENSES	17,935,956	17,570,559	12,430,148
ADMIN. EXPENSES	20,329,956	18,411,136	13,051,937
* Restated ** Unaudited *** from financial statement dated 31 December 2013			

TOTAL CABLE LIMITED	2013	2012	*2011
	\$	\$	\$
FIXED ASSETS	2,748,900	3,669,100	4,589,300
CURRENT ASSETS	3,084,104	1,175,244	1,138,380
TOTAL ASSETS	5,833,004	4,844,344	5,727,680
CURRENT LIABILITES	963,142	530,273	463,142
DIRECTOR LOANS	8,386,140	7,399,780	7,832,157
EQUITY	1,000	1,000	1,000
ACCUMULATED PROFIT/(LOSS)	(3,517,278)	(3,086,709)	(2,568,619)
NET PROFIT/(LOSS) FOR YEAR	(430,569)	(518,090)	(210,115)
REVENUE	7,323,893	5,387,916	4,625,789
DIRECT EXPENSES	3,216,085	2,046,871	1,587,463
ADMIN. EXPENSES	4,525,810	3,846,773	3,239,417
* from financial statement dated 31 December 2012			

APPENDIX B:

BROADCASTING COMMISSION OF JAMAICA – SUMMARY OF AUDITED FINANCIAL
STATEMENTS FOR THE YEARS ENDED 31 MARCH

	2016	2015	2014	2013	2012
	\$	\$	\$	\$	\$
FIXED ASSETS	14,296,701	8,143,618	4,401,509	4,627,522	6,457,984
TOTAL CURRENT ASSETS	727,162,889	608,531,344	532,206,898	471,461,590	376,679,217
License fees and other receivables	74,873,296	79,929,387	73,130,862	71,192,153	59,267,586
TOTAL ASSETS	741,459,590	616,674,962	536,608,407	476,089,112	383,137,201
TOTAL CURRENT LIABILITIES	20,476,279	23,249,112	13,344,311	17,210,095	12,964,513
ACCUMULATED SURPLUS	720,983,311	593,425,850	523,264,096	458,879,017	370,172,688
TOTAL RESERVE AND LIABILITIES	741,459,590	616,674,962	536,608,407	476,089,112	383,137,201
REVENUE	263,768,820	255,533,589	238,629,740	218,389,992	213,211,556
ADMINISTRATIVE AND GENERAL EXPENSES	206,170,542	226,240,354	191,255,275	147,143,150	113,110,932
OTHER OPERATING INCOME	88,112,877	48,535,494	30,727,462	28,362,010	19,361,968
NET SURPLUS FOR THE YEAR	134,271,012	73,854,478	67,773,768	93,375,083	106,439,242

APPENDIX C:
JAMAICA POPULATION DENSITY – 2011

